

# **CURRICULUM VITÆ**

**OF**

**MARIA DA GRAÇA MARTINS DA SILVA CARVALHO**

**- MAY 2014 -**

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**1 – PERSONAL DATA,  
ACADEMIC EDUCATION, AWARDS  
AND  
MEMBERSHIPS**

## **1 PERSONAL DATA, ACADEMIC EDUCATION, AWARDS AND MEMBERSHIPS**



### **1.1 PERSONAL DATA**

**Date and place of birth:** 9th April 1955, Beja (Portugal)

**Nationality:** Portuguese

**Actual activity:** She is Principal Adviser in the Bureau of European Policy Advisers, a Department of the European Commission reporting directly to the President of the Commission. She is Full Professor at the Department of Mechanical Engineer, Instituto Superior Técnico, University of Lisbon.

**Web page:** <http://www.gracacarvalho.eu> e <http://mqc.ist.utl.pt>

### **1.2 ACADEMIC EDUCATION**

1990 Doctor of Science (Habilitation) in Mechanical Engineering (Technical University of Lisbon).  
1984 Recognized as equivalent to a Portuguese Doctor's Degree (Technical University of Lisbon).  
1983 Doctor of Philosophy - Ph.D., Mechanical Engineering (University of London).  
1983 Diploma of Imperial College of London (DIC).  
1978 Diploma of Mechanical Engineer, branch of Applied Thermodynamics (Instituto Superior Técnico, Technical University of Lisbon).  
1972 High School Release Certificate (Liceu Nacional de Beja). Final mark: 18 out of 20.

### **1.3 AWARDS**

2013 MEP Awards, Nominated for the MEP Awards 2013 in the area of Energy - November 2013

2011 MEP Awards, she was awarded the Prize for the best MEP in the area of Research and Innovation November 2011

2008 She was awarded the prize for her research career "Energy Efficiency – professional career" by CIRCE – Centre of Research for Energy Resources and Consumption - University of Saragoza, 2008

2007 She was decorated with the Golden Medal of Career Acknowledgement and Merit by Universidade Lusófona (31 March)

2005 She was decorated with the High Honour of the Great Cross by the Chancellery of the International Order of Merit of the Discoverer of Brazil (26 April).

2004	Honour member of COEDADE RUP, European Organizational Committee for the Energy's Sittings in the Outermost Regions (September).
2002	She was decorated with the designation "Great Official of the Order of Public Instruction" within the scope of International Women's Day Programme by the President of Portugal (8 March).
1971/72	National prize.
1971/72	King Diniz's prize.
1970/71	King Diniz's prize.
1969/70	King Diniz's prize.

#### 1.4 MEMBERSHIPS

- Corresponding Member - Academia das Ciências since 2010
- "Fellow" to WAAS – World Academy of Art and Science, since October 2005.
- Counsellor Member of the Portuguese Engineering Association, since November 2003.
- Senior member of the Portuguese Engineering Association, since July 2002.
- "Fellow" of AAAS - American Association for the Advancement of Science, since October de 2000.
- "Fellow" of AIAA - American Institute of Aeronautics and Astronautics since November 1999.
- Entitled Expert in Energy Engineering by the Portuguese Association of Engineers since November 1999.
- Senior Member of AIAA - American Institute of Aeronautics and Astronautics since February 1999.
- Member of the Associação Portuguesa dos Engenheiros de Frio Industrial e Ar Condicionado, since January 1998.
- Member of the American Biographical Institute since July 1996.
- Member of the Portuguese Association of Theoretical Applied and Computational Mechanics since June 1996.
- Member of the Optical Society of America since January 1996.
- Member of the American Ceramic Society since February 1995.
- Founding member of Academia de Engenharia (Portuguese Academy of Engineering) since December 1994.
- Member of the Portuguese Section of the Combustion Institute since December 1994.
- Member of the Society of Glass Technology since June 1993.
- Member of the Portuguese Engineering Association since April 1993.
- Member of AAAS - American Association for the Advancement of Science since November 1992.
- Member of IAFSS - International Association for Fire Safety Science since June 1992.
- Member No. 300657376 of AIAA - American Institute of Aeronautics and Astronautics since December 1990.
- Member No. 2364826 of ASME - American Society of Mechanical Engineers since December 1990.
- Member of the International Combustion Institute since September 1989.
- Member No. 497 of ACTD (Science Association for Technology and Development) since May 1989 to July 2000, date of closure.
- Member of ERCOFTAC - European Research Centre on Flow, Turbulence and Combustion. Lisbon Pilot Centre since March 1989.

## **2 - CARRER**

## **2 CARRIER**

### **2.1 POLITICAL CARRIER**

- Minister of Science and Higher Education from October 6 of 2003 to July 17 of 2004.
- Minister of Science, Innovation and Higher Education from July 17 of 2004 to March 12 of 2005.
- Member of the EPP in the European Parliament from July 14 of 2009 to 30 April 2014.

### **2.2 INTERNATIONAL CARRIER**

- Principal Adviser in BEPA – Bureau of European Policy Advisers from 2005 to 2009 and from May 1 of 2014

### **2.3 MANAGEMENT CARRIER**

- Member of the Board of Directors of AGEEN – Agency for Energy, from October 2000 to October 2001.
- Director General of GRICES – Office for International Relations in Science and Higher Education (former ICCTI), from December 2002 to October 2003.

### **2.4 TEACHING CARRIER**

Since 1992/93	Full Professor at the Applied Thermodynamics Section of the Mechanical Engineering Department of Instituto Superior Técnico, Technical University of Lisbon.
1987/88 to 1991/92	Associate Professor at the Applied Thermodynamics Section, Department of Mechanical Engineering, Instituto Superior Técnico, Technical University of Lisbon.
1984/85 to 1986/87	Auxiliary Professor at the Applied Thermodynamics Section, Department of Mechanical Engineering, Instituto Superior Técnico, Technical University of Lisbon.
1978/79 to 1983/84	Lecturer at the Applied Thermodynamics Section, Department of Mechanical Engineering, Instituto Superior Técnico, Technical University of Lisbon
1978/79	Lecturer at the Department of Applied Thermodynamics, Instituto Superior Técnico, Technical University of Lisbon.
1977/78	Instructor at the Department of Mathematics, Instituto Superior Técnico, Technical University of Lisbon.

### **2.5 RESEARCH CARRIER**

Since 1992/1993	Research fellow at IDMEC - Instituto de Engenharia Mecânica, IST, section 9 - Combustion, Turbulence and Pollution, Centre of Energy Technologies.
1984	Awarded a three-month Scholarship to work at Lehrstuhl für Stromungsmechanik, Friederich Alexander Universität, Erlangen-Nuremberg, Germany.

- 1983/1992                          Research fellow at the Centre for Applied Thermodynamics and Fluid Mechanics, Technical University of Lisbon, within the line of action Laser Anemometry and Numerical Methods in Fluids, Combustion and Heat Transfer.
- 1979/83                                  Research student leading to Degree of Doctor of Philosophy in Fluid Mechanics Section, Mechanical Engineering Department, Imperial College of Science and Technology, University of London, under the supervision of Dr. F.C. Lockwood.
- 1978/79                                  Research Scholarship from the Centre for Applied Thermodynamics and Fluid Mechanics, Technical University of Lisbon, within the line of action Numerical Modelling in Furnaces and Combustion Chambers.

## **3 - PROFESSIONAL ACTIVITY**

### **3 PROFESSIONAL ACTIVITY**

#### **3.1 POLITICAL ACTIVITY**

##### **3.1.1 Activity as Member of the European Parliament**

Maria da Graça Carvalho was a member of the European Parliament in the PPE group from 14 July 2009 to 30 April 2014. She sat on the Industry, Research and Energy (ITRE) Committee as a full member and was a substitute member of the Budgets Committee as well as being substitute member of the SURE-Special committee on the policy challenges and budgetary resources for a sustainable European Union after 2013. She was also a full member of the ACP-UE Joint Parliamentary Assembly and was elected co- President of the Economic Development, Finance and Trade Committee of ACP-UE Joint Parliamentary Assembly. She was also substitute member in the Delegation to the Parliamentary Assembly of the Union for the Mediterranean. In May 2010, she was appointed the rapporteur responsible for defining the rules of participation for current and future European programmes for science and innovation. In November 2011, she was awarded the Prize for the best MEP in the area of Research and Innovation. In February 2012, she was appointed the rapporteur of the Specific Programme Implementing HORIZON 2020, the European programme for science and innovation for 2014-2020.

##### **Other activities**

In quantitative terms, during her mandate, her activity has resulted in the development and production of: 6 reports, 3 as rapporteur and 3 as shadow rapporteur; 13 opinions, 3 as rapporteur and the remaining as shadow rapporteur; 8 motions for resolutions, 4 written statements and 32 parliamentary questions. In the Plenary sessions she has articulated 1100 (oral and written) statements. She has received 18 groups of visitors

As part of her parliamentary activity she has organized 95 seminars, she has delivered 200 invited lessons in conferences, she has published 109 articles in journals and magazines and 4 book chapters. Simultaneously she has published 20 articles in international scientific journals and she has delivered 5 lessons in international scientific conferences

##### **3.1.2 Activity as Minister (October 6, 2003 to March 11 de Março of 2005)**

###### **3.1.2.1 Relevant measures in the area of Higher Education:**

- Development and conclusion of the Bologna Process
- Action Plan for the área of Health in the Higher Education System
- Action Plan for Youth Employment
- Creation of the o Lusophone Higher Education Area

###### **3.1.2.2 Relevant measures in the area of Science and Innovation:**

- Preparation of 4 National Plans:
  - Plan for Science and Innovation 2010;
  - Plan for Scientific and Qualified Employment;
  - Plan for the Higher Education and Advanced Training;
  - Plan for Innovation.

- Use of Regional Funds for Science and Innovation programmes
- The scientific patronage went into force on January 1, 2005
- Adoption of the new Research Fellow Statute
- Completion of the process of negotiation of the Agreement on the ESA center facility in the Azores, on the island of Santa Maria

### **3.1.3 Activities as Member of the Municipal Assembly of Beja**

Member of the Municipal Assembly of Beja, between 2005 and 2009. She has participated in the discussion and voting related to strategic projects with impact in the development of the city of Beja

## **3.2 ACTIVITY IN INTERNATIONAL INSTITUTIONS**

### **3.2.1 BEPA - Bureau of European Policy Advisers, European Commission**

She has been Principal Adviser of President Barroso in the Bureau of European Policy Advisors – BEPA – coordinating the activities in the Societal Policy Area, namely Science, Higher Education, Innovation, Research Policy, Energy, Environment and Climate Change from 2006 to 2009.

#### Achievements as Coordinator of the Societal Policy Area

The societal area of BEPA has worked on themes related to social cohesion, employment, science, new technology and ethics, education and training, environment, climate change, energy and sustainable development, equal rights, culture and European values, ageing, migration and integration, social security.

Specific responsibilities within this area include: the secretariat of the European Group on Ethics in Science and New Technologies (EGE), and of the group of societal policy analysis (GSPA) to be made fully operational in 2006; contributing to the activities of the expert group “Knowledge for Growth” (established by Commissioner Potočnik).

She has coordinated all the activities performed by the Societal Policy Area following closely most of the projects. She has worked for promoting team building, for example, holding weekly meetings with all the Societal Area members. The weekly publication of the Societal Brief for the President, initiated by her, was very important for the collaboration among the members of the Area.

#### Projects in which she has worked:

Building the Knowledge Society - Higher education reform, including the European Institute of Technology

The objective of this project was to analyse the situation of universities and tertiary education and the challenges facing European higher education institutions in the growing competition with third countries and provide policy recommendations and actions on how to better link business and academic world across the European Union, in particular through the European Institute of Technology.

#### Youth: Fighting the social exclusion

This BEPA initiative had the objective of issuing recommendations on measures which promote social inclusion of young unemployed people in Europe through education, culture, sport and information society in cooperation with DG EAC, JLS, EMPL, INFSO, and REGIO. The activity consisted in taking stock of the various contribution of the Commission regarding social exclusion of young people: schooling, professional insertion (and employment policy), discrimination, urban and housing policy.

#### European Energy and Climate Change Policy

This project aimed at analysing existing European energy and climate change policies, and proposing ways to bring them together into a more coherent energy and climate change policy. It was particularly successful in terms of follow-up, good collaboration with other services and cabinets. BEPA was in charge of the secretariat of the Advisory Group of the President on Energy and Climate Change.

### **3.3 MANAGMENT ACTIVITY**

#### **3.3.1 AGEEN – Agency for Energy**

Member of the Board of Directors of ADENE - Agency for Energy (formerly Centre for Energy Conservation till 2001) from October 2000 to October 2001. ADENE primarily conducts public interest activities in the areas of energy efficiency, renewable energy and energy services.

#### **3.3.2 GRICES**

The International Relations Office for Science and Higher Education is one of the bodies of the Ministry of Science, Technology and Higher Education (MCES).

She was appointed Director-General of the International Relations Office for Science and Higher Education - GRICES since December 2002 to take over as Minister of Science and Higher Education on 6 October 2003.

Among its tasks stands out:

- the creation of the Portuguese Group for Space
- Seting up of the the Cabinet for the Promotion of the Framework Programme for RTD (GPPQ)

### **3.4 TEATCHING ACTIVITY**

#### **3.4.1 Graduation Courses**

1995/96 to 2001/02	Heat and Mass Transfer (Aerospace Engineering). Instituto Superior Técnico. Professor.
1995/96	Heat Transfer (Mechanical Engineering). Instituto Superior Técnico. Professor.
1979/80 to 2001/02	Heat and Mass Transfer (Mechanical Engineering). Instituto Superior Técnico. Professor.
1978/1979	Thermodynamics (Mechanical Engineering). Instituto Superior Técnico. Assistant.
1977/1978	Mathematical Analysis (Mechanical Engineering). Instituto Superior Técnico. Instructor.

#### **3.4.2 Post-Graduation Courses**

2000/01	Master of Science Course in Mechanical Engineering. - Heat Transfer and Combustion.
1995/96 and 1996/97	Master of Science Course in Advanced Topics of Energy Transfer and Conversion, - Conduction. - Radiation. - Numerical Methods in Heat Transfer.

1987/88 to 1993/94	Master of Science Course in Advanced Topics of Energy Transfer and Conversion, <ul style="list-style-type: none"> <li>- Conduction.</li> <li>- Radiation.</li> <li>- Numerical Methods in Heat Transfer.</li> </ul>
1987/88	Post-graduation Course at Naval School Prince Henry "Technology and Naval Sciences" <ul style="list-style-type: none"> <li>- Heat and Mass Transfer.</li> </ul>
1983/84	Master of Science Course in Topics in Heat and Mass Transfer, <ul style="list-style-type: none"> <li>- Conduction.</li> <li>- Radiation.</li> <li>- Numerical Methods in Heat Transfer.</li> </ul>

### 3.5 TEACHING COURSES - PROFESSIONAL TRAINING

1988	"Industrial Furnaces and Boilers", I.S.T., <ul style="list-style-type: none"> <li>- Transport Phenomena</li> <li>- Radiation in Industrial Furnaces and Boilers</li> <li>- Computer Aided Design of Furnaces and Boilers</li> </ul>
1988	"Climatization" <ul style="list-style-type: none"> <li>- Transport Phenomena</li> </ul>
1988	"Pollution and Environmental Impact", I.S.T., <ul style="list-style-type: none"> <li>- Transport Phenomena</li> </ul>
1987	"Rational Use of Energy", I.S.T., <ul style="list-style-type: none"> <li>- Heat Transfer</li> </ul>
1987	"Combustion and Energy", I.S.T., <ul style="list-style-type: none"> <li>- Heat and Mass Transfer</li> <li>- Numerical Methods Applied to Combustion</li> </ul>
1987	"Computer Aided Thermofluids Analysis", I.S.T., <ul style="list-style-type: none"> <li>- Heat Transfer</li> <li>- Numerical Methods in Heat Transfer</li> </ul>
1986	"Fossil Fuels and Rational Use of Energy", L.N.E.T.I., <ul style="list-style-type: none"> <li>- Heat Transfer</li> </ul>
1986	"Rational Use of Energy", I.S.T. <ul style="list-style-type: none"> <li>- Heat Transfer</li> <li>- Numerical Techniques</li> </ul>
1986	"Combustion and Energy", I.S.T., <ul style="list-style-type: none"> <li>- Heat and Mass Transfer</li> <li>- Rational Use of Energy</li> </ul>

#### 3.5.1 University Management Activity

2000/02	Coordinator of the Thermofluids and Energy Section of the Department of Mechanical Engineering of Instituto Superior Técnico
Since 1993	Member of the Board of Directors of IDMEC - Institute of Mechanical Engineering.
1993/96	Representative of the Department of Mechanical Engineering in the Coordination Committee of the Scientific Board, Instituto Superior Técnico.
1992/94	Member of the Graduation Committee in Aerospace Engineering.
1991/92	President of the Scientific Board - Instituto Superior Técnico (School of Engineering of the Technical University of Lisbon - 10000 students and 1000 members of staff)
1990/91	Deputy-President of the Scientific Board, Instituto Superior Técnico.
1990/92	Coordinator of Programme "CIENCIA" of Instituto Superior Técnico.
1988/89	Member of the Board of Directors, Instituto Superior Técnico.

1987/89	Coordinator of the Energy Profile, Master of Science Course in Mechanical Engineering.
1986/87	Representative of the Department of Mechanical Engineering at the Users' Council, Computer Centre, Instituto Superior Técnico.

### 3.5.2 Supervision of Students

#### 3.5.2.1 Post-Doctoral

Jianwei Yuan	"Development of Combustion Chamber Design Using Three Dimensional Numerical Models". From March 1996 to June 1997
Xiu-Guang He	"Application of Models to Support Boiler Operation Addressing Fouling/Slagging". From March 1996 to July 1999
Luís Manuel Monteiro Alves	"Analysis of the Potential for Market Penetration of EU Innovative Renewable Energy Technologies on Cabo Verde Islands". Starting date: August 1998
Neven Duic	"New and Renewable Energy Sources with Special View on Insular and Isolated Regions". Starting date: January 2000.
Nuray Kayakol	"Development of Computational Intelligence Technologies for On-Line Optimization of Industrial Radiative Combusting Systems". Starting date: April 2000.
Fengzhen Chen	Waste to Hydrogen. Starting date: October 2000.
Zdena Zsigraiova	"Municipal solid and industrial liquid waste valorisation". From October 2004 to September 2007

#### 3.5.2.2 Doctorate Degrees

Viriato Sérgio de Almeida Semião	"Modelação da Combustão, Transferência de Calor e Emissão de Poluentes em Sistemas de Queima de Combustíveis Líquidos" - 1989
Pedro Jorge Martins Coelho	"Técnicas Numéricas para a Modelação de Escoamentos em Equipamento Industrial" - 1991
João Luís Toste de Azevedo	"Modelação Física e Simulação Numérica de Sistemas de Queima de Combustíveis Sólidos" - 1994
Philippe Joseph Ghislain Meunier	"Modelação da Formação de NOx e da Intensidade da Radiação numa Chama Turbulenta de Difusão" - 1996
João António Esteves Ramos	"Modelação do Comportamento Térmico e Ambiental de Edifícios" - 1997
Tiago Alexandre Abrantes Teixeira Lopes Farias	"Modelação Físico-Matemática das Propriedades Ópticas e Radiativas de Fuligem em Chamas Turbulentas de Difusão" - 1997
Rui António Pitarma Sabino da Cunha Ferreira	"Contribuição para o Estudo dos Fenómenos Associados à Climatização e Refrigeração de Compartimentos" - 1998
Artur Jorge da Cunha Barreiros	"Combustão de Combustíveis Líquidos - Modelação" - 1998
Wang Jian	"Modelação Matemática dos Fenómenos Ocorrentes no Processo de Fusão de Vidro" - 1998

Nelson Amadeu Dias Martins	"A New Heat Flux Meter for High Temperature Harsh Environment" - 1999
João Carlos Godinho Viegas	"Segurança em Caso de Incêndio. Simulação de Movimentos de Fumos no Interior de Compartimentos" - 1999
Augusto César de Mendonça Brasil	"Morphological Characterization of Fractal-like Aggregates" - 2000
Pedro José Alves Vieira Novo	"Parallel Simulation of Radiative Heat Transfer" - 2001
Luís Manuel Rodrigues Coelho	"Simulação Numérica de Tecnologias Limpas na Queima de Carvão Pulverizado" - 2005.
José Pedro Duarte Fonseca	"Integration of Renewable Energy Sources for Islands and Remote Regions" - 2006
Aníldo Lopes Costa	"Desenvolvimento e Validação de um Sistema de Suporte à Decisão para a Integração das Energias Renováveis num Determinado Sistema Energético". 2009
Gilberto Monteiro Tavares	"Aproveitamento Energético de Resíduos Sólidos Urbanos numa Ilha de Cabo Verde". Begining date: 2002.
Gonçalo Nuno Antunes Gonçalves	"Avaliação Energética e Ambiental de Produção, Transporte e Utilização de Combustíveis Alternativos em Sistemas de Transporte de Passageiros". 2009.
João Nuno Pinto Miranda Garcia	Dispersão de partículas em ambiente urbano e seu impacte na saúde pública". Begining date: 2009.
Raquel Inês Segurado Lopes da Silva	"Modelo de planeamento energético para o aumento da penetração das energias renováveis nos sistemas de energia isolados (ilhas e regiões remotas)". Begining date: 2007.
Rui Filipe Marques Martins	"Análise, Modelação, Dimensionamento e Monitorização de um Sistema Isolado de Produção de Hidrogénio". Begining date: Setembro 2009.
Sandrina Batista Pereira	"Desenvolvimento de uma ferramenta de apoio à decisão na implementação de medidas para a redução de CO2". Begining date: 2009.

### 3.5.2.3 Master of Science Degrees

Viriato Sérgio de Almeida Semião	"Simulação Numérica de uma Fornalha Industrial" – 1986
Pedro Jorge Martins Coelho	"Modelação Matemática da Câmara de Combustão de uma Turbina a Gás" – 1987
Miguel Perez Neves Águas	"Transferência de Calor em Leito Fluidizado" – 1988
Filipe José Didelet Pereira	"Modelação do Escoamento em Câmaras Frigoríficas com Convecção Forçada" – 1989
Paulo Miguel Marques Fontes	"Modelação da Radiação em Câmaras de Combustão" – 1990
João António Esteves Ramos	"Modelação do Escoamento num Depósito de Água para Acumulação de Calor" – 1990
Marcos António de Barros Silva Nogueira	"Modelação Matemática de um Forno de Vidro – Aplicação à Optimização do Processo" – 1991
Artur Jorge da Cunha Barreiros	"Modelação Física e Matemática da Combustão de um Spray de um Óleo Residual" – 1992
Rui António Pitarma Sabino da Cunha Ferreira	"Modelação dos Fenómenos de Transmissão de Calor e Massa em Câmaras Frigoríficas com Convecção Forçada" – 1992

Carlos Frederico de Menezes Coimbra	"Simulação Numérica Tridimensional de Escoamentos Bifásicos com Combustão" – 1992
Luís Manuel Rodrigues Coelho	"Modelação da Formação de Poluentes em Câmaras de Combustão de Turbinas a Gás" – 1993
Pedro César Pereira Alves Saraiva	"Modelação da Combustão, Transferência de Calor e Emissão de Poluentes em Caldeiras de Leito Fluidizado Circulante" – 1993
Amílcar José Martins Arantes	"Simulação de Processamento Paralelo na Modelação Numérica de Escoamentos de Fluidos" – 1993
Pedro Nuno Dinho Pinto da Silva	"Modelação Física e Matemática das Propriedades Radiantes de uma Mistura Gasosa com Partículas em Suspensão" – 1993
António Manuel Alho Martins	"Modelação dos Fenómenos de Transferência de Calor em Fornos Rotativos – Aplicação à Indústria Cimenteira" – 1995
João Nuno Pinto Miranda Garcia	"Qualidade do Ar Exterior em Ambiente Urbano". – 2001
António Manuel Gomes Domingues	"Implementação de Sistemas de Gás Natural Liquefeito (GNL) em Regiões Isoladas – Simulação para a Região Autónoma da Madeira" – 2003.
Ulisses Mendes Fernandes	"Cenários e Tecnologias de Produção de Hidrogénio e sua aplicação em Ilhas e Regiões Remotas" – 2004.

#### 3.5.2.4 Exams for Pedagogic and Scientific Aptitude

João Luís Toste de Azevedo	"Análise de Fenómenos em Fluidização e Transmissão de Calor e Massa" (Prova de Aptidão Pedagógica). "Simulação Matemática de Combustão em Leito Fluidizado" - 1988
João Carlos Godinho Viegas	"Utilização de Ventilação de Impulso em Parques de Estacionamento Cobertos"

#### 3.5.2.5 Synthesis Projects

João Carlos Godinho Viegas	"Segurança contra Incêndios: Simulação Numérica do Movimento dos Fumos". Laboratório Nacional de Engenharia Civil. 1992
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#### 3.5.2.6 Graduation Projects

Luis Manuel Rodrigues Coelho e Marcos António de Barros da Silva Nogueira	"Simulação Numérica de Fornos Industriais" – 1988
Artur Jorge da Cunha Barreiros	"Modelo de Transmissão de Calor para a Simulação Matemática de Tratamentos Térmicos de Materiais por Raio Laser"- 1989 - Menção Honrosa – Innovation and creativity award
Amílcar José Martins Arantes	"Incêndios em Edifícios Urbanos" - 1989
Ralf Bielack	"Radiation Heat Transfer in Large-Scale Furnaces" - 1989. Diplom-Arbeit. Aluno do Institut für Technische Thermodynamik da R.W.T.H.-Aachen.
David da Costa Afonso	"Modelação Numérica de Transmissão de Calor em Câmaras de Combustão" - 1990

Nelson Amadeu Dias Martins	"Modelação Numérica de Transferência de Calor e Massa Aplicada à Indústria de Panificação" - 1990.
Pedro César Pereira Alves Saraiva	"Modelação de Freeboard e do Ciclone de um Leito Fluidizado Circulante" - 1990
Tiago Alexandre Abrantes Teixeira Lopes Farias	"Modelação da Radiação em Câmaras de Combustão de Geometria Cilíndrica" - 1990
Luis Filipe Parreira Augusto	"Fenómenos de Convecção em Processamento de Materiais" - 1991
Filipe Marques Carnal	"Optimização das Operações de Sopragem numa Caldeira de Carvão Pulverizado" - 1992
Miguel Jorge de Sá Rocha Mourão	"Investigação Experimental de um Queimador a Gás com Rotação" - 1993.
Nuno Melo e Costa	"Sistemas de Visualização 3D Dedicados a Análise de Fornos e Caldeiras Industriais" - 1994.
João Pedro Taborda da Silva	"Tecnologias para a Melhoria da Eficiência Energética e Redução das Emissões Poluentes em Fornos Industriais de Fusão de Vidro" - 1994.
Ana Paula Xeira	"Simulação Físico-Matemática Não-Estacionária de Fornos de Fusão de Vidro" - 1995.
Jorge Alexandre Ramos Ferreira Pires	"Dimensionamento de um Tanque de Absorção Intensiva de CO <sub>2</sub> por Microalgas" - 1995.
João Carlos Gonçalves Fonseca	"Discussão da Utilização de Tecnologia de Queima em Oxigénio Puro em Fornos de Fusão de Vidro" - 1995.
Pedro Jesus	"Projecto do Circuito de Arrefecimento para Moldes de Injecção de Alumínio" - 1998.
Susana Maria Figueiredo Pires	"Analysis of Potential for Market Penetration of Renewable Energy Technologies in Peripheral Islands and Remote Regions: The Case of S. Antão" - 1999.
Sara Atalaya	"Uso de um Sistema de Informação Geográfica (SIG) para Avaliação de Potencial Energético Renovável" - 2000.
Mafalda Tavares	"Modelação e Planeamento do Sistema Energético de uma Ilha de Cabo Verde - S. Antão" - 2000.
Ricardo Carvalho	"Modelação e Planeamento do Sistema Energético de uma Ilha de Cabo Verde - Santiago" - 2000.
Gonçalo Nuno Gonçalves Antunes	"Clean Development Mechanism: Definitions and Contribution to Sustainable Development in Africa" - 2001.
Patrícia Ferreira Rei	"New and Renewable Energy Technologies in Islands and Remote Regions – Integrated Energy Systems for Corvo and Porto Santo" - 2002.
Pedro Saraiva Sarmento Coelho	"Energia e Ambiente para Turismo Sustentável" - 2002.
Maria Malato Lerer	"Estudo das Condições Ambientais para a Integração de Medidas Passivas e de Energias Renováveis no Projecto Arquitectónico do Hotel Quinta do Lorde, Madeira" – 2002
André Filipe Gonçalves da Cruz	"Comércio de Emissões e Mercado de Certificados Verdes – Análise da Interacção de Instrumentos de Políticas para as Alterações Climáticas e para as Energias Renováveis" – 2003.
Jaílza Soraya Rodrigues Silva	"Potencial da Participação Portuguesa nos Programas ESA/UE:GALILEO, GMES" – 2003.
Sandrina Batista Pereira	"Potencial da Participação Portuguesa na ESA" – 2003.

### **3.5.3 Participation in Juries**

- Full Professor Jury:
  - Department of Mechanical Engineering and Industrial Management, University of Porto (1998)
  - Department of Mechanical Engineering, Faculty of Science and Technology, University of Coimbra (1999)
  - Department of Mechanical Engineering at Instituto Superior Técnico, Technical University of Lisbon (2009)
  - University of Beira Interior (2010)
  - Department of Mechanical Engineering at Instituto Superior Técnico, Technical University of Lisbon (2013)
- Doctor of Science Jury:
  - Rui Mário Correia da Silva Vilar, Instituto Superior Técnico (1995)
  - Manuel José Moreira de Freitas, Instituto Superior Técnico (1995)
  - Maria Teresa Nunes Padilha de Castro Correia de Barros, Instituto Superior Técnico (1995)
  - Luís Adriano Alves de Sousa Oliveira, Faculdade de Ciéncia e Tecnologia of Universidade de Coimbra (1998)
  - Sebastião Manuel Tavares da Silva Alves, Instituto Superior Técnico, Department of Chemical Engineering (1999)
  - Jorge Manuel Martins Barata, Universidade da Beira Interior (1999)
  - Fernanda Adelina Anselmo Soares Rodrigues de Oliveira, Instituto Superior Técnico, Department of Chemical Engineering (2000)
  - Jorge Manuel Figueiredo Coelho de Oliveira, Instituto Superior Técnico (2000)
  - Maria Manuela Martins Saraiva Sarmento Coelho, Universidade da Beira Interior (2003)
- Habilitation Jury:
  - António Leça Coelho, Laboratório Nacional de Engenharia Civil (2006)
- Associate Professor Jury:
  - Instituto Superior Técnico (1994)
  - Instituto Superior Técnico (1994)
  - Instituto Superior Técnico, Department of Mechanical Engineering (1995)
  - Faculdade de Engenharia da Universidade do Porto (1995)
  - Instituto Superior Técnico, Department of Mechanical Engineering (1996)
  - Faculdade de Engenharia da Universidade do Porto (1996)
  - Universidade do Minho (1997)
  - Universidade da Beira Interior, Engenharia Electromecânica (1998)
  - Instituto Politécnico da Guarda (1998)
  - Faculdade de Engenharia da Universidade do Porto, Department of Mechanical Engineering (1999)
  - Universidade da Beira Interior, Department of Electromechanical Engineering (1999)
  - Instituto Superior Técnico, Department of Mechanical Engineering (2000)
  - University of Dublin, Trinity College, Ireland (2002)
  - Kungl Tekniska Högskolan, Sweden (2002)
- Doctorate Jury:

- José Leonel Monteiro Fernandes, Instituto Superior Técnico (1986)
- Jorge Manuel Martins Barata, Instituto Superior Técnico (1989)
- Viriato Sérgio de Almeida Semião, Instituto Superior Técnico (1990)
- Pedro Jorge Martins Coelho, Instituto Superior Técnico (1991)
- Armando Silva Santos, Faculdade de Engenharia da Universidade do Porto (1993)
- João Luis Toste de Azevedo, Instituto Superior Técnico (1994)
- X.-Q. Chen, Instituto Superior Técnico (1995)
- Philippe Joseph Ghislain Meunier, Universidade Católica de Louvaina (1996)
- Manuel Arlindo Amador de Matos, Universidade de Aveiro (1996)
- José Joaquim da Costa, Universidade de Coimbra (1996)
- Michel El Hayek, Faculdade Politécnica de Mons (1997)
- Tiago Alexandre Abrantes Teixeira Lopes Farias, Instituto Superior Técnico (1997)
- Óscar David dos Santos Mota, Faculdade de Engenharia da Universidade do Porto (1997)
- João António Esteves Ramos, Instituto Superior Técnico (1998)
- Rui António Pitarma Sabino da Cunha Ferreira, Instituto Superior Técnico (1998)
- Artur Jorge da Cunha Barreiros, Instituto Superior Técnico (1998)
- Jian Wang, Instituto Superior Técnico (1998)
- Mona Jacobsen, Universidade de Ciência e Tecnologia da Noruega (1998)
- Miguel Perez Neves Águas, Instituto Superior Técnico (1998)
- Nelson Amadeu Dias Martins, Instituto Superior Técnico (1999)
- João Carlos Godinho Viegas, Instituto Superior Técnico (1999)
- Augusto César de Mendonça Brasil, Instituto Superior Técnico, Department of Mechanical Engineering (2000)
- Lu Pisi, Instituto Superior Técnico, Department of Mechanical Engineering (2001)
- Duarte Dias Alves Pupo Correia, Instituto Superior Técnico, Department of Mechanical Engineering (2001)
- Isabel Dème, École des Mines de Paris (2002)
- José Luís Coelho Alexandre, Faculdade de Engenharia da Universidade do Porto (2002)
- M. Akritopoulos, Imperial College of Science, Technology and Medicine (2005)
- Jury of Doctorate Equivalence:
  - Jorge Paiva Cruz Costa, Universidade Técnica de Lisboa (1988)
  - José Manuel Laginha Mestre da Palma, Universidade Técnica de Lisboa (1989)
  - Luis Pedro Paz, Universidade Técnica de Lisboa (1990)
  - Mário Manuel Gonçalves da Costa, Universidade Técnica de Lisboa (1992)
  - Miguel Eduardo Pita de Jesus, Universidade Técnica de Lisboa (1996)
  - João Luis Vieira Alves e Sousa, Universidade Técnica de Lisboa (1996)
- Master Jury:
  - Viriato Sérgio de Almeida Semião, Instituto Superior Técnico (1986)
  - Paulo Jorge dos Santos Pimentel de Oliveira, Instituto Superior Técnico (1986)
  - Pedro Jorge Martins Coelho, Instituto Superior Técnico (1988)
  - Miguel Perez Neves Águas, Instituto Superior Técnico (1989)
  - Manuel Arlindo Amador de Matos, Instituto Superior Técnico (1989)
  - Filipe José Didelet Pereira, Instituto Superior Técnico (1989)
  - Paulo Miguel Marques Fontes, Instituto Superior Técnico (1990)
  - João António Esteves Ramos, Instituto Superior Técnico (1990)
  - Marcos António Barros Silva Nogueira, Instituto Superior Técnico (1991)
  - Artur Jorge da Cunha Barreiros, Instituto Superior Técnico (1992)
  - Rui António Pitarma Sabino da Cunha Ferreira, Instituto Superior Técnico (1992)
  - Carlos Frederico de Menezes Coimbra, Instituto Superior Técnico (1992)

- Amílcar Inocêncio Gonçalves Pereira de Miranda, Instituto Superior Técnico (1992)
- Luis Manuel Rodrigues Coelho, Instituto Superior Técnico (1993)
- Amílcar José Martins Arantes, Instituto Superior Técnico (1993)
- Pedro César Pereira Alves Saraiva, Instituto Superior Técnico (1993)
- Pedro Nuno Dinho Pinto da Silva, Instituto Superior Técnico (1993)
- António Manuel Alho Martins, Instituto Superior Técnico (1995)
- Manuel Ferreira dos Santos, Instituto Superior Técnico (1995)
- Susana Maria Lasbarrères Camelo, Instituto Superior Técnico (1996)
- João Miguel Neves Zorro Gonçalves, Instituto Superior Técnico (1997)
- Delmira Marília Lopes Duarte Ferrão, Instituto Superior Técnico (1998)
- Alexandre Miguel Cordeiro Magrinho, Instituto Superior Técnico, Department of Mechanical Engineering (1999)
- Miguel Nuno de Oliveira Gama Caldas, Instituto Superior Técnico, Department of Mechanical Engineering (1999)
- José Nuno Pereira de Melo Pinto Lopes, Instituto Superior Técnico, Department of Mechanical Engineering (2000)
- João Nuno Pinto Miranda Garcia, Instituto Superior Técnico, Department of Mechanical Engineering (2001)
- Ronne Toledo, Instituto Superior Técnico, Department of Mechanical Engineering (2003)
- António Manuel Gomes Domingues, Instituto Superior Técnico, Department of Mechanical Engineering (2005)
- Jury in the Exam for Pedagogic and Scientific Aptitude of João Luís Toste de Azevedo (1988)
- Jury in the Exam for Research Assistant (LNEC) of João Carlos Godinho Viegas (1992)

### **3.5.4 Coordination and Organisation of Training Courses**

43 training courses in Portuguese Language, between 1988 and 2002

## **3.6 SCIENTIFIC RESEARCH ACTIVITY**

### **3.6.1 Research Activity**

- Design, control and operation optimisation of industrial combustion chambers.
- Radiation modelling. Radiation models and their application to complex geometries of industrial combustion chambers.
- Optical and radiative properties of particles.
- Numerical simulation of industrial furnaces.
- Numerical simulation of gas turbine combustion chambers.
- Combustion. Diffusion flames. Combustion of gaseous fuels.
- Combustion of liquid fuels.
- Combustion of solid fuels. Combustion of pulverised coal.
- Combustion of fuel blends.
- NO<sub>x</sub> formation and destruction numerical models.
- Modelling of combustion and heat transfer in solid-fired fluidised bed reactors.
- Physical and mathematical modelling of fires.
- Heat transfer in materials processing.
- Study of heavy metals, dioxins and other emissions from coal and wastes co-combustion.
- Development of numerical techniques for complex geometries.
- Parallel computing.
- Development of sensors for industrial applications.

- Control strategies and diagnostic system for industrial combustion equipment.
- Fuel cells.
- New and renewable energy sources.
- Feasibility studies for NRES penetration.
- Sustainable energy technologies.
- Energy systems for developing countries.
- Climate change.
- Support to the implementation of the Kyoto mechanisms.
- Development and transfer of technology.
- Capacity building in developing countries.
- Scenarios for the architecture of the international agreement on climate change
- Policy for Energy and Climate
- Policies for Higher Education, Science and Innovation

### **3.6.2 Editorial Activity**

- Member of the Editorial Board of the Journal "Sustainable Development of Energy, Water and Environment Systems" - JSDEWES since 2013
- Guest Editor of the Special Issue is "Fuel Processing Technology", STM Journals, Elsevier, 2013
- Member of the Editorial Board of "Energy – The International Journal" (Elsevier), since July 2002.
- Editor for the area of Mechanical Engineering of "ACE News" (University of Aveiro), since May 2002.
- Editor-in-chief of "Clean Air – International Journal on Environmental Combustion Technologies" (Gordon and Breach Publishers/Taylor & Francis), from 1999 to 2003. Since January 2003 the Journal changed its title to "Clean Air – International Journal on Energy for a Clean Environment" and is published by Begell House.
- Member of the Scientific Board of the "MEDETEC Journal - Energy Technology for Mediterranean Countries" (European Commission), since September 1998.
- Deputy director of the journal "INGENIUM" (Portuguese Engineering Association), from April 1998 to October 2002.
- Member of the Editorial Board of "International Journal of Energy Research" (J. Wiley), since December 1997.
- Editor of the "Combustion Technologies for a Clean Environment" volumes of the series *Energy, Combustion and the Environment* (Gordon and Breach Publishers/Taylor & Francis), since 1995.
- Honorary Member of the Editorial Board of the "Encyclopedia of Life Support Systems (EOLSS)", since 1995.
- Member of the Editorial Board of the papers in the field of Mechanical Engineering of the Journal "INGENIUM" (Portuguese Engineering Association), from November 1995 to April 1998.
- Member of the International Editorial Advisory Board of "Revue Générale de Thermique" (Éditions Européennes Thermique et Industrie), from August 1994 to 1997.
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### **3.6.3 International Bodies Activity**

- Representative of the Lisbon Academy of Sciences at the Energy Advisory Group since 2013
- Representative of the Portuguese Engineering Association in the International Glass Commission, from January 2000 to October 2003.
- Portuguese Representative in the International Commission on Glass, since January 1999.
- Portuguese Delegate in the General Assembly of ICHMT (International Centre for Heat and Mass Transfer), since July 1998.

- National Delegate of JOULE/Thermie Programme - Non-nuclear Energies, (NNE) (Research), from 1995 to 1998.
- Portuguese Representative at the European Two-Phase Flow Group.
- Portuguese Representative at the Eurotherm Committee, since 1988.

#### **3.6.4 National Bodies Activity**

- Member of the Committee for Coordination and Regional Development of the Alentejo Regional Council from January 2013 to April 30, 2014
- Chairperson of the Working Group for the Cement Area of the Consultancy Board for Pollution Integrated Prevention and Control, from May 2002 to October 2003.
- Coordinator of the Special Working Group on Wastes, National Board for Environment and Sustainable Development, from March 2000 to October 2003.
- Member of the National Board for Environment and Sustainable Development, from March 1999 to October 2003.
- Member of the Specialized Board on the "National Plan of Economic and Social Development", since January 1999.
- Member of the National Board of Education, from January 1999 to October 2002.

#### **3.6.5 Activity by Appointment of International Institutions**

##### **3.6.5.1 European Commission**

- Member of the Coal and Steel Committee (COSCO), from February 2003 to October 2003.
- Member of the Steering Committee in the area of Fuel Cells in the scope of the Energy Programme of the D. G. Research, since October 2000.
- Technical assistance, co-ordination and technical and scientific monitoring of contracts concluded within the framework of the "Rational Use of Energy" in the area of Demonstration of the Non Nuclear Energy RTD Specific Programme, from 1st April 1999 to 30th September 2000 (contract TTM 6.7151/M/98-002), July 1999.
- Member of the "Fifth Framework Programme Advisory Group" on "Cleaner Energy Systems" and "Economic and Efficient Energy", since November 1998.
- Member of the Waste Forum (D.G. XI, XII and XVII of the European Commission), since 1995 to 1997.
- Member of the Steering Committee of JOULE II, JOULE II - Extension, JOULE III and APAS (Activité de Promotion, d'Accompagnement et de Suivi) - Clean Coal Technology Programme - European Commission - Directorate-General for Science, Research and Development, since October 1993 to 1997.

##### **3.6.5.2 Other International Institutions**

- Member of the Board of Management of CTI - Climate Technology Initiative (OCDE/E.U. in close collaboration with U. N. Framework Convention on Climate Change), since 2000.

#### **3.6.6 R&D Evaluating Activity (Nacional and Internacional)**

- Member of the Accompanying Committee of the Political Energy Programme of Madeira Island, since June 2003.
- Member of the Grants Committee of ICHMT (International Centre for Heat and Mass Transfer), since April 2003.

- Chairperson of the “Engineering Sciences Evaluation Panel of the Marie Curie Individual Fellowships Activity”, contract HPME-CT-1999-01001, 5<sup>th</sup> Framework Programme, from 1<sup>st</sup> November to 31<sup>st</sup> December 1999.
- Appraiser of candidacies to projects submitted to the “Support System to the Technological Capacities of SMEs”, Agência de Inovação, November 1999.
- Appraiser of the ECSC Coal RTD Programme, contract No. 7220-ZZ, July 1999.
- Chairperson of the Evaluation Panel of the “Engineering Sciences Panel of the Marie Curie Individual Fellowships Activity”, contract HPME-CT-1999-00183, from 1<sup>st</sup> June to 31<sup>st</sup> July 1999.
- Appraiser of the Programme “Basic Research Grant Scheme” of the National Research Support Fund Board of the Irish Ministry for Science, Technology and Commerce, March 1999.
- Appraiser of the European Programmes: BRITE (1989), JOULE (1993), TMR (1995/98), FAIR (1997), ECSC (1997).
- Member of the National Coordinating Committee of Research in Energy – JNICT from 1988 to 1995.

### **3.6.7 Evaluating Activity of Higher Education Institutions**

2008, Lundt University - Assessment of courses at the University of Lundt

2009, Regional Operational Programme of the Center of Portugal, Review of Science and Technology Parks of Coimbra for the Support System for Science and Technology Parks and Business Incubators Based Technology

### **3.6.8 Participation in Awards and Contest Juries**

- President of the Sustainable Energy Europe Award Jury (Sustainable Energy Week), June 26, 2013
- Member of the Jury of Marie Curie Awards, November 5, 2012
- President of the Sustainable Energy Europe Award Jury (Sustainable Energy Week), April 12, 2011
- Member of the Technical Evaluation Panel of the 1<sup>st</sup> International Environmental Design Contest, June 2003.
- Representative of the Portuguese Engineering Association in an International Contest for the city of Almada, from March 2001 to July 2002.
- Member of the Honours and Awards Committee of the International Centre for Heat and Mass Transfer.
- Member of the Jury of “2002 European IST Prize”.
- Member of the Jury of “2001 European IST Prize”.
- Member of the Jury of Gas Natural 2000 Prize (Energy/Environment) – GDP Distribution.
- Member of the Executive Jury of the “European IT Prize 98”.
- Member of the Scientific Board of the EUROTHERM Prize Committee, since November 1998.
- Member of the technical evaluation group of ITEA'97 – Information Technology European Awards – European Council of Applied Sciences and Engineering.
- Member of the technical evaluation group of ITEA'96 – Information Technology European Awards – European Council of Applied Sciences and Engineering.

### **3.6.9 Scientific and Executive Committees of R&D Organisations**

- Member of the Scientific Council of the Regional Agency for Energy and Environment of the West, April 2012 to April 30, 2014

- Member of the Advisory Board of the Institute of Molecular Medicine, Faculty of Medicine of Lisbon from February 2013 to April 30, 2014.
- Member of the Executive Committee of ICHMT (International Centre for Heat and Mass Transfer), since July 2002.
- Member of the Enterprises Scientific Committee of the Engineering and Technology 2000 Programme, since 1999.
- Member of Scientific Council of ICHMT (International Centre for Heat and Mass Transfer), since July 1998.
- Member of the Scientific and Technological Committee of ITEC – Technological Institute for the European Union, 1990/92.
- Member of the Scientific Board of ERCOFTAC – European Research Centre on Flow, Turbulence and Combustion, since 1989.
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### **3.6.10 Organization of Conferences**

- Seventh International Conference on Energy for a Clean Environment  
Lisbon, Portugal  
7/10 July 2003  
279 participants, 40 countries
- 2<sup>nd</sup> Dubrovnik Conference on Sustainable Development of Energy, Water and Environment Systems  
Dubrovnik, Croatia  
15/20 June 2003
- Água, Energia e Ambiente em Regiões Insulares  
Mindelo, S. Vicente and Praia, Santiago – Cape Verde  
8/10 July 2002
- XIV Congresso da Ordem dos Engenheiros  
Coimbra, Portugal  
27/29 June 2002  
490 participants
- International Conference on New and Renewable Technologies for Sustainable Development  
Ponta Delgada, Azores, Portugal  
24/26 June 2002  
100 participants, 17 countries
- 1<sup>st</sup> Dubrovnik Conference on Sustainable Development of Energy, Water and Environment Systems  
Dubrovnik, Croatia  
2/7 June 2002
- Cumprindo os Objectivos do Protocolo de Quioto e Promovendo a Transferência de Tecnologia para Países Insulares em Desenvolvimento – Projecto CDMSIDS  
Sal, Cape Verde  
1 March 2002
- Sixth International Conference on Technologies and Combustion for a Clean Environment  
Oporto, Portugal  
9/12 July 2001  
266 participants, 37 countries
- Engenharia e Tecnologia 2000 - Ensaio de Prospectiva: 2000-2020  
27/28 November 2000  
Position: Representing the Portuguese Engineering Association
- XIII Congresso 2000 Engenharia e Cultura (Portuguese Engineering Association)  
Oporto, Portugal  
21/23 September 2000

- Euro Conference New and Renewable Technologies for Sustainable Development  
Madeira Island, Portugal  
26/29 June 2000  
75 participants, 24 countries
- Working Party on Climate Change - Informal Workshop of the Portuguese Presidency  
Sintra, Portugal  
7/8 February 2000  
Position: Local organizer
- Fifth International Conference on Technologies and Combustion for a Clean Environment  
Lisbon, Portugal  
12/15 July 1999  
324 participants, 28 countries
- International Conference and Exhibit on Heat Exchangers for Sustainable Development  
Lisbon, Portugal  
9/12 June 1998  
96 participants, 24 countries
- Eurotherm Seminar No.56 - Heat Transfer in Radiating and Combusting Systems  
Athens, Greece  
1/3 April 1998
- 1<sup>as</sup> Jornadas Nacionais do Colégio de Engenharia Mecânica da Ordem dos Engenheiros  
Oporto, Portugal  
9/10 March 1998  
Position: Member of the Executive Board
- Fourth International Conference on Technologies and Combustion for a Clean Environment  
Lisbon, Portugal  
7/10 July 1997  
238 participants, 28 countries
- Open Workshop on Advanced Modelling and Sensoring Tools for Energy Saving in Industry  
Sintra, Portugal  
10/12 April 1996  
64 participants, 11 countries
- International Symposium on Radiative Heat Transfer  
Kusadasi, Turkey  
14/18 August 1995  
84 participants, 19 countries  
Position: Member of the Organizing Committee.
- Third International Conference on Combustion Technologies for a Clean Environment  
Lisbon, Portugal  
3/6 July 1995  
212 participants, 28 countries
- APAS Clean Coal Technology Conference  
Lisbon, Portugal  
28/29 November 1994  
176 participants, 14 countries  
Position: Chairperson of the Local Organizing Committee
- 37<sup>th</sup> EUROTHERM Seminar - Heat Transfer in Radiating and Combusting Systems - 2  
Saluggia, Italy  
5/7 October 1994  
64 participants, 13 countries
- Joint Meeting of the Italian and Portuguese Sections of the Combustion Institute  
CROCUS Combustion Related Organizations — Common and Unified Symposium  
Salsomaggiore Terme, Italy  
20/23 September 1994

127 participants, 5 countries

- 1993 ICHMT International Symposium on New Developments in Heat Exchangers  
Lisbon, Portugal  
6/10 September 1993  
80 participants, 15 countries  
Position: Chairperson of Local Organizing Committee
- ICDERS – 14<sup>th</sup> International Colloquium on the Dynamics of Explosions and Reactive Systems  
Coimbra, Portugal  
1/6 August 1993  
Position: Member of the Local Organizing Committee
- Second International Conference on Combustion Technologies for a Clean Environment  
Lisbon, Portugal  
19/22 July 1993  
230 participants, 25 countries
- First International Conference on Combustion Technologies for a Clean Environment  
Vilamoura, Portugal  
3/6 September 1991  
171 participants, 24 countries
- 17<sup>th</sup> EUROTHERM Seminar - Heat Transfer in Radiating and Combusting Systems  
Cascais, Portugal  
8/10 October 1990  
100 participants, 19 countries

### **3.6.11 Participation in the Scientific Committees of Conferences**

- Conference "Sustainable Intelligent Manufacturing (SIM2013)" IPLeiria  
26/29 June 2013  
Position: Member of the Scientific Committee
- Conference on Sustainable Development of Energy, Water and Environment Systems - SDEWES  
Position: Member of the International Scientific Committee since 2002
- Conference on Sustainable Development of Energy, Water and Environment Systems - SDEWES  
Position: President of the International Scientific Committee since 2002
- Conference "Energy & Economics: Bringing together Economics and Engineering", Faculty of  
Engineering of Porto, 9/10 May 2013  
Position: Member of the Scientific Committee
- 1<sup>st</sup>. International Conference on "Environmental Economics and Investment Assessment 2006"  
Mykonos, Greece  
13/15 September 2006  
Position: Member of the International Scientific Committee
- I Conferência Nacional de Métodos Numéricos em Mecânica dos Fluidos e Termodinâmica  
Universidade Nova de Lisboa, Campus de Caparica/ Portugal  
8/9 Junho 2006  
Position: Member of the Scientific Committee
- 7<sup>th</sup>. European Conference on Industrial Furnaces and Boilers – INFUB  
Oporto, Portugal  
18/21 April 2006  
Position: Member of the International Scientific Committee
- ECCOMAS Thematic Conference On Computational Combustion  
Lisbon, Portugal  
21/24 June 2005

Position: Member of the International Scientific Committee

- HYSYDAYS – 1<sup>st</sup>. World Congress of Young Scientists on Hydrogen  
Turin, Italy  
18/20 May 2005  
Oporto, Portugal  
18/21 April 2006  
Position: Member of the International Scientific Committee
- Radiation IV – The Fourth International Symposium on Radiative Transfer  
Istanbul / Turkey  
20/25 June 2004  
Position: Member of the International Scientific Committee
- ENERGEX 2004 International Energy Forum  
Lisbon / Portugal  
17/20 May 2004  
Position: Member of the International Scientific Committee
- CHT-04 Advances in Computational Heat Transfer  
Norwegian Fyords  
19/24 April 2004  
Position: Member of the International Scientific Committee
- VI Congresso Ibero-Americano de Engenharia Mecânica  
Coimbra, Portugal  
16/18 October 2003  
Position: Member of the International Scientific Committee
- XVIII International Symposium on Combustion Processes  
Ustroń, Poland  
2/5 September 2003  
Position: Member of the International Scientific Committee
- VII Congresso Nacional de Mecânica Computacional  
Évora, Portugal  
14/16 April 2003  
Position: Member of the Scientific Committee
- 12<sup>th</sup> International Heat Transfer Conference – IHTC'12  
Grenoble, France  
18/23 August 2002  
Position: Member of the International Scientific Committee
- 6<sup>th</sup> European Conference on Industrial Furnaces and Boilers - INFUB  
Estoril, Portugal  
2/5 April 2002  
Position: Member of the International Scientific Board
- 1<sup>as</sup> Jornadas Politécnicas de Engenharia  
Leiria, Portugal  
14/16 November 2001  
Position: Member of the Technical Scientific Committee, panel "Energy and Environment"
- The 39<sup>th</sup> European Two-Phase Flow Group Meeting  
Aveiro, Portugal  
17/20 June 2001  
Position: Member of the Scientific Committee
- Radiation 2001 – The Third International Symposium on Radiative Transfer  
Antalya, Turkey  
10/15 June 2001  
Position: Member of the International Scientific Board
- MODELUS 2000 – Modelling for a Sustainable Development  
Estoril, Portugal

- 10/13 October 2000  
 Position: Chairperson of the International Scientific Committee
- 3<sup>rd</sup> European Thermal Sciences Conference  
 Heidelberg, Germany  
 10/13 September 2000  
 Position: Member of the International Scientific Board
  - 28<sup>th</sup>. International Symposium on Combustion  
 The Combustion Institute  
 University of Edinburg, Scotland, United Kingdom  
 30 July/4 August 2000  
 Position: Member of the Scientific Committee and of the Programme Review Subcommittee
  - VI Congresso Nacional de Mecânica Computacional  
 Aveiro, Portugal  
 17/19 April 2000  
 Position: Member of the Scientific Board.
  - 5<sup>th</sup> European Conference on Industrial Furnaces and Boilers - INFUB  
 Espinho, Oporto, Portugal  
 11/14 April 2000  
 Position: Member of the International Scientific Committee
  - 4<sup>th</sup> International Symposium on Coal Combustion - 4th. ISCC  
 Beijing, China  
 18/21 August 1999  
 Position: Member of the International Committee.
  - 6<sup>th</sup> International Symposium on Fire Safety Science.  
 Poitiers, France  
 5/9 July 1999  
 Position: Member of the Programme Review Committee
  - Mediterranean Combustion Symposium  
 Antalia, Turkey  
 19/24 June 1999  
 Position: Member of the Advisory Board
  - PRES'99 – 2<sup>nd</sup> Conference "Process Integration, Modelling and Optimization for Energy Saving and Pollution Reduction"  
 Budapest, Hungary  
 31 May/2 June 1999  
 Position: Member of the International Scientific Committee
  - PRES'98 – 1<sup>st</sup> Conference "Process Integration, Modelling and Optimization for Energy Saving and Pollution Reduction"  
 Praha, Czech Republic  
 23/28 August 1998  
 Position: Member of the International Scientific Committee
  - 13<sup>th</sup> International Congress of Chemical and Process Engineering CHISA'98  
 Praha, Czech Republic  
 23/28 August 1998  
 Position: Member of the International Scientific Committee
  - 27<sup>th</sup> International Symposium on Combustion  
 The Combustion Institute  
 University of Colorado, Boulder, USA  
 2/7 August 1998  
 Position: Member of the Scientific Committee and of the Programme Review Subcommittee
  - Radiation – 97, International Symposium on Radiative Transfer  
 Kusadasi, Turkey  
 21/25 July 1997

Position: Member of the International Scientific Committee

- Workshop on Advanced Control for Industrial Glass Melters  
Maastricht, The Netherlands  
6/7 May 1997  
Position: Member of the Advisory Scientific Committee
- 4<sup>th</sup> European Conference on Industrial Furnaces and Boilers - INFUB  
Espinho, Oporto, Portugal  
1/4 April 1997  
Position: Member of the International Scientific Committee
- 5<sup>th</sup> International Symposium on Fire Safety Science  
Melbourne, Australia  
3/7 March 1997  
Position: Member of the Programme Review Committee
- 26<sup>th</sup> International Symposium on Combustion  
The Combustion Institute  
University Frederico II, Naples, Italy  
28 July/2 August 1996  
Position: Member of the Scientific Committee and of the Programme Review Subcommittee
- 2<sup>nd</sup> European Thermal – Sciences and 14<sup>th</sup> UIT National Heat Transfer Conference  
Rome, Italy  
29/31 May 1996  
Position: Member of the Scientific Committee
- E3 – Colloque Exposition Européen "Energie et Environnement".  
Marseille, France  
5/7 December 1995  
Position: Member of the Scientific and Technical Committee
- Eighth International Symposium on Transport Phenomena in Combustion  
San Francisco, California, USA  
16/20 July 1995  
Position: Member of the Programme Review Subcommittee
- 3<sup>rd</sup> European Conference on Industrial Furnaces and Boilers - INFUB  
Lisbon, Portugal  
18/21 April 1995  
Position: Member of the International Scientific Committee
- IV Encontro Nacional de Mecânica Computacional  
Lisbon, Portugal  
10/12 April 1995  
Position: Member of the Scientific Committee
- 38<sup>th</sup> EUROTHERM Seminar - Heat and Mass Transfer in Circulating Fluidized Beds Application to Clean Combustion  
Marseille, France  
22/23 November 1994  
Position: Member of the Scientific Committee
- 36<sup>th</sup> EUROTHERM Seminar – Advanced Concepts and Techniques in Thermal Modelling  
ENSMA, Poitiers, France  
21/23 September 1994  
Position: Member of the Scientific Committee
- International Conference on Combustion Dedicated to the 80<sup>th</sup> Anniversary of Academician Ya. B. Zeldovich  
Moscow, Russia  
12/17 September 1994  
Position: Member of the International Advisory Committee
- 10<sup>th</sup> International Heat Transfer Conference

Brighton, United Kingdom

14/18 August 1994

Position: Poster Session Reviewer and Organizer: "Radiation and Combustion"

- 25<sup>th</sup> International Symposium on Combustion  
The Combustion Institute  
The University of California, Irvine, USA  
31 July/5 August 1994  
Position: Member of the Scientific Committee and of the Programme Subcommittee
- 1993 International Thermal Energy Congress  
Marrakesh, Morocco  
6/10 June 1993  
Position: Member of the International Committee
- International Conference on Energy Efficiency in Process Technology  
Athens, Greece  
19/22 October 1992  
Position: Member of the Scientific Committee
- III Encontro de Mecânica Computacional  
Coimbra, Portugal  
28/30 September 1992  
Position: Member of the Scientific Committee
- First European Thermal Sciences and Third UK National Heat Transfer Conference  
Birmingham, United Kingdom  
16/18 September 1992  
Position: Member of the Scientific Committee
- 24<sup>th</sup> International Symposium on Combustion  
The Combustion Institute  
Sidney, Australia  
6/10 July 1992  
Position: Member of the Scientific Committee and of the Programme Subcommittee
- 21<sup>st</sup> EUROTHERM Seminar - Heat Transfer in Semi-Transparent Media-Fundamentals and Applications.  
Lyon, France  
3/5 February 1992  
85 participants - 12 countries  
Position: Member of the Scientific Committee
- 23<sup>rd</sup> International Symposium on Combustion.  
The Combustion Institute  
Orleans, France  
22/27 July 1990  
1038 participants - 31 countries  
Position: Member of the Scientific Committee and of the Programme Subcommittee
- International Conference on Mechanics of Two-phase Flows.  
National Taiwan University  
Taipei, Taiwan  
12/15 June 1989  
Position: Member of the Scientific Committee

### **3.6.12 Coordination and Participation in Research and Development Projects**

1. Title of the project: Protocolo entre o IA e o IST para apoio técnico e científico no âmbito das suas competências sobre prevenção e controlo integrados da poluição (PCIP)
- Acronym: PCIP/MTD - 2301
- Venue: Instituto Superior Técnico

Date:	1 April 2007/31 March 2008
Funding:	Instituto do Ambiente
Contract No.:	26/2007
Consortium:	IST (PT)
Position:	Coordinator of the project at IST. Research fellow.
2. Title of the project:	Protocolo entre o IA e o IST para apoio técnico e científico no âmbito das suas competências sobre prevenção e controlo integrados da poluição (PCIP), nos termos do Decreto_Lei Nº 194/2000 de 21 de Agosto, nomeadamente na interface PCIP com matérias relacionadas e a sua aplicação ao contexto nacional
Acronym:	PCIP Interface
Venue:	Instituto Superior Técnico
Date:	1 April 2007/31 March 2008
Funding:	Instituto do Ambiente
Contract No.:	24/2007
Consortium:	IST (PT)
Position:	Coordinator of the project at IST. Research fellow
3. Title of the project:	Energy Bus – Autocarro temático sobre energia e eficiência energética em Portugal
Acronym:	Energy Bus
Venue:	Instituto Superior Técnico
Date:	1 January 2007/ 30 June 2009
Funding:	EDP (PT)
Contract No.:	PE 340
Consortium:	IDMEC (PT)
Position:	Co-coordinator of the project.
4. Title of the project:	Sustainable urban renewal: energy efficient building for Africa
Acronym:	SURE AFRICA
Venue:	Instituto Superior Técnico
Date:	1 January 2007/ 30 June 2009
Funding:	Intelligent Energy-Europe, European Commission
Contract No.:	EIE/06/274/SI2.447964
Consortium:	IDMEC (PT), UCAM (UK), ULUND (SW)
Position:	Co-coordinator of the project.
5. Title of the project:	Strengthening municipal action on renewable energy in Central America
Acronym:	ENERGYCENTRAL
Venue:	Instituto Superior Técnico
Date:	1 January 2007/ 31 December 2008
Funding:	Intelligent Energy-Europe, European Commission
Contract No.:	EIE/06/240/SI2.448125
Consortium:	IDMEC (PT), LMLG (UK)
Position:	Co-coordinator of the project.
6. Title of the project:	Protocolo entre o IA e o IST para apoio técnico e científico no âmbito das suas competências sobre prevenção e controlo integrados da poluição (PCIP), nos termos do Decreto_Lei Nº 194/2000 de 21 de Agosto, nomeadamente na interface PCIP com matérias relacionadas e a sua aplicação ao contexto nacional
Acronym:	PCIP Interface
Venue:	Instituto Superior Técnico
Date:	1 June 2006/ 31 May 2007
Funding:	Instituto do Ambiente
Contract No.:	190/06
Consortium:	IST (PT)
Position:	Coordinator of the project at IST. Research fellow.
7. Title of the project:	Protocolo entre o IA e o IST para apoio técnico no âmbito das suas competências sobre prevenção e controlo integrados da poluição
Acronym:	PCIP –N705

Venue:	Instituto Superior Técnico
Date:	1 June 2006/ 31 May 2007
Funding:	Instituto do Ambiente
Contract No.:	191/06
Consortium:	IST (PT)
Position:	Coordinator of the project at IST. Research fellow.
8. Title of the project:	Early Market Introduction of New Energy Technologies in Liaison with Science and Industry
Acronym:	Eminent II
Venue:	Instituto Superior Técnico
Date:	28 April 2006/27 September 2008
Funding:	Direktorate-General for Energy and Transport, European Commission
Contract No.:	TREN/05/FP6EN/S07.56209/019886
Consortium:	SINTEF (NO), University of Manchester (UK), EUBIA (B), COGEN (B), Fh-ISI (D), CEA-LIS (F), CNL (PL), UV (H), ETA (I), ETH (CH), CERTH/ISFTA (GR), JR (A), Chalmers (SW)
Position:	Co-ordinator of the project at IST. Research fellow.
9. Title of the project:	Procura - Green Fleet Procurement Models
Acronym:	PROCURA
Venue:	Instituto Superior Técnico
Date:	1 January 2006/31 December 2008
Funding:	Intelligent Energy Europe, European Commission
Contract No.:	EIE/05/102/SI2.419855
Consortium:	Ecofys (NL), FAST (I), Nijmegen (NL), Terberg (NL), ENGVA (NL), ETA (I), KAPE (PL), Ford (D), NTDA (SP), UU (NL)
Position:	Co-ordinator of the project at IST. Research fellow.
10. Title of the project:	Promoting the Use of Photovoltaic Systems in the Urban Environment through Demo Relay Nodes
Acronym:	PURE
Venue:	Instituto Superior Técnico
Date:	1 January 2006/31 December 2008
Funding:	Intelligent Energy Executive Agency, European Commission
Contract No.:	EIE/05/051/SI2.450200
Consortium:	EVE (SP), SST (D), SAVONA (I), SEA (SL), ENV/TUC (GR)
Position:	Co-ordinator of the project at IST. Research fellow.
11. Title of the project:	Monitoring and Control of Energy Consumption in Municipal Public Buildings over the Internet
Acronym:	ENERin TOWN
Venue:	Instituto Superior Técnico
Date:	1 January 2006/30 June 2008
Funding:	Intelligent Energy Executive Agency, European Commission
Contract No.:	EIE/05/118/SI2.419653
Consortium:	EVE (SP), INEGA (S), LDK (GR), TEA (Ir), ADEME (FR). LEI (Li), AREAL(PT), ZREU (D), AI (I)
Position:	Co-ordinator of the project at IST. Research fellow.
12. Title of the project:	Andean Energy Hub
Acronym:	ANDENERGY
Venue:	Instituto Superior Técnico
Date:	1 January 2006/31 December 2007
Funding:	Intelligent Energy Europe, European Commission
Contract No.:	EIE/05/141/SI2.420262
Consortium:	CIRPS (IT), CIDES (Peru), ENERGY (Peru), ESPOL (Ecuador), CAN (Peru), ECO (Peru), ESANET (IT)
Position:	Co-ordinator of the project at IST. Research fellow.
13. Title of the project:	Capacity Building on Business Opportunities for CDM Projects in China
Acronym:	CDM China
Venue:	Instituto Superior Técnico

Date:	1 January 2006/31 August 2007
Funding:	External Actions of the European Community, European Commission
Contract No.:	CN/ASIA PRO ECO II/04 (113210)
Consortium:	CIRPS (IT), GEI (China), Helio International (FR), Ecosoluzioni Snc. (IT)
Position:	Co-ordinator of the project at IST. Research fellow.
14. Title of the project:	Protocolo entre o IA e o IST para apoio técnico e científico no âmbito das suas competências sobre prevenção e controlo integrados da poluição (PCIP), nos termos do Decreto Lei Nº 194/2000 de 21 de Agosto, nomeadamente na interface PCIP com matérias relacionadas e a sua aplicação ao contexto nacional
Acronym:	PCIP Interface
Venue:	Instituto Superior Técnico
Date:	1 June 2005/ 31 May 2006
Funding:	Instituto do Ambiente
Contract No.:	30/05
Consortium:	IST (PT)
Position:	Coordinator of the project at IST. Research fellow.
15. Title of the project:	Protocolo entre o IA e o IST para apoio técnico no âmbito das suas competências sobre prevenção e controlo integrados da poluição
Acronym:	PCIP –N705
Venue:	Instituto Superior Técnico
Date:	1 June 2005/ 31 May 2006
Funding:	Instituto do Ambiente
Contract No.:	42/2005
Consortium:	IST (PT)
Position:	Coordinator of the project at IST. Research fellow.
16. Nome do projecto:	Local new energy technology implementation
Acrónimo:	LETIT
Local:	Instituto Superior Técnico
Data:	May 2005/ July 2006
Agência Financiadora:	Sixth Framework Programme, Priority 6.1.ii – Sustainable Energy Systems – European Commission
Nº do Contrato:	SES6-CT-2004
Instituições envolvidas:	ESD (UK); Utilicom (UK); GLA (UK); LBM (UK); Innova (IT); ECOA - Ecoazioni (IT); ASM Terni SPA (IT); Terni Municipality (IT); IDMEC – IST (PT); LABELEC - EDP (PT); AGENEAL (PT); AREAM (PT); ISE Fraunhofer (DE); Badenova (DE); Cityplan (CZ); RERA - South Bohemia (CZ); RASBR - South Bohemian Region (CZ); EC BREC (PL); PCT (PL); POME (PL).
Função:	Coordenação científica do projeto.
17. Title of the project:	Energy for Poverty Alleviation in Sahel
Acronym:	IE4SAHEL
Venue:	Instituto Superior Técnico
Date:	1 April 2005/ 31 March 2007
Funding:	Intelligent Energy-Europe, European Commission
Contract No.:	EIE/04/131/S07.40673
Consortium:	ESD (UK), CRES (GR), ARC (NI)
Position:	Scientific co-ordinator of the project.
18. Title of the project:	HY-CO
Acronym:	HY-CO
Venue:	Instituto Superior Técnico
Date:	1 October 2004/30 September 2008
Funding:	ERA-NET, European Commission
Contract No.:	Cooperation protocol FCT/IST
Consortium:	Fundação para a Ciência e a Tecnologia (FCT)
Position:	Co-ordinator of the project at IST. Research fellow.

19. Title of the project:	Eu-Asia University Partnership for Sustainable Development
Acronym:	UNIPASUD
Venue:	Instituto Superior Técnico
Date:	15 June 2003/ 15 November 2004
Funding:	Asia-Link Programme, European Commission
Contract No.:	ASI/B7-301/98/679-031
Consortium:	CIRPS (I)
Position:	Co-ordinator of the project at IST. Research fellow.
20. Title of the project:	Capacity Building for Clean Development Mechanism in Sub-Saharan African Countries
Acronym:	CDM África
Venue:	Instituto Superior Técnico
Date:	6 June 2003/ 6 December 2004
Funding:	Synergy Programme, European Commission
Contract No.:	7.623/D/02-001-SO7.21886
Consortium:	CINAR (UK), TNO EEEPI (NL), ITC (S), Cogen Europe (B), WBP (D), CIRPS (I), ARC (Niger), CSIR (South Africa), CEEEZ (Zambia), EECG (Botswana); CEISA (Mozambique)
Position:	Co-ordinator of the project at IST. Research fellow.
21. Title of the project:	Business Opportunities for CDM Project Development in the Mediterranean
Acronym:	CDM MEDA
Venue:	Instituto Superior Técnico
Date:	14 May 2003/ 14 May 2005
Funding:	Synergy Programme, European Commission
Contract No.:	4.1041/D/02-003-SO7.21086
Consortium:	NTUA (GR), JIN (NL), ALMEE (Lebanon), Bogaziçi University (Turkey), CDER (Marocco), ICTAF (Israel), MEMR (Jordaine), MOE (Siria), OEP (Egypt), Sonelgaz (Algeria), UM (Malta)
Position:	Co-ordinator of the project at IST. Research fellow.
22. Title of the project:	Early Market Introduction of New Energy Technologies by the OPET Network in Liaison with Science and Technology
Acronym:	Eminent
Venue:	Instituto Superior Técnico
Date:	1 April 2003/30 September 2005
Funding:	Energy, Environment and Sustainable Development – Part B: Energy Programme, European Commission
Contract No.:	NNE5/2002/75
Consortium:	TNO (NL), SINTEF (N), UMIST (UK), FZJ (D), VTT Processes (FIN), RTU (Latvia), VUT (CR), RISOE (DN)
Position:	Co-ordinator of the project at IST. Research fellow.
23. Title of the project:	Protocolo entre o IA e o IST para apoio técnico e científico no âmbito das suas competências sobre prevenção e controlo integrados da poluição (PCIP), nos termos do Decreto-Lei Nº 194/2000 de 21 de Agosto, nomeadamente na interface PCIP com matérias relacionadas e a sua aplicação ao contexto nacional
Acronym:	PCIP-Interface
Venue:	Instituto Superior Técnico
Date:	1 April 2003/31 March 2004
Funding:	Instituto do Ambiente
Contract No.:	19/2003
Consortium:	IST (P)
Position:	General co-ordinator of the project at European level. Research fellow.
24. Title of the project:	Protocolo entre o IA e o IST para apoio técnico no âmbito das suas competências sobre prevenção e controlo integrados da poluição
Acronym:	PCIP
Venue:	Instituto Superior Técnico

Date:	1 April 2003/31 March 2004
Funding:	Instituto do Ambiente
Contract No.:	18/2003
Consortium:	IST (P)
Position:	General co-ordinator of the project at European level. Research fellow.
25. Title of the project:	Integrating Self Supply into End Use for Sustainable Tourism – Target Action C
Acronym:	Green Hotel
Venue:	Instituto Superior Técnico
Date:	1 April 2003/31 March 2003
Funding:	Energy, Environment and Sustainable Development Programme – Part B: Energy Programme, European Commission
Contract No.:	NNE5/2001/707
Consortium:	AREAM (P), Quinta do Lorde (P), PAL – Planeamento e Arquitectura, Lda. (P), ITC (S), DLR (D), CIRPS (I), E4TECH (SW), FSI (D), Malmoe (S), ISLENET (B), Cenergia (DK), REAC (GR),
Position:	Co-ordinator of the project at IST. Research fellow.
26. Title of the Project:	The European Hydrogen (based) Society – target Action A
Acronym:	HySociety
Venue:	Instituto Superior Técnico
Date:	1 February 2003/31 January 2005
Funding:	Energy Programme, European Commission
Contract No.:	NNE5/2001/641
Consortium:	SINTEF (N), VTT Energy (FI), INTA (SP), ULG (B), Vito (B) AVERE (B), VGB Powertech e.V. (D), Fraunhofer Gesellschaft zur Förderung der Angewandten Forschung e.V. (D), EVA (A), ECN (NL), Sydkraft (S), NTUA (GR), ENEA (IT), ICSTM (UK), CNRS (FR), RF-Rogaland Research (N)
Position:	General co-ordinator of the project at European level. Research fellow.
27. Title of the Project:	PV Enlargement-Technology Transfer, Demonstration and Scientific Exchange Action for the Establishment of a Strong European PV Sector
Acronym:	PVEnlargement
Venue:	Instituto Superior Técnico
Date:	1 January 2003/31 December 2006
Funding:	Energy Programme, European Commission
Contract No.:	NNE5/2001/736
Consortium:	WIP (D), Gehrlicher (D), FH Munich (D), ATB (AT), Vienna University of Technology (AT), University of Innsbruck (AT), Donau Universität Krems (AT), Viktor Kaplan Akademie (AT), TU Gabrovo (BG), Central Laboratory of Solar Energy & New Energy Sources (BG), SOLARTEC (CZ), Charles University of Prague (CZ), Brno University of Technology (CZ), TU Ostrava (CZ), University of West Bohemia (CZ), TU Liberec (CZ), CRES (GR), Agricultural University of Athens (GR), Szent Istvan University Gödöllő (HU), Università di Roma La Sapienza (IT), Università degli Studi di Firenze (IT), Municipality of Pistoia (IT), Warsaw University of Technology (IT), Universidade Nova de Lisboa (PT), Universitatea Politehnica din Bucuresti (RO)
Position:	Co-ordinator of the project at IST. Research fellow.
28. Title of the project:	Alternative Fuel for Industrial Gas Turbines
Acronym:	AFTUR
Venue:	Instituto Superior Técnico
Date:	1 January 2003/30 September 2007
Funding:	Research DG, European Commission
Contract No.:	ENK5-CT-2002-00662
Consortium:	CNRS – LCSR (FR), Turbomeca (FR), Nuovo (FR), Pignone (IT), Alstom Power (UK), Aero and Industrial Technology (UK), Auxitrol (FR), CNRS – CORIA (FR), Institut Français du Pétrole (FR), QINETIQ (UK), AEA Technology (UK), University Trieste (IT), Istituto di Ricerche sulla

Position:	Combustione – CNR (IT), Termiska Processer (S), University Athens (GR), University Twente (NL), University Roma 3 (IT), University Zaragoza (ES), University Lund (S), University Cranfield (UK), UNIVERSITY Manchester (UK), University Covilhã (PT) Co-ordinator of the project at IST. Research fellow.
29. Title of the project:	Optimisation and Design of Biomass Combustion Systems
Acronym:	OPTICOMB
Venue:	Instituto Superior Técnico
Date:	1 January 2003/30 June 2006
Funding:	Energy, Environment and Sustainable Development Programme, European Commission
Contract No.:	ENK5-CT-2002-00693
Consortium:	TNO.MEP (NL), Technical University of Graz (A), Eindhoven University of Technology (NL), Vyncke (B)
Position:	Co-ordinator of the project at IST. Research fellow.
30. Title of the Project:	The Fuel Cell Testing and standardization Network
Acronym:	FCTESTNET
Venue:	Instituto Superior Técnico
Date:	1 January 2003/31 December 2005
Funding:	Research DG, European Commission
Contract No.:	ENG2-CT-2002-20657
Consortium:	VDI (D), JRC (B), ZSW (D), FEV (D), CEA (F), ENEA (IT), ECN (NL), TNO (NL), Catella Generics (S), HAW Hamburg (D)
Position:	Research fellow.
31. Title of the Project:	Adaptation of a New Energy-and Timesaving Hard Anodizing Process for Different Al-alloys and tests in Selected European Industrial Applications
Acronym:	Pulcoat System
Venue:	Instituto Superior Técnico
Date:	1 January 2003/31 December 2005
Funding:	Energy Programme, European Commission
Contract No.:	NNE5-2001-00402
Consortium:	Fischer (D), PHM Engineering (B), LEDA (UK), GSE (D), AEROHÉLICE (P), TEE (D)
Position:	Co-ordinator of the project at IST. Research fellow.
32. Title of the project:	Renewable Energy Solutions for Islands – Target Action A
Acronym:	RenewIslands
Venue:	Instituto Superior Técnico
Date:	1 January 2003/31 December 2004
Funding:	Energy, Environment and Sustainable Development – Part B: Energy Programme, European Commission
Contract No.:	NNE5/2002/73
Consortium:	Norsk Hydro (N), E4TECH (SW), ITC (SP), AREAM (PT), NTUA (GR), ISLENET (B)
Position:	General co-ordinator of the project at European level. Research fellow
33. Title of the project:	Clean Air 2003
Acronym:	Clean Air 2003
Venue:	Instituto Superior Técnico
Date:	1 January 2003/31 December 2003
Funding:	Energy and Transport, European Commission
Contract No.:	4.1031/S/02-007/2002
Consortium:	IST (P)
Position:	General co-ordinator of the project at European level. Research fellow.
34. Title of the project:	POWERCLEAN Thematic Network for Clean Power Generation
Acronym:	POWERCLEAN
Venue:	Instituto Superior Técnico
Date:	1 November 2002/30 October 2005

Funding:	Energy, Environment and Sustainable Development Programme, European Commission
Contract No.:	ENK5-CT-2002-20625
Consortium:	University of Ulster (UK), IEA (UK), University of Stuttgart (D), University of Essen (D), Electricité de France (F), ENEL Research (I), Senergy (S)
Position:	Co-ordinator of the project at IST. Research fellow.
35. Title of the project:	New and Renewable Energies Electricity and Water in Outermost Regions
Acronym:	ERA – ISLA
Venue:	Instituto Superior Técnico
Date:	1 November 2002/30 October 2003
Funding:	Energy, Environment and Sustainable Development Programme, European Commission
Contract No.:	ENK5-CT-2002-80651
Consortium:	ADEME (FR), OMDE (FR), ITC (SP), ITYER (SP), CIEMAT (SP), AREAM (PT), IDMEC-Porto (PT), INESC-Porto (PT), Electricidade dos Açores (PT)
Position:	General co-ordinator of the project at European level. Research fellow.
36. Title of the project:	Apoio no Desenvolvimento e Implementação do programa Nacional sobre Alterações Climáticas: Questões dos Países em Desenvolvimento
Acronym:	PNAC-PD
Venue:	Instituto Superior Técnico
Date:	30 July 2002/29 July 2003
Funding:	Instituto do Ambiente
Contract No.:	Protocolo Nº 105/2002
Consortium:	IST (PT)
Position:	Co-ordinator of the project at IST. Research fellow.
37. Title of the project:	Estudo de Impacte Ambiental para a Nova Central Eléctrica de Palmarejo
Venue:	Instituto Superior Técnico
Date:	19 July 2002/18 October 2002
Funding:	Electra
Consortium:	IDMEC (P)
Position:	Co-ordinator of the project at IST. Research fellow.
38. Title of the project:	Protocolo entre o IA e o IST para apoio técnico no âmbito das suas competências sobre prevenção e controlo integrados da poluição (PCIP)
Acronym:	PCIP
Venue:	Instituto Superior Técnico
Date:	1 July 2002/30 September 2003
Funding:	Instituto do Ambiente
Contract No.:	74/2003
Consortium:	IST (P)
Position:	General co-ordinator of the project at European level. Research fellow.
39. Title of the project:	Renewables 2002 – International Conference on New and Renewable Technologies for sustainable Development
Acronym:	Renewables 2002
Venue:	Instituto Superior Técnico
Date:	1 June 2002/31 October 2002
Funding:	DG for Energy and Transport, European Commission
Contract No.:	4.1030/S/01-008/2001
Consortium:	IST (PT)
Position:	Co-ordinator of the project at IST. Research fellow.
40. Title of the project:	Heating and Fueling Landal for a Community with 100% Renewable Energy Supply
Acronym:	Biogas
Venue:	Instituto Superior Técnico
Date:	1 May 2002/30 September 2002
Funding:	Altener Programme, European Commission

Contract No.:	4.1030/C/00-019/2000
Consortium:	Fairtec (F), Solagro (F), ESD (UK), EDL (UK), Ing. Claudio Bortulu (P), BLT (D), Department of Environmental Affairs of Apeldoorn (NL)
Position:	Co-ordinator of the project at IST. Research fellow.
41. Title of the project:	Mecanismos de Apoio às Fontes Renováveis
Acronym:	Certificados Verdes
Venue:	Instituto Superior Técnico
Date:	30 April 2002/29 July 2002
Funding:	DGE
Consortium:	IST (PT)
Position:	Co-ordinator of the project at IST. Research fellow.
42. Title of the project:	Prestação de Serviço para Elaboração de Manual Relativo à Realização de Auditorias Energéticas Ambientais às Instalações de Cogeração
Venue:	Instituto Superior Técnico
Date:	9 January 2002
Funding:	DGE
Position:	Co-ordinator of the project at IST. Research fellow.
43. Title of the project:	Evolution Control Technology for Sustainable Thermal Processes
Acronym:	ECOTHERM
Venue:	Instituto Superior Técnico
Date:	1 January 2002/31 December 2004
Funding:	Research DG, European Commission
Contract No.:	ENK6-CT-2001-00546
Consortium:	TNO (NL), ENEA (I), CS Systèmes d'Information S.A. (F), IrRadiare (P), Azienda Gas Energia Ambiente S.p.A. (I), AVR Bedrijven N.V. (NL)
Position:	Co-ordinator of the project at IST. Research fellow.
44. Title of the project:	Sustainable Development of Croatian Capacity in CHP (combined heat and power) sector
Acronym:	Life Third Countries
Venue:	Instituto Superior Técnico
Date:	1 January 2002/30 June 2004
Funding:	Life-Financial Instrument for the Environment, European Commission
Contract No.:	LIFE00/TCY/CRO/000084
Consortium:	CTT (HR), NTUA (GR)
Position:	Co-ordinator of the project at IST. Research fellow.
45. Title of the project:	Promotion of Tri-Generation Technologies in the Tertiary Sector in Mediterranean Countries (Greece, Italy, Spain and Portugal)
Acronym:	Trigemed
Venue:	Instituto Superior Técnico
Date:	1 January 2002/31 December 2003
Funding:	European Commission
Contract No.:	4.1031/Z/01-130/2001
Consortium:	LDK (GR), IDEA (I), ISNOVA (I), CRES (GR), ISQ (P), ADEME (FR), MIPAD (GR)
Position:	Co-ordinator of the project at IST. Research fellow.
46. Title of the project:	Guide for Renewable Energy Installations to Promote Biomass, Photovoltaics and Solar Thermal in the EU
Acronym:	GreenPro
Venue:	Instituto Superior Técnico
Date:	1 January 2002/31 December 2003
Funding:	Altener Programme, European Commission
Contract No.:	4.1030/Z/01-035/2001
Consortium:	ECOFYS (NL), ICAEN (SP), Systèmes Solaires (F), ISES Italia (I), IDIS (I), James & James (UK), DGS (D), DLR (D)
Position:	Co-ordinator of the project at IST. Research fellow.
47. Title of the project:	Study of Regional and Municipal Energy Management in the Area of Energy Efficiency and Renewable Energy

Acronym:	Municipe Aid
Venue:	Instituto Superior Técnico
Date:	1 January 2002/30 June 2003
Funding:	DG for Energy and Transport, European Commission
Contract No.:	4.1030/Z/01-143/2001
Consortium:	Ente Vasco de la Energia (S), Building Research Establishment (UK), Rhônalpénergie-Environnement (A), O.Ö. Energiesparverb (A), Instituto Enerxetico de Galicia (S)
Position:	Co-ordinator of the project at IST. Research fellow.
48. Title of the project:	Future Perspectives of CO2 - Removal at Power Plants in Europe (Delphi-CO2-removal)
Acronym:	Delphi
Venue:	Instituto Superior Técnico
Date:	1 January 2002/31 March 2003
Funding:	DG for Research, European Commission
Contract No.:	ENK5-CT-2001-80350
Consortium:	Universitaet Gesamthochschule Essen (D)
Position:	Co-ordinator of the project at IST. Research fellow.
49. Title of the project:	Clean Urban Transport for Europe
Acronym:	CUTE
Venue:	Instituto Superior Técnico
Date:	23 November 2001/22 June 2006
Funding:	DG for Energy and Transport, European Commission
Contract No.:	NNE5/2000/208
Consortium:	Evobus (D), Polis Iasbl (B), Hamburger Hochbahn Aktiengesellschaft (D), Hamburgische Electrizitaets-Werke AG (D), PE Product Engineering GmbH (D), London Bus Services Limited (UK), Gemeentevervoerbedrijf Amsterdam (NL), Shell Hydrogen B.V. (NL), BP International Plc (UK), Transports de Barcelona (ES), Empresa Municipal de Transportes (ES), Autobus de la Ville de Luxembourg (LU), Fédération Luxembourgeoise des Exploitants D'Autobus et D'Autocars ASBL (LU), Stuttgarter Strassenbahn AG (D), Sociedade de Transportes Colectivos do Porto, SA (P), Norsk Hydro ASA (NO), Universitate Stuttgart (D), AB Storstockholms Lokaltrafik (S), Sydkraft AB (S), MVV Verkehr AG (D), Planet Plunungsgruppe Energie und Technik (D), Stakraft SF (NO).
Position:	Co-ordinator of the project at IST. Research fellow.
50. Title of the project:	System-Development, Build, Field Installation and European Demonstration of a Virtual Fuel Cell Power Plant, Consisting of Residential Micro-CHPs
Acronym:	Vaillant
Venue:	Instituto Superior Técnico
Date:	30 November 2001/31 March 2005
Funding:	DG for Energy and Transport, European Commission
Contract No.:	NNE5/2000/208
Consortium:	Vaillant GmbH (D), Plug Power Holland (NL), The European Association for the Promotion of Cogeneration (B), Universitaet GH Essen (D), Deutsches Zentrum Fuer Luft-und Raumfahrt E.V. (DLR) (D), Sistemas de Calor S.L. (ES), N.V. Nederlandse Gasunie (NL), Ruhrgas Aktiengesellschaft (D), E.ON energie AG (D).
Position:	Co-ordinator of the project at IST. Research fellow.
51. Title of the project:	Prestação de Serviço para Elaboração de Documento sobre o Estado de Arte das Tecnologias de Carvão
Acronym:	Tecnologias de Carvão
Venue:	Instituto Superior Técnico
Date:	24 October 2001/February 2002
Funding:	DGE
Position:	Co-ordinator of the project at IST. Research fellow.

52. Title of the project:	Prestação de Serviço para Elaboração de Projecto para Portaria Relativo às Emissões Poluentes por Instalações de Cogeração
Venue:	Instituto Superior Técnico
Date:	10 October 2001
Funding:	DGE
Position:	Co-ordinator of the project at IST. Research fellow.
53. Title of the project:	Protocolo entre o Polo Científico da Madeira, o IST e a Agência Regional de Energia e Ambiente da Região Autónoma da Madeira
Acronym:	Madeira Tecnopolo
Venue:	Instituto Superior Técnico
Date:	28 September 2001
Funding:	Madeira Tecnopolo
Consortium:	Madeira Tecnolopol (P), AREAM (P)
Position:	Co-ordinator of the project at IST. Research fellow.
54. Title of the project:	Euro Summer School: Short Courses on Sustainability Assessment
Acronym:	SUSTAIN II
Venue:	Instituto Superior Técnico
Date:	1 September 2001/31 August 2004
Funding:	DG for Science, Research and Development, European Commission
Contract No.:	HPCF-CT-2001-00376
Position:	General co-ordinator of the project at European level. Research fellow.
55. Title of the project:	Protocolo entre a DGA e o IST para Apoio Técnico no Âmbito das suas Competências sobre Prevenção e Controlo Integrados da Poluição
Acronym:	PCIP
Venue:	Direcção Geral do Ambiente
Date:	2 July 2001/1 July 2002
Funding:	Direcção Geral do Ambiente
Contract No.:	59/2001
Consortium:	IST (P)
Position:	Co-ordinator of the project at IST. Research fellow.
56. Title of the project:	Organisation for the Promotion of Energy Technologies in Portugal-II
Acronym:	OPET II
Venue:	Instituto Superior Técnico
Date:	1 July 2001/30 June 2002
Funding:	Programme Energy, Environment and Sustainable Development, European Commission
Contract No.:	NNE5/2001/101-SI2.318297
Consortium:	Centro para a Conservação de Energia (P), Instituto de Engenharia de Sistemas e Computadores do Porto (INESC Porto) (P)
Position:	Co-ordinator of the project at IST. Research fellow.
57. Title of the project:	Facilitating the Kyoto Protocol Objectives by Clean Development Mechanism in Small Islands Developing States – CDMSIDS Project
Acronym:	CDM
Venue:	Instituto Superior Técnico
Date:	1 January 2001/31 December 2001
Funding:	ENV.3, European Commission
Consortium	NOA – National Observatory of Athens (GR)
Contract No.:	SUBV/00/256161
Consortium:	NOA (GR)
Position:	General co-ordinator of the project at European level. Research fellow.
58. Title of the project:	Steering Group for Clean Electricity and Heat Production with Co-utilisation of Biomass and Coal and Reduced Carbon Dioxide Emissions (Phase 1)
Acronym:	CLEANSTEER
Venue:	Instituto Superior Técnico
Date:	1 January 2001/30 September 2001

Funding:	Programme Energy, Environment and Sustainable Development, European Commission
Contract No.:	ENK5-CT-2000-80127
Consortium:	University of Ulster (UK), CRE Group (UK), Universität Stuttgart (D), Universität Gesamthochschule Essen (D), Electricité de France (F), ENEL Produzione SpA (I).
Position:	Co-ordinator of the project at IST. Research fellow.
59. Title of the project:	Contrato de Prestação de Serviços Estudo de Previsão e Comparação de Impactos Decorrentes da Actividade Industrial, Relevantes para Avaliação dos Efeitos Associados à Expansão da Zona Industrial da Marinha Grande e Deslocalização de Indústrias Vidreiras
Acronym:	Marinha Grande
Venue:	Instituto Superior Técnico
Date:	20 December 2000
Funding:	Câmara Municipal da Marinha Grande
Contract No.:	52/2000
Position:	Co-ordinator of the project at IST. Research fellow.
60. Title of the project:	Experimental, Numerical and Theoretical Investigation on Pressurised Pulverised Coal Combustion
Acronym:	Pressurised Coal
Venue:	Instituto Superior Técnico
Date:	1 November 2000/31 October 2002
Funding:	Specific ECSC RTD Programme
Contract No.:	7200-PR-104
Consortium:	RWE Power Aktiengesellschaft (D), RWTH (D), Public Power Corporation of Greece (GR), Universität-GH Essen (D).
Position:	Co-ordinator of the project at IST. Research fellow.
61. Title of the project:	Organisation for the Promotion of Energy Technologies in Portugal
Acronym:	OPET I
Venue:	Instituto Superior Técnico
Date:	1 May 2000/30 April 2001
Funding:	Energy Sub-Programme, European Commission
Contract No.:	NNE5/1999/101
Consortium:	Centro para a Conservação de Energia (P), Instituto de Engenharia e Computadores do Porto (P)
Position:	Co-ordinator of the project at IST. Research fellow.
62. Title of the project:	New and Renewable Energy Sources for Islands and Remote Regions
Acronym:	EURO-ISLAS
Venue:	Instituto Superior Técnico
Date:	1 March 2000/28 February 2002
Funding:	Energy Sub-Programme, European Commission
Contract No.:	NNE5/1999/136
Consortium:	National Technical University of Athens (GR), AREAM-Agência Regional da Energia e Ambiente da Região Autónoma da Madeira (P), GDP-Gás de Portugal, SGPS, S.A. (P), Jenbacher AG (A), Universität GH Essen (D), Centro Interuniversitario di Ricerca sui Paesi in via di Sviluppo-Universitá degli Studi di Roma (I), Deutsches Zentrum für Luft und Raumfahrt e.V. (D), MBM Industrieanlagen (D), Region of Crete - Regional Energy Agency (GR), Instituto Técnológico de Canárias, S.A. (E), Islenet (B), E4Tech - Bauen & Foradini (CH)
Position:	General co-ordinator of the project at European level. Research fellow.
63. Title of the project:	Euro Summer School: Short Courses on Sustainability Assessment
Acronym:	SUSTAIN I
Venue:	Instituto Superior Técnico
Date:	1 January 2000/28 February 2002
Funding:	Human Potential Programme, European Commission, DG Research
Contract No.:	HPCF-CT-1999-00165
Position:	General co-ordinator of the project European level.

64. Title of the project:	Assistance to Energy Implementation in Mozambique
Acronym:	Synergy Mozambique
Venue:	Instituto Superior Técnico
Date:	1 January 2000/30 June 2001
Funding:	Synergy Programme, European Commission
Contract No.:	4.1041/D/99-043
Consortium:	CEISA (MÇ), NTUA (GR), SOMAGUE (PT), PARTEX (PT)
Position:	General co-ordinator of the project at European level. Research fellow.
65. Title of the project:	Sistema de Queima a Gás Natural para Aplicação em Fornos Cerâmicos de Barro Vermelho
Venue:	Instituto Superior Técnico
Date:	October 1999
Funding:	PEDIP, Portuguese Economy Ministry
Consortium:	Macrotec (P), Metalcértima (P)
Position:	Research fellow. Coordinator.
66. Title of the project:	Prestação de Serviços para Elaboração de um Sistema de Gestão Ambiental do Conselho do Barreiro
Acronym:	CMBarreiro
Venue:	Instituto Superior Técnico
Date:	21 October 1999
Funding:	Câmara Municipal do Barreiro (P)
Consortium:	IrRadiare (P).
Position:	Co-ordinator of the project at IST. Research fellow.
67. Title of the project:	Project of Climate Changes, Working Group of Technologies Development and Transfer
Acronym:	DGA
Venue:	Instituto Superior Técnico
Date:	14 October 1999/31 December 2000
Funding:	PIDDAC da Direcção Geral do Ambiente (P)
Position:	Co-ordinator of the project at IST. Research fellow.
68. Title of the project:	Renewables 2000 - Euro Conference on New and Renewable Technologies for Sustainable Development
Acronym:	Renewables 2000
Venue:	Instituto Superior Técnico
Date:	12 August 1999/11 July 2003
Funding:	DG Research, Human Potential Programme, European Commission
Contract No.:	HPCF-CT-1999-00177
Position:	General co-ordinator of the project at European level.
69. Title of the project:	Collaboration Agreement under the scope of the project entitled Assistance to Energy Policy Implementation in Cape Verde
Acronym:	Synergy Cabo Verde
Venue:	Instituto Superior Técnico
Date:	30 June 1999
Contract No.:	4.1041/D/98-04
Funding:	DG XVII, SYNERGY Programme, European Commission
Consortium:	PARTEX (P)
Position:	General co-ordinator of the project at European level. Research fellow.
70. Title of the project:	Cooperação Científica e Técnica Luso-Francesa - Programa 1999
Acronym:	Embaixada de França
Venue:	Instituto Superior Técnico
Date:	1 April 1999/31 December 1999
Funding:	Instituto de Cooperação Científica e Tecnológica (P)
Contract No.:	304/B/França
Consortium:	French Embassy (P)
Position:	Co-ordinator of the project at IST. Research fellow.

71. Title of the project:	Clean Air V - Fifth International Conference on Technologies and Combustion for a Clean Environment
Acronym:	Clean Air V
Venue:	Instituto Superior Técnico
Date:	1 January 1999/31 January 2001
Funding:	DG XVII, THERMIE Programme, European Commission
Contract Number:	DIS/1695/98-PT
Consortium:	ICSTM (UK)
Position:	General co-ordinator of the project at European level. Research fellow.
72. Title of the project:	Analysis of the Potential for Market Penetration of EU Innovative Renewable Energy Technologies on Cabo Verde Islands
Acronym:	Cabo Verde
Venue:	Instituto Superior Técnico
Date:	1 October 1998/30 September 2000
Funding:	DG XVII, THERMIE Programme, European Commission
Contract Number:	STR/1938/98-PT
Consortium:	PARTEX (P), NTUA (GR), King's College (UK).
Position:	General co-ordinator of the project at European level. Research fellow.
73. Title of the project:	PHETRA
Acronym:	Phetra
Venue:	Instituto Superior Técnico
Date:	1 June 1998/31 May 2000
Funding:	Innovation and Technology Transfer Programme, European Commission
Contract Number:	RSE 072
Consortium:	CEA/GRETh (F), F.I.R.E. (I), CRES (GR).
Position:	Co-ordinator of the project at IST. Research fellow.
74. Title of the project:	Fundamental Improvements in Radiative Heat Transfer
Acronym:	Radiare
Venue:	Instituto Superior Técnico
Date:	1 April 1998/31 March 2005
Funding:	DG XII, TMR Programme, European Commission
Contract Number:	FMRX-CT98-0224
Consortium:	Università degli Studi di Napoli Federico II (I), Deutsche Forschungsanstalt für Luft-und-Raumfahrt e.V.-Stuttgart (D), University of Erlangen (D), National Technical University of Athens (GR), Tampere University of Technology (FIN), International Flame Research Foundation (NL).
Position:	Co-ordinator of the project at IST. Research fellow.
75. Title of the project:	Desenvolvimento e Aplicação de Engenharia para a Modelização, Simulação e Otimização de Fornos Industriais
Venue:	IDMEC
Date:	1 February 1998
Funding:	PRAXIS XXI Programme - Medida 3, Accção 3.1
Consortium:	University of Madeira (P)
Position:	Co-ordinator of the project at IDMEC. Research fellow.
76. Title of the project:	An Expert System for Optimal Insertion of Intensified Energy Saving Technologies in the Industrial Processes
Acronym:	EXSYS II
Venue:	Instituto Superior Técnico
Date:	1 February 1998/31 January 2001
Funding:	DG XII, Programme JOULE, European Commission
Contract Number:	JOE3-CT97-0070
Consortium:	Air Liquide (F), TNO (NL), Université de Liège (B), University of Manchester (UK), University of Patras (GR).
Position:	Co-responsible for the project in IST. Research fellow.
77. Title of the project:	An Innovative System Promoting the Introduction of Clean Technologies in Industry

Acronym:	Clean Tec
Venue:	Instituto Superior Técnico
Date:	1 January 1998/31 December 2000
Funding:	DG XII, Programme LIFE, European Commission
Contract Number:	LIFE97 ENV/GR/000384
Consortium:	National Technical University of Athens (GR), CLOTEFI (GR), CITEVE (P), TAXSTA S.A. (GR).
Position:	Co-ordinator of the project at IST. Research fellow.
78. Title of the project:	New Industrial Furnaces of Higher Thermal Efficiency through Intensification of Heat Transfer from Flames
Acronym:	EURONITE
Venue:	Instituto Superior Técnico
Date:	1 January 1998/30 September 2000
Funding:	DG XII, Programme JOULE, European Commission
Contract Number:	JOE3-CT97-0083
Consortium:	CINAR (UK), Ruhr-Universität Bochum (D), Technische Universiteit Delft (NL), Gaswärme - Institut e.V. (D), Hermann Heye KG (D), Faculté Polytechnique de Mons (B), WS Wärmeprozesstechnik GmbH (D).
Position:	Co-ordinator of the project at IST. Research fellow.
79. Title of the project:	An Expert System to Integrate Renewable Energy Sources in European Energy Supply System
Acronym:	ES/REN
Venue:	Instituto Superior Técnico
Date:	1 December 1997/30 November 2000
Funding:	DG XII, Programme JOULE, European Commission
Contract Number:	JOS3-CT97-0020
Consortium:	Universitá degli Studi di Roma La Sapienza (I), SYSIN Spa (I), Loughborough University (UK), Université de Provence (F).
Position:	Co-ordinator of the project at IST. Research fellow.
80. Title of the project:	Estudo das Condições de Operação das Instalações de Cogeração com Motores Diesel
Acronym:	Cogeração II
Venue:	Instituto Superior Técnico
Date:	December 1997/December 1999
Funding:	Direcção Geral de Energia (P)
Contract Number:	Instituto Superior Técnico (P)
Consortium:	
Position:	Co-ordinator of the project at IST. Research fellow.
81. Title of the project:	The Application of Fuzzy Logic, Neural Networks and Computational Fluid Dynamics in the Control of Coal Fired Utility Boilers for Optimal Combustion and NO Emissions
Acronym:	CANFUB
Venue:	Instituto Superior Técnico
Date:	1 July 1997/30 June 2000
Funding:	DG XVII, ECSC PROGRAMME, European Commission
Contract Number:	7220-ED-090
Consortium:	CINAR (UK), ENEL (I)
Position:	Co-ordinator of the project at IST. Research fellow.
82. Title of the project:	COPPEF II
Acronym:	COPPEF II
Venue:	Instituto Superior Técnico
Date:	5 May 1997
Funding:	TNO Prins Maurits
Contract Number:	95/160/PML
Consortium:	TNO Prins Maurits (NL)
Position:	Co-ordinator of the project at IST. Research fellow.

83. Title of the project:	Desenvolvimento de um Sistema de Suspensão de Linha Quente de Fusão e Transporte de Vidro numa Linha de Produção Automatizada
Venue:	Instituto Superior Técnico
Date:	1 March 1997/31 August 1999
Funding:	SINDEPEDIP - Regime de Apoio à Investigação e Desenvolvimento - Ministério da Economia
Contract Number:	Medida 3.2 - Acção B, Processo Nº 25/00210
Consortium:	Santos Barosa, S.A. (P), IDMEC (P)
Position:	Co-ordinator of the project at IST. Research fellow.
84. Title of the project:	Clean Air IV - Fourth International Conference on Technologies and Combustion for a Clean Environment
Acronym:	Clean Air IV
Venue:	Instituto Superior Técnico
Date:	1 January 1997/31 December 1997
Funding:	DG XVII, THERMIE Programme, European Commission
Contract Number:	DIS/1236/97-PT
Consortium:	ICSTM (UK)
Position:	General co-ordinator of the project at European level. Research fellow.
85. Title of the project:	Estudo das Condições de Operações das Instalações de Cogeração com Motores Diesel
Acronym:	Cogeração I
Venue:	Instituto Superior Técnico
Date:	27 December 1996/27 December 1997
Funding:	Direcção Geral de Energia
Consortium:	Instituto Superior Técnico (P)
Position:	Co-ordinator of the project at IST. Research fellow.
86. Title of the project:	Promotion of Energy Efficient Technologies in the High Temperature Industries in the Central and Eastern European Countries
Venue:	Instituto Superior Técnico
Date:	1 November 1996/31 December 1997
Funding:	DG XVII, Programme THERMIE, European Commission
Contract No.:	DIS-788-96 GR/PO/UK/FR/D
Consortium:	Centre for Renewable Energy Sources (GR), Instituto Superior Técnico (P), Imperial College of Science and Technology (UK), ADERSA (F), Association of Greek Chemists (GR), FIZ Karlsruhe (D).
Position:	Co-ordinator of the project at IST. Research fellow.
87. Title of the project:	ACORDE - Development of Advanced Control Methodologies using Reliable Multi-Detection Sensors for Boilers
Acronym:	ACORDE
Venue:	Instituto Superior Técnico
Date:	1 October 1996/30 September 1999
Funding:	DG XII, Programme BRITE, European Commission
Contract No.:	BRPR-CT96-0198
Consortium:	Tecnatom (E), EDP (P), ENDESA (E), AEA (UK), KEMA (NL), OMAS (GR)
Position:	Scientific coordination of the project at European level. Responsible for the project in IST. Research fellow.
88. Title of the project:	APEX - High Performance Computing for Process Engineering Awareness and Promotion Exercise
Acronym:	APEX
Venue:	Instituto Superior Técnico
Date:	1 May 1996/30 April 1998
Funding:	DG XIII, Programme ESPRIT, European Commission
Contract No.:	EP20259
Consortium:	IST (P), Paras Ltd. (UK), DRAL (UK)
Position:	Co-ordinator of the project at IST. Research fellow.

89. Title of the project:	Fuel Blends - Production and Utilization of High Quality Fuel Blends from Industrial Wastes and Coal for Heat and Power Generation - Textile Waste Coprocessing
Acronym:	Fuel Blends
Venue:	Instituto Superior Técnico
Date:	1 January 1996/31 December 1998
Funding:	DG XII, Programme JOULE, European Commission
Contract No.:	JOF3CT95-0010
Consortium:	DMT-ITZ (D), WWU (D), STFI (D), IST (P), CITEVE (P), LTH (SE), KEMA (NL), FECHNER (D), TSO (D), TSKT (D), ICI (UK), IFRF (NL), UMSR FATM (D), RUB (D), DMT-IUV (D), UU (UK), DMT-IKB (D), PCI (D), TUT (FN), GU (SE), Ahlstrom (FN), VEAG (D), BTU (D), RWE (D)
Position:	Coordination and management of a subproject at European level. Research fellow.
90. Title of the project:	EX-LIBRIS - Expert System for Energy Efficiency and Pollution Abatement in Industry
Acronym:	EX-LIBRIS
Venue:	Instituto Superior Técnico
Date:	1 January 1996/31 December 1998
Funding:	DG XII, Programme JOULE, European Commission
Contract No.:	JOE3-CT95-0040
Consortium:	IST (P) FPM (B), ICSTM (UK), CRES (GR), SP (P), LM (P), GRETh (F), SEPR (F), UKL (B), TITAN (GR)
Position:	Coordination and management of a project at European level. Research fellow.
91. Title of the project:	MICA - A Model for CFD Applications
Acronym:	MICA
Venue:	Instituto Superior Técnico
Date:	1 January 1996/31 December 1997
Funding:	DG XII, Programme ESPRIT, European Commission
Contract No.:	20966
Consortium:	CHAM (UK), CMR (NL), Colt-VR (UK), BRE (UK), Hoogovens (NL), INRIA (F), NTU-Athens (GR), Comprimo (NL), CFE/SMHI (S), TU-Lisbon (P), LSTM-Erlangen (D), LITEC-CPS (E), Vattenfall (S), WAT&G (UK), IFRF (NL), Parsytec (D), University of Zaragoza (E)
Position:	Co-ordinator of the project at IST. Research fellow.
92. Title of the project:	Performance Prediction in Advanced Pulverised Coal-fired Utility Boilers
Venue:	Instituto Superior Técnico
Date:	1 January 1996/31 December 1997
Funding:	DG XII, Programme JOULE, European Commission
Contract No.:	JOF3-CT95-0005
Consortium:	IST(P), EDP (P), ENDESA (E), CIRCE (E), ENEL (I), BEL (UK), RWE (D), IVD-US (D), NTUA (GR), IC-RR (UK), ICSTM (UK)
Position:	Coordination and management of a subproject at European level. Research fellow.
93. Title of the project:	VADO LIGURE Coal Reburning Demonstration Project
Acronym:	VADO LIGURE
Venue:	Instituto Superior Técnico
Date:	1 October 1995/30 August 1999
Funding:	DG XVII, Programme THERMIE, European Commission
Contract No.:	SF 119-95
Consortium:	ENEL (I), ANSALDO (I), IVD-US (D), EDP (P), Mitsui Babcock Energy Ltd. (UK), Power Gen (UK), ESB (IE), James Howden (UK), EDF (F)
Position:	Co-ordinator of the project at IST. Research fellow.
94. Title of the project:	Joint Energy and Environmental Protection Project
Venue:	Instituto Superior Técnico
Date:	1 September 1994/31 August 1997

Funding:	DG XII, TEMPUS Programme, European Commission
Contract No.:	S_JEP-07397-94
Consortium:	Silesian Technical University (PL), Technische Universität Clausthal (D), Technische Universität Carolo-Wilhelmina zu Braunschweig (D), Faculté Polytechnique de Mons (B), IST (P), Université Catholique de Louvain (B), University of Ulster (UK), IFRF (NL), CUTEC-GmbH (D)
Position:	Co-ordinator of the project at IST. Research fellow.
95. Title of the project:	High Performance Parallel Computing for Process Engineering Simulation
Venue:	Instituto Superior Técnico
Date:	11 May 1994/10 May 1997
Funding:	DG XIII, ESPRIT European Commission
Consortium:	IST (P), EDP (P), ICI (Tioxide) (UK), ICI (Engineering) (UK), SERC Daresbury Laboratories (UK), Paras (UK)
Position:	Co-ordinator of the project at IST. Research fellow.
96. Title of the project:	Fouling of Combustion Chambers and High Temperature Filters
Venue:	Instituto Superior Técnico
Date:	1 May 1994/31 July 1996
Funding:	DGXII, Programme JOULE-II Ext. European Commission
Contract No.:	JOU2-CT94-0322
Consortium:	NEL (UK), GRETh (F), IC-RR (UK), GCU (UK), IST (P)
Position:	Co-ordinator of the project at IST. Research fellow.
97. Title of the project:	Novel Compact Steam Reformer for Fuel Cells, with Heat Generation by Catalytic Combustion, Augmented by Induction Heating
Venue:	Instituto Superior Técnico
Date:	1 April 1994/30 September 1997
Funding:	DG XII, Programme BRITE-Euram II European Commission
Contract No.:	BE7713
Consortium:	Gastec N.V. (NL), EA Tech. Lim. (UK), AEA Tech. Harwell (UK), BCN (NL), Degussa (D), IST (P), Powergen (UK), TGI (E)
Position:	Co-ordinator of the project at IST. Research fellow.
98. Title of the project:	Atmospheric Pressure Combustion of Pulverised Coal and Coal based Blends for Power Generation
Venue:	Instituto Superior Técnico
Date:	1 February 1994/31 January 1996
Funding:	DGXII, Programme JOULE-II Ext. European Commission
Contract No.:	JOU2-CT93-0380
Consortium:	IFRF (NL), University of Bochum (D), Tecnars (I), TPS (S), TU Graz (A), Babcock Energy (UK), Elsamprojekt (DK), TU Lyngby (DK), CSM (I), ICL-RR (UK), University of Edinburgh (UK), ICSTM (UK), CINAR (GR), IST (P), EDP (P), University of Stuttgart (D), KEMA (NL), Fechner (D), TU Delft (NL)
Position:	Co-ordinator of the project at IST. Research fellow.
99. Title of the project:	Optimização de um Projecto de Forno de Vidro End-Port de Grande Dimensão
Venue:	Santos Barosa, Marinha Grande
Date:	1993/1995
Funding:	Santos Barosa (P)
Consortium:	IDMEC (P), Santos Barosa (P)
Position:	Co-ordinator of the project at IST. Research fellow.
100. Title of the project:	Simulação, Análise, Optimização em Tempo Real de Fornos Industriais
Venue:	Instituto Superior Técnico
Date:	1 October 1993/30 September 1995
Funding:	Programme STRIDE, Measure D, European Commission
Contract No.:	STRD/ENR/0118
Consortium:	IST (P), CIVE (P)
Position:	Co-ordinator of the project at IST. Research fellow.

101. Title of the project:	Investigation of Industrial Furnaces and Heat-Exchange Technologies using Models
Venue:	Instituto Superior Técnico
Date:	3 May 1993/2 May 1996
Funding:	DGXII, PEKO Programme 1992, European Commission
Contract No.:	ERBCIPDCT925121
Consortium:	IST(P), TUKI (HU), ICSTM (UK), Applikations-und Technikzentrum für Energieverfahrensumwelt- und Strömungstechnik (D), Faculté Polytechnique de Mons (B), Université Libre de Bruxelles (B), CRES (GR), Titan Cement Co. (GR), TNO (NL), INTERG (P), Association pour le Développement de l'Enseignement et de la Recherche en Système Appliqué (F), Institut National du Verre (B).
Position:	Coordination and management of a project at European level. Research fellow.
102. Title of the project:	Glass and Cement Industry Optimization From Point Energy Consumption and Ecological Conditions
Venue:	Instituto Superior Técnico
Date:	3 May 1993/2 May 1996
Funding:	DGXII, PEKO Programme 1992, European Commission
Contract No.:	ERBCIPDCT925081
Consortium:	IST (P), Technical University of Kosice (CS), ICSTM (UK), Applikations- und Technikzentrum für Energieverfahrensumwelt- und Strömungstechnik (D), Faculté Polytechnique de Mons (B), Université Libre de Bruxelles (B), CRES (GR), Titan Cement Co. (GR), TNO (NL), INTERG (P), Association pour le Développement de l'Enseignement et de la Recherche en Système Appliqué (F), Institut National du Verre (B).
Position:	Coordination and management of a project at European level. Research fellow.
103. Title of the project:	Optimização dos Processos de Combustão na Zona do Cinzeiro nas Caldeiras da Central Térmica de Setúbal
Venue:	Instituto Superior Técnico
Date:	April 1993/October 1993
Funding:	EDP (P)
Consortium:	IST (P), EDP (P)
Position:	Co-ordinator of the project at IST. Research fellow.
104. Title of the project:	INFLECT - Improvement of Energy Efficiency in Glass - Melting Furnaces Cement Kilns and Baking Ovens
Acronym:	INFLECT
Venue:	Instituto Superior Técnico
Date:	1 March 1993/28 February 1996
Funding:	DG XII, Programme JOULE, European Commission
Contract No.:	JOU2-CT92-0107
Consortium:	IST (P), I.C.S.T.M. (UK), ATZ-EVUS (D), Faculté Polytechnique de Mons (B), CRES (GR), TNO - Nutrition and Food Research (NL), TNO - Institute of Environmental and Energy Technology (NL), INTERG (P), Institut National du Verre (B), ADERSA (F), Université Libre de Bruxelles (B), TÜKI (HU), Technical University of Kosice (CS)
Position:	Coordination and management of the project at European level. Research fellow.
105. Title of the project:	Coal Combustion in Advanced Burners for Minimal Emissions and Carbon Dioxide Reduction Technologies
Venue:	Instituto Superior Técnico
Date:	1 January 1993/31 December 1995
Funding:	DG XII, Programme JOULE, European Commission
Contract No.:	JOU2-CT92-0220
Consortium:	NEI International Combustion (UK), ICSTM (UK), IST (P), LAMDA (GR), EDP (P).
Position:	Co-ordinator of the project at IST. Research fellow.

106. Title of the project:	Optical and Radiative Properties of Soot
Venue:	Instituto Superior Técnico
Date:	1992/1995
Funding:	AGARD-PEP
Contract No.:	P-92/PEP
Consortium:	IST (P), Aerospace Engineering Department, University of Michigan (USA)
Position:	Co-ordinator of the project at IST. Research fellow.
107. Title of the project:	Desenvolvimento de um Código de Cálculo de Escoamentos com Combustão
Venue:	Instituto Superior Técnico
Date:	19 December 1992/18 December 1994
Funding:	JNICT/CCI Defense (P)
Position:	Co-ordinator of the project at IST.
108. Title of the project:	Improvement and Updates of the COPPEF Code
Venue:	Instituto Superior Técnico
Date:	19 December 1992/18 December 1994
Funding:	Prins Maurits Laboratory - TNO (NL)
Contract No.:	TNO: 90/734/PML
Position:	Co-ordinator of the project at IST
109. Title of the project:	Application of Glass Furnace Models to Design Optimum Glass Furnaces for Oxi-Fuel Firing
Venue:	Instituto Superior Técnico
Date:	Since 1 November 1992
Funding:	PRAXAIR (Former Union Carbide) (USA)
Consortium:	IST (P), PRAXAIR (USA)
Position:	Research fellow.
110. Title of the project:	Estudo das Operações de Sopragem numa Caldeira de Carvão Pulverizado
Venue:	Instituto Superior Técnico
Date:	1 April 1992/30 June 1993
Funding:	EDP (P)
Position:	Co-ordinator of the project at IST. Research fellow.
111. Title of the project:	Collaboration Contract for the Development and Application of 3D VITRUM
Venue:	Instituto Superior Técnico
Date:	25 February 1992/31 December 1993
Funding:	ATZ-EVUS (D)
Consortium:	IST (P), ATZ-EVUS (D) and several German glass industries
Position:	Co-ordinator of the project at IST. Research fellow.
112. Title of the project:	Contrat de Collaboration de Recherche pour le Developement de FUSIO
Venue:	Instituto Superior Técnico
Date:	1 February 1992/1 February 1995
Funding:	Saint-Gobain Recherche (F)
Contract No.:	8514/92
Consortium:	IST (P), Saint-Gobain Recherche (F)
Position:	Co-ordinator of the project at IST. Research fellow.
113. Title of the project:	Improved Processing Capability of CW-Industrial CO <sub>2</sub> Lasers
Venue:	Instituto Superior Técnico
Date:	1 February 1992/31 January 1994
Funding:	DGXII, Programme BRITE/EURAM, European Commission
Contract No.:	BREU-CT91-0516 (RZJE)
Consortium:	Radius Engng (B), Fluent Europe Ltd (UK), Trumpf Lasertechnik GmbH (D), Space Technology Ireland Ltd (IR), Gebrüder Beeker GmbH Co (D), IST (P)
Position:	Co-ordinator of the project at IST.

114. Title of the project:	Estudo Experimental e Simulação Numérica de Chamas de Óleo e Carvão em Fornalha Cilíndrica
Venue:	Instituto Superior Técnico
Date:	1 January 1992/31 December 1992
Funding:	Portuguese-Spanish Joint Programmes
Contract No.:	Programme E 36/92
Consortium:	IST (P), University of Zaragoza (E)
Position:	Co-ordinator of the project at IST.
115. Title of the project:	Desenvolvimento de um Sistema de Queima Alternativo para Fusão de Vidro utilizando Oxigénio Puro e Gás Combustível
Venue:	Instituto Superior Técnico
Date:	2 July 1991/2 October 1991
Funding:	SOGÁS (Linde Group) (P)
Position:	Co-ordinator of the project at IST. Research fellow.
116. Title of the project:	Forecasting Forest Spread in Mediterranean Ecosystems for Fire Prevention and Management
Venue:	Instituto Superior Técnico
Date:	1 April 1991/31 March 1993
Funding:	DGXII, Programme EPOCH, European Commission
Contract No.:	EPOC-CT90-0020-CSMA
Consortium:	Imperial College of Science and Technology (UK), Lamda Technical Ltd (GR), IST (P), CINAR (UK)
Position:	Co-ordinator of the project at IST. Research fellow.
117. Title of the project:	Desenvolvimento de Produtos Didácticos para as Disciplinas da Área de Transmissão de Calor
Venue:	Instituto Superior Técnico
Date:	1 April 1991/31 March 1993
Funding:	SITAF (P)
Position:	Co-ordinator of the teaching modules.
118. Title of the project:	Modelação e Simulação Numérica de Leito Fluidizado Circulante
Venue:	Instituto Superior Técnico
Date:	January 1991/December 1992
Funding:	Portuguese-German Joint Programmes
Contract No.:	Programme A11/91, A18/92, A29/93
Consortium:	IST (P), IWBT - University of Braunschweig (D)
Position:	Co-ordinator of the project at IST.
119. Title of the project:	PROCIC - Process Computer for Computationally Intensive Control
Venue:	Instituto Superior Técnico
Date:	1 October 1990/30 September 1993
Funding:	DGXIII, Programme ESPRIT II, European Commission
Contract No.:	5497/CIM
Consortium:	Delta T (D), MPE (UK), THOT Informatique (F), ADIST-IST (P)
Position:	Co-ordinator of the project at IST. Research fellow.
120. Title of the project:	Energy Saving and Pollution Abatement in Glass-Making Furnaces, Cement Kilns and Baking Ovens
Venue:	Instituto Superior Técnico
Date:	1 June 1990/31 October 1992
Funding:	DG XII, Programme JOULE, European Commission
Contract No.:	Joue-CT90-0051
Consortium:	IST (P), Institut National du Verre (B), Université Libre de Bruxelles (B), Faculté Polytechnique de Mons (B), University of Erlangen-Nuremberg (D), CRES (GR), ADERSA (F), TITAN Cements (GR), TNO-Cereals, Flour and Bread Institute (NL), TNO-Institute of Environmental and Energy Technology (NL), Imperial College of Science and Technology (UK), INTERG - Energy Institute (P), Metal Portuguesa (P)
Position:	Coordination and management of the project at European Level. Research fellow.

121. Title of the project:	Minimization of the Formation of Air Pollutants in a CAFBC (Circulating Atmospheric Fluidized Bed Combustor) by using European Fuels and Additives
Venue:	Instituto Superior Técnico
Date:	1 May 1990/30 April 1993
Funding:	DG XII, Programme JOULE , European Commission
Contract No.:	JOUF-CT90-0030
Consortium:	Technische Universität Braunschweig (D), National Technical University of Athens (GR), IST (P)
Position:	Co-ordinator of the project at IST. Research fellow.
122. Title of the project:	The Modelling of Wall Fired Pulverised Coal Burners for Emissions Control
Venue:	Instituto Superior Técnico
Date:	1 February 1990/31 January 1993
Funding:	DGXII, Programme JOULE, European Commission
Contract No.:	JOUF-0023-C(EDB)
Consortium:	NEI International Combustion (UK), Imperial College of Science and Technology (UK), IST (P), CRES (GR), EDP (P)
Position:	Co-ordinator of the project at IST. Research fellow.
123. Title of the project:	Combustão de Madeira em Leito Fluidizado
Venue:	Instituto Superior Técnico
Date:	1 January 1990/31 December 1990
Funding:	Portuguese-Spanish Joint Programmes
Contract No.:	Programme E 45/90
Consortium:	IST (P), ETSII - University of Valladolid - Prof. Gregorio Antolin (E)
Position:	Co-ordinator of the project at IST.
124. Title of the project:	Tratamento de Superfícies por Laser
Venue:	CTAMFUTL - Centro de Termodinâmica Aplicada e Mecânica dos Fluidos da Universidade Técnica de Lisboa
Date:	1989/1992
Funding:	INIC (P)
Position:	Co-ordinator of the project at IST. Research fellow.
125. Title of the project:	AIMBURN - Advanced Intelligent Multi-Sensor Systems for Control of Large Industrial Boilers and Furnaces
Venue:	Instituto Superior Técnico
Date:	1989/1992
Funding:	DGXIII, Programme ESPRIT II, European Commission
Contract No.:	2192
Consortium:	ADIST-IST (P), Barbosa and Almeida Glass Factory (P), EDP (P), Mague (P), Servotrol (P), Unisoft (P), IDS (E), IGC (E), Trion (D), Imperial College of Science and Technology (UK)
Position:	Co-ordinator at IST at the physical and mathematical modelling activities.
126. Title of the project:	Modelação da Propagação de Incêndios em Edifícios
Venue:	CTAMFUTL - Centro de Termodinâmica Aplicada e Mecânica dos Fluidos da Universidade Técnica de Lisboa
Date:	1989/1992
Funding:	INIC (P)
Position:	Co-ordinator of the project at IST. Research fellow.
127. Title of the project:	Investigation of Laminar Flow Technology
Venue:	Instituto Superior Técnico
Date:	December 1989/November 1991
Funding:	DGXII, Programme BRITE/EURAM, European Commission
Contract No.:	AERO 1004
Consortium:	Aerospatiale (F), Alenia (I), Avion Marcel Dassault (F), CASA (E), CIRA (I), Delft University (NL), Deutsch Airbus (D), DLR (D), Dornier (D), Fokker (NL), FFA (S), University of Galway (UK), INTA (E), ONERA (F), SAAB (S), Zaragoza University (E), IST (P)

Position:	Co-ordinator of the project at IST. Research fellow.
128. Title of the project:	Heat Transfer and Combustion in Gas Turbine and Rockets
Venue:	Instituto Superior Técnico
Date:	September 1989/September 1992
Funding:	AGARD-PEP
Contract No.:	P-75/PEP
Consortium:	IST (P), Delft University of Technology (NL), Prins Maurits Laboratory-TNO (NL), Eindhoven University of Technology (NL)
Position:	Co-ordinator of the project at IST. Research fellow.
129. Title of the project:	Modelação de Propagação de Incêndios em Edifícios
Venue:	Instituto Superior Técnico
Date:	1989/1991
Funding:	Laboratório Nacional de Engenharia Civil (P)
Position:	Co-ordinator of the project at IST. Research fellow.
130. Title of the project:	Técnicas de Simulação Aplicáveis à Optimização de Instalações Produtoras de Energia
Venue:	CTAMFUTL - Centro de Termodinâmica Aplicada e Mecânica dos Fluidos da Universidade Técnica de Lisboa
Date:	1988/1992
Funding:	INIC (P)
Position:	Co-ordinator of the project at IST. Research fellow.
131. Title of the project:	Modelisation of Laser Hardfacing of Steels with Carbide Powder Injection
Venue:	Instituto Superior Técnico
Date:	1 November 1987/30 October 1988
Funding:	DGXII, Programme EURAM, European Commission
Contract No.:	MA1E/0015C
Consortium:	École Centrale de Paris (F), IST (P)
Position:	Co-ordinator at IST of the area of Heat Transfer Modelling of Surface Treatment by Laser.
132. Title of the project:	NO <sub>x</sub> Formation in an Industrial Glass Furnace
Venue:	Instituto Superior Técnico
Date:	1987
Funding:	Pilkington Brothers (UK)
Consortium:	IST (P), Imperial College of Science and Technology (UK)
Position:	Co-ordinator of the project at IST. Research fellow.
133. Title of the project:	Improved Design of Glass Smelting Kilns
Venue:	Instituto Superior Técnico
Date:	1987/1989
Funding:	DGXII, Non-Nuclear Energy Program – European Commission
Contract No.:	EN3E-0153-P
Consortium:	IST (P), LNETI (P), Metal Portuguesa (P), Imperial College of Science and Technology (UK), University of Erlangen-Nuremberg (D).
Position:	Co-ordinator at IST of the modelling activities. Research fellow.
134. Title of the project:	Câmaras de Combustão de Turbinas a Gás
Venue:	CTAMFUTL - Centro de Termodinâmica Aplicada e Mecânica dos Fluidos da Universidade Técnica de Lisboa
Date:	1986/1988
Funding:	INIC (P)
Position:	Co-ordinator of the project at IST. Research fellow.
135. Title of the project:	Fluidised Bed Combustion of Coals and different Types of Wastes
Venue:	Instituto Superior Técnico
Date:	1986/1989
Funding:	DGXII, Non-Nuclear Energy Program, European Commission
Contract No.:	EN3F-0013-C(T.T.)
Consortium:	IST (P), LNETI (P), Mague (P), University of Sheffield (UK).
Position:	Co-ordinator at IST of the modelling activities. Research fellow.

136. Title of the project:	Investigação Experimental e Teórica em Escoamento de Leito Fluidizado
Venue:	Instituto Superior Técnico
Date:	October 1986 /September 1988
Funding:	Portuguese-German Joint Programmes
Consortium:	IST (P), University of Erlangen-Nuremberg (D)
Position:	Co-ordinator of the activities at IST. Research fellow.
137. Title of the project:	Escoamento em Leito Fluidizado
Venue:	CTAMFUTL - Centro de Termodinâmica Aplicada e Mecânica dos Fluidos da Universidade Técnica de Lisboa
Date:	January 1986/1992
Funding:	INIC (P)
Position:	Co-ordinator of the project at IST. Research fellow.
138. Title of the project:	Investigação em Escoamentos a Duas Fases com Combustão
Venue:	Instituto Superior Técnico
Date:	1985/1987
Funding:	Kernforschungszentrum, Karlsruhe (D).
Consortium:	IST (P), University of Erlangen - Nurenberg (D)
Position:	Research fellow.
139. Title of the project:	Simulação Numérica de Fornalhas e Verificação Experimental
Venue:	CTAMFUTL - Centro de Termodinâmica Aplicada e Mecânica dos Fluidos da Universidade Técnica de Lisboa
Date:	January 1985/1992
Funding:	INIC (P)
Position:	Co-ordinator of the project at IST. Research fellow in the area of numerical simulation.
140. Title of the project:	Forno de Vidro Cerâmico
Venue:	Instituto Superior Técnico
Date:	1984/1986
Funding:	Ministry of Industry and Energy (P)
Contract No.:	CDI-Metal-IST-LNETI 002/84
Consortium:	IST (P), Metal Portuguesa (P) and LNETI (P)
Position:	Co-ordinator of the project at IST. Research fellow in the area of physical and mathematical modelling of industrial furnaces.
141. Title of the project:	Estudo de um Forno de Vidro Cerâmico
Venue:	Instituto Superior Técnico
Date:	1984/1985
Funding:	Metal Portuguesa (P)
Position:	Co-ordinator of the project at IST. Research fellow.
142. Title of the project:	Computer Simulation of a Glass Furnace
Venue:	Imperial College of Science and Technology
Date:	1980/1983
Funding:	Société Saint Gobain (F)
Position:	Research fellow. Ph.D. student.
143. Title of the project:	The Study of Combustion of Heavy Fuel Oil and Natural Gas in the Glass Industry
Venue:	Imperial College of Science and Technology
Date:	1979/1980
Funding:	Pilkington Brothers (UK)
Position:	Research fellow. Ph.D. student.

### 3.6.13 Coordination and Participation in Structural Projects and Programmes

- CIENCIA Programme - Measure M - 9/M/90 - LASEF - Laboratory of Advanced Sensors in Fluid Flow.

- PEDIP Programme - Infraestruturas Tecnológicas - "Centro de Transferência em Tecnologias de Recursos Ambientais".

### **3.6.14 Missions to Foreign Institutions**

Maria da Graça Carvalho has been in 90 countries in Working Missions.

## **3.7 UNIVERSITY MANAGEMENT ACTIVITY**

### **3.7.1 Professional Associations Activity**

- Member of the Board of Directors of the National Council of Self-Employment Professions, from September 2002 to October 2003.
- Representative of the Portuguese Engineering Association in the Board of Directors of the National Board of Self-Employment Professions, from July 2002 to October 2003.
- Member of the Executive Committee of Expertise in Energy of the Portuguese Engineering Association, from May 2002 to October 2003.
- National Vice-president of the Portuguese Engineering Association, ( $\approx$  33000 members) from April 1998, to October 2003.
- Member of the Board of Directors of the Portuguese Academy of Engineering, from January 1996 to April 1998.
- Member of the National Board of the College of Mechanical Engineering in the Portuguese Society of Engineers, from 1995 to 1998.

### **3.7.2 Consulting Activity**

- Scientific Expert of PRAXAIR, Union Carbide, USA, 1992-1996.

### **3.7.3 Advisory Activity**

- Counsellor of the Portuguese Environment Ministry in the Programme "Climate Changes" within the negotiation of the Kyoto Protocol during the Portuguese Presidency of the European Union (January-June 2000), since August 1999.
- Coordination, at European level, of the CB (Capacity Building) and TT (Technology Transfer) thematic groups within the Programme "Climate Changes" since August 1999.
- Documents produced in the areas of capacity building and development and transfer of technologies in the framework of the European Union Portuguese presidency:

## **SUBMISSIONS**

### **Capacity Building**

- Submission by Portugal on behalf of the European Community and its Member States on Capacity Building – a compilation of best practices in the EU – submitted to UNFCCC on 1 March 2000.
- Submission by Portugal on behalf of the European Community and its Member States on capacity building in developing countries – submitted to UNFCCC on 30 June 2000.

- Submission by Portugal on behalf of the European Community and its Member States on capacity building in developing countries – submitted to UNFCCC on 30 June 2000.

#### Development and Transfer of Technologies

- Submission by Portugal on behalf of the European Community and its Member States development and transfer of technologies – submitted to UNFCCC on 30 June 2000.

#### Statements

- Statement by Portugal, on behalf of the European Community and its Member States on capacity building for developing countries. 12<sup>th</sup> Session of the Subsidiary Bodies of the United Nations Framework Convention on Climate Change, Bonn, Germany, 5-16 June 2000
- Statement by Portugal, on behalf of the European Community and its Member States on technology transfer. 12<sup>th</sup> Session of the Subsidiary Bodies of the United Nations Framework Convention on Climate Change, Bonn, Germany, 5-16 June 2000

#### Background Papers

- Background paper on strategic issues for developing countries  
Note: This paper is based on the background papers on integrated framework for developing countries, capacity building, technology transfer and articles 4.8 and 4.9. This is a living document intended to help preparing a EU strategy on developing countries issues for the next SB's and COP-6.
- Background paper on integrated framework for developing countries (Europa version)
- Background paper on integrated framework for developing countries (Africa version)
- Capacity building in developing countries: EU strategy up to COP-6
- Capacity building for countries with economies in transition: EU strategy up to COP-6
- Strategy paper on technology transfer: EU strategy up to COP-6

#### Presentations In Regional Workshops On The Consultative Process Of Transfer Of Technology

- Alves, L.M., and Carvalho, M.G. – “European innovative new and renewable energy technologies in African islands and remote regions”. African regional workshop on transfer of technology, Arusha, Tanzania, 16-18 August 1999
- European Union economic and development co-operation for technology transfer: responding to the objectives of the United Nations Convention on Climate Change – presented at the Asia and Pacific Islands Regional Workshop on Transfer of Technology, Cebu, Philippines, 17-19 January 2000. (Paper prepared by Portugal on behalf of the European Union and based on the EC working document)
- “EU economic and development co-operation: responding to the new challenges of climate change”, EU document “Compilation of best practices in the EU: submission by Germany on behalf of the European Union and its member states on co-operative approaches to technology transfer”, and the EU statement on capacity building and on development and transfer of technologies presented at the 5<sup>th</sup> UNFCCC conference of parties)
- European Union economic and development co-operation for technology transfer: responding to the objectives of the United Nations Convention on Climate Change – presented at the Latin America and Caribbean Regional Workshop on Transfer of Technology, San Salvador, El Salvador, 29-31 March 2000. Prepared by Portugal on behalf of the European Community and its Member States

#### Reports of The Regional Workshops of Transfer of Technology

- Report on the EU participation at the African Regional Workshop on Transfer of Technology – Arusha, Tanzania, 16-18 August 1999
- Report on the EU participation at the Asia and Pacific Islands Regional Workshop Cebu (Lapu-Lapu City) – Philippines 17-19 January 2000 as part of the transfer of technology consultative process framework convention on climate change

- Report on the EU participation at the Latin America and Caribbean Regional Workshop – United Nations Framework Convention on Climate Change – Latin American and Caribbean Regional Workshop on Transfer of Technology – San Salvador, El Salvador, 29-31 March 2000

Representative of The European Union In The Following Workshops, In Cooperation With Unfccc (United Nations Framework Convention On Climate Change):

- 6<sup>th</sup> Session of the Conference of the Parties (COP6), The Hague, The Netherlands, 3-24 November 2000
- 13<sup>th</sup> Session of the Subsidiary Bodies of the United Nations Framework Convention on Climate Change, The Hague, The Netherlands, 3-24 November 2000
- 12<sup>th</sup> Session of the Subsidiary Bodies of the United Nations Framework Convention on Climate Change, Bonn, Germany, 5-16 June 2000
- Latin America and the Caribbean Regional Workshop on Transfer of Technology, San Salvador, El Salvador, 29-31 March 2000
- Transfer of Technology Consultative Process – Asia and the Pacific Regional Workshop, Lapu-Lapu City, Cebu, Philippines, 17-19 January 2000
- 5<sup>th</sup> Session of the Conference of the Parts (COP5), Bonn, Germany, 25 October-5 November 1999
- 11<sup>th</sup> Session of the Subsidiary Bodies of the United Nations Framework Convention on Climate Change, Bonn, Germany, 25 October-5 November 1999
- Transfer of Technology Consultative Process – African Regional Workshop, Arusha, Tanzania, 16-18 August 1999

### **3.7.4 Management in Portuguese Universities**

2007-2008 President of “Assembleia Estatutária” of Universidade da Madeira

2007-2008 Member of “Assembleia Estatutária” of Instituto Politécnico de Beja

2011-2013 Member of “Conselho Geral” of Universidade do Algarve

2013-2014 President of “Conselho Geral” of Escola Superior de Enfermagem de Coimbra

2013-2014 Member of “Conselho para a Avaliação e Qualidade” of Instituto Politécnico de Leiria

## **4 - PUBLICATIONS, PATENTS AND PROTOTYPES**

## **4 PUBLICATIONS, PATENTS AND PROTOTYPES**

### **4.1 ACADEMIC PUBLICATIONS**

#### **4.1.1 Books**

- "Sustainable Assessment Method for Energy Systems - Indicators, Criteria and Decision Making Procedure" – N. H. Afgan and M. G. Carvalho, Kluwer Academic Publishers, USA (180 pag.), 2000.
- *Quality, Sustainability and Indicators of Energy System*, Naim H. Afgan, Maria G. Carvalho, Begell House Publisher, New York, 2007

#### **4.1.2 Chapters in Books**

1. Secção de "Radiative Heat Transfer" na Encyclopedia of Heat and Mass Transfer (CRC Press), 1996, pp. 913-926.
2. Afgan, N. and Carvalho, M.G. – "Sustainability Assessment of Energy Systems – An Overview of Current Status". Capítulo no livro "Geothermal Energy Resources for Developing Countries" - Ed. Chandrasekharan, D. and Bundschuh, J. (A. A. Balkema Publishers), 2002, pp. 1-35.
3. Book: *Assessment of Hydrogen Energy for Sustainable Development, Chapter: Hydrogen Energy System for Sustainable Development*, pp.187-217, Editors: John W. Shefield, Cigdem Shefield, SPRINGER , 2007
4. Carvalho, M. G., Albernaz, M.J., !Cooperação Académica entre África e Europa" in *África: Europa Cooperação Académica*, Fundação Friedrich Ebert, pp. 71-84, 2008
5. Le Grand, J., Carvalho, M.G, "Investing in Youth: Banbini Bonds" in *Empowering people, driving change: Social innovation in the European Union*, BEPA-Bureau of European Policy Advisers, European Commission, 2011
6. Carvalho, M.G., "O Papel das Instituições do Ensino Superior e a Relação com as Empresas na Investigação Científica e Tecnológica na Área da Energia" in *Opções Energéticas para Portugal - Produção Sustentável e Consumo Eficiente*, Grupo Lidel, 2011
7. Carvalho, M.G., "Ciência e Inovação no Espaço Europeu" in *Políticas Públicas em Portugal*, ISCTE-IUL, 2012
8. Carvalho, M.G., "Prefácio do livro Inovação para a Mudança" de António Lúcio Baptista, Brussels, 2013

#### **4.1.3 Books and Special Issues of Journals (Edition)**

1. "*Heat Transfer in Radiating and Combusting Systems*" - Ed. Carvalho, M.G., Lockwood, F.C. and Taine, J., Springer Verlag, Berlim, Heidelberg (619 pag.), 1991.
2. Número Especial de "*Combustion Science and Technology*" - Ed. Carvalho, M.G., Fiveland, W.A., Lockwood, F.C. and Papadopoulos, C., Gordon and Breach Science Publishers, E.U.A., Vol. 93, Nº 1-6, pp. 1-386, Setembro-Outubro 1993.
3. "*Combustion Technologies for a Clean Environment*", Vol. 1 da série "Energy, Combustion and the Environment" - Ed. Carvalho, M.G., Fiveland, W.A., Lockwood, F.C. and Papadopoulos, C., Gordon and Breach Science Publishers, E.U.A. (838 pag.), 1995.
4. Número Especial de "*Journal of Enhanced Heat Transfer*" - Ed. Afgan, N. and Carvalho, M.G., Gordon and Breach Science Publishers, Yverdon, Suiça, Vol. 2, Nº 1-2, pp. 1-175, 1995.
5. Número Especial de "*International Journal of Heat and Technology*" - Ed. M. Chiadò Rana and M.G. Carvalho, Edizioni ETS, Pisa, Itália, Vol. 13, Nº 2, pp. 1-168, 1995.

6. Número Especial de "Combustion Science and Technology" - Ed. Carvalho, M.G., Fiveland, W.A., Lockwood, F.C. and Papadopoulos, C., Gordon and Breach Science Publishers, E.U.A, Vol. 108, Nº 4-6, pp. 205-402, Outubro 1995.
7. "New Developments in Heat Exchangers" - Ed. Afgan, N., Carvalho, M.G., Bar-Cohen, A., Butterworth, D. and Roetzel, W., Gordon and Breach Science Publishers, Holanda (681 páginas), 1996.
8. Número Especial de "Combustion Science and Technology" - Ed. Carvalho, M.G., Fiveland, W.A., Lockwood, F.C. and Papadopoulos, C., Gordon and Breach Science Publishers, Holanda, Vol. 121, Nº 1-6, pp. 1-349, Dezembro 1996.
9. "Advanced Control for Industrial Glass Melters" - Ed. TNO-TPD and IrRadiare, 1997.
10. "Combustion Technologies for a Clean Environment", Vol. 2, Partes A e B, da série "Energy, Combustion and the Environment" - Ed. Carvalho, M.G., Fiveland, W.A., Lockwood, F.C. and Papadopoulos, C., Gordon and Breach Science Publishers, E.U.A. (1152 páginas), 1999.
11. "Combustion Technologies for a Clean Environment" , Vol. 3 da série "Energy, Combustion and the Environment" - Ed. Carvalho, M.G., Fiveland, W.A. and Lockwood, F.C., Taylor & Francis, E.U.A. (1547 páginas), 2002.
12. "New and Renewable Technologies for Sustainable Development" - Ed. N. H. Afgan and M. G. Carvalho, Kluwer Academic Publishers, E.U.A.(710 páginas), 2002.
13. "New and Renewable Energy Technologies for Sustainable Development" - Ed. N. H. Afgan and M. G. Carvalho, A. A. Balkema Publishers, Holanda (481 páginas), 2004.
14. "2004 New and Renewable Energy Technologies for Sustainable Development" – Ed. Maria da Graca Carvalho and Naim Hamdia Afgan, World Scientific, Singapura (369 páginas), 2007.
15. New and Renewable Energy Technologies, Ed: Maria G. Carvalho. Naim H. Afgan ,World Scientific, Singapore, 2007

#### 4.1.4 International Journals

1. Carvalho, M.G. and Lockwood, F.C. - "Mathematical Simulation of an End-Port Regenerative Glass Furnace". *Proc. Institution of Mechanical Engineers*, Vol. 199, Nº C2, 1985, pp. 113-120.
2. Carvalho, M.G., Durst, F. and Pereira, J.C.F. - "Predictions and Measurements of Laminar Flow over Two-dimensional Obstacles". *Applied Mathematical Modelling*, Vol. 11, Fevereiro 1987, pp. 23-34.
3. Carvalho, M.G., Durão, D.F.G. and Pereira, J.C.F. - "Prediction of the Flow, Reaction and Heat Transfer in an Oxy-Fuel Glass Furnace". *International Journal of Engineering Computations*, Vol. 4, Nº 1, Março 1987, pp. 23-34.
4. Carvalho, M.G., Oliveira, P. and Semião, V. - "A Three-dimensional Modelling of an Industrial Glass Furnace". *Journal of the Institute of Energy*, Vol. LXI, Nº 448, Setembro 1988, pp. 143-156.
5. Carvalho, M.G., Oliveira, P. and Semião, V. - "Modelling and Optimization of an Industrial Glass Furnace". Apresentado no Tenth International Symposium on Combustion Processes, Varsóvia, Polónia, Agosto 1987. *Progress in Astronautics and Aeronautics, AIAA Series, Dynamics of Reacting Systems*, Washington, D.C., Vol. 113, 1988, pp. 363-384.
6. Carvalho, M.G. and Coelho, P. - "Heat Transfer in Gas Turbine Combustors". *AIAA Journal of Thermophysics and Heat Transfer*, Vol. 3, Nº 2, Abril 1989, pp. 123-131.
7. Azevedo, J.L.T., Carvalho, M.G. and Durão, D.F.G. - "Mathematical Modelling of Coal Fired Fluidized Bed Combustors". *Combustion and Flame*, Vol. 77, Nº 1, Julho 1989, pp. 91-100.
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10. Carvalho, M.G. and Lockwood, F.C. - "Thermal Comparison of Glass Furnace Operation with Oil and Natural Gas". *Glastechnische Berichte - International Journal of Glass Science and Technology*, Vol. 63, Nº 9, 1990, pp. 233-243.

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12. Oliveira, L.A., Costa, J.J., Carvalho, M.G., Gerhardt, H.J. and Kramer, C. - "On Aerodynamic Sealing for Industrial Applications". *Journal of Wind Engineering and Industrial Aerodynamics*, Vol. 37, 1991, pp. 255-268.
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18. Barreiros, A., Carvalho, M.G., Costa, M. and Lockwood, F.C. - "Prediction of the Near Burner Region and Measurements of NO<sub>x</sub> and Particulate Emissions in Heavy Fuel Oil Spray Flames". *Combustion and Flame*, Vol. 92, Nº 3, 1993, pp. 231-240.
19. Azevedo, J.L.T., Carvalho, M.G., Coelho, P.J., Coimbra, C.F.M. and Nogueira, M. - "Modelling of Combustion and NO<sub>x</sub> Emissions in Industrial Equipment". Palestra convidada apresentada no 4th International Seminar on Flame Structure, Novosibirsk, Rússia, 18-22, Agosto 1992. *Pure and Applied Chemistry*, Vol. 65, Nº 2, 1993, pp. 345-354.
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25. Köylü, Ü.Ö, Faeth, G.M., Farias, T.L. and Carvalho, M.G. - "Fractal and Projected Structure Properties of Soot Aggregates". *Combustion and Flame*, Vol. 100, Nº 4, Março 1995, pp. 621-633.

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31. Carvalho, M.G., Nogueira, M. and Silva, P. - "Regenerative Cycle Optimisation via Physically-Based Dynamic Modelling". *GLASS*, Vol. 72, Nº 12, Dezembro 1995, pp. 500-502.
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#### 4.1.6 Invited Lectures in Conferences

1. Carvalho, M.G. and T. Farias - "Radiative Heat Transfer in Combustion Chambers". Eurotherm Seminar Nº 15, Toulouse, França, 4-6 Dezembro 1991 - *Heat Transfer in Internal Combustion Engines*, Editor Institut de Mécanique des Fluides de Toulouse, pp. 333-374.

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5. Carvalho, M.G. and Nogueira, M. - "Effects of Flame Emissivity on Temperature Distribution and Glass Flow in Molten Glass". Scandinavian Society of Glass Technology Annual Meeting, Naantali, Finlândia, 6-8 Junho 1993.
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8. Carvalho, M.G. - "Mathematical Modelling of Industrial Furnaces and Boilers". 3rd European Conference on Industrial Furnaces and Boilers, INFUB, Lisboa, Portugal, 18-21 Abril 1995.
9. Carvalho, M.G. - "Project Co-Ordination and Management in the European Union". First Custnet International Conference on Coal Research & Development Through Collaboration in Europe, Ustron, Beskyd Mountains, Polónia, 26-28 Abril 1995.
10. Carvalho, M.G. - "Control, Design and Operation Optimization of Industrial Combustion Equipment Based on Computer Simulation". CHISA 96, Praga, República Checa, 25-30 Agosto 1996.
11. Carvalho, M.G. - "NO<sub>x</sub> Abatement Technologies in Coal-fired Utility Boilers". 4th European Conference on Industrial Furnaces and Boilers, INFUB, Espinho, Portugal, 1-4 Abril 1997.
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15. Carvalho, M.G. - "Projecto, Operação e Controlo de Equipamento Industrial de Combustão com Base em Simulação Computacional". V Encontro de Mecânica Computacional, Guimarães, Portugal, 20-22 Outubro 1997, Proceedings, Vol. 2, pp. 1167-1180.
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18. Carvalho, M.G., Azevedo, J.L.T. and Nogueira, M. - "Model Based Control of Industrial Combustion Equipment". Mediterranean Combustion Symposium, Antalya, Turquia, 20-25 Junho 1999.

19. Afgan, N. and Carvalho, M.G. - "Sustainability Indicators for Energy Systems". The 4th International Conference on New Energy Systems and Conversions, Osaka, Japão, 27-30 Junho 1999.
20. Carvalho, M.G. - "Mathematical Modelling in the Glass Making Industry". 15th Conference of ATIV "Glass Industry Towards 2000", Parma, Itália, 15-17 Setembro 1999.
21. Carvalho, M.G. and Azevedo, J. L. T. - "Heat Transfer Model – Based Control in Industrial Equipment". 3<sup>rd</sup>. European Thermal-Sciences Conference 2000, Heidelberg, Alemanha, 10-13 Setembro 2000. Publicado em 3<sup>rd</sup> European Thermal-Sciences Conference 2000 (Ed. E. W. P. Hahne, W. Heidemann, K. Spindler), Edizioni ETS, Pisa, 2000, Vol. 1, pp. 35-39.
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23. Carvalho, M.G., Alves, L., Gonçalves, G., Roriz, L. and Sarmento, P. - "New and Renewable Energy Sources for Sustainable Communities". Conference on Sustainable Development of Energy, Water and Environment Systems, Dubrovnik, Croácia, 2-7 Junho 2002.
24. Carvalho, M.G. - "A Declaração de Bolonha e a Formação e Qualificação Profissional dos Engenheiros". Congresso Nacional da Engenharia de Estruturas – ESTRUTURAS 2002, Lisboa, Portugal, 10-13 Julho 2002, Proceedings, pp. 23-26.
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26. Melim Mendes, J.M., Carvalho, M.G., Duic, N. and Alves, L. M. – "Green Hotel". 2<sup>nd</sup> Dubrovnik Conference on Sustainable Development of Energy, Water and Environment Systems, Dubrovnik, Croácia, 15-20 Junho 2003.
27. Carvalho, M.G and Afgan, N.H. – "Sustainability Index of New and Renewable Energy Power Plants". The First International Exergy, Energy and Environment Symposium (IEEES-1), Izmir, Turquia, 13-17 Julho 2003.
28. Alves, L.M., Domingues, A. and Carvalho, M.G. – "Small Scale LNG in Madeira Island. 1<sup>st</sup> International Conference on Small Scale LNG in Europe, Oslo, Noruega, 29-30 Setembro de 2005.
29. Carvalho, M.G. – "Building Knowledge Europe". The Future of Knowledge: Evolutionary Challenges of the 21<sup>st</sup> Century, Zagreb, Croácia, 17-20 Novembro 2005.
30. Carvalho, M.G. – "Europe of Knowledge - The Knowledge Society and the Role of Universities". 16th IAS Conference, Kazan, Russian Federation, 25-28 August 2008.
31. Carvalho, M.G.– "Building a Low Carbon Society". 5th Dubrovnik Conference on Sustainable Development of Energy, Water and Environment Systems, Dubrovnik, Croácia, Setembro-Outubro 2009.
32. Carvalho, M.G.– "EU Energy and Climate Change Strategy". ECOS2011 - 24th International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems. Novy Sad, Servia de 3 a 7 de Julho 2011
33. Carvalho, M.G.– "Discurso de abertura", SDEWES VIII Conferência on the sustainable development of energy, water and environment systems, Dubrovnik, 23 de Setembro 2013

#### **4.1.7 Portuguese Journals**

1. Carvalho, M.G. - "Estratégia Europeia para a Energia e Alterações Climáticas", EUROPA: Novas Fronteiras, January/June 2008, Nº22, pp. 19-26
2. Carvalho, M.G. – "Do Rio a Joanesburgo". INGENIUM – Journal of the Ordem dos Engenheiros, October 2002, No. 70, II series, pp. 14-15.
3. Carvalho M.G. – "A Cooperação Científica para o Desenvolvimento Sustentável – A sua Implementação no Contexto da CPLP". (Summary of a presentation with the same title published in INGENIUM in November 2001). ESPORO, August 2002, No.50, page 6.

4. Carvalho, M.G. – “A Cooperação Científica para o Desenvolvimento Sustentável – A sua Implementação no Contexto da CPLP”. *INGENIUM – Journal of the Order of the Engineers*, November 2001, No. 63, II Series, pp 18-22.
5. Pitarma, R.A., Ramos, J.E. and Carvalho, M.G. – “Modelação Matemática no Desempenho de Câmaras Frigoríficas”. *O Instalador*, July-August 1998, No. 27/28, pp. 34-38.
6. Carvalho, M.G. – “Projecto, Operação e Controlo de Equipamento Industrial de Combustão com Base em Simulação Computacional”. *Journal of the Engineering Academy*, No. 2, 2nd Semester 1997, pp. 6-12.
7. Carvalho, M.G. and Ramos, J.E. – “Mecânica dos Fluidos Computacional — Um Método Expedido para o Estudo do Ambiente e da Utilização da Energia em Edifícios”. CONRAC'96, 1st International Refrigeration, Air Conditioning, Environment and Energy Congress, Lisbon, Portugal, 21-23 April 1996. Published in *Grau Celsius - Journal of the APIRAC - Associação Portuguesa da Indústria de Refrigeração e Ar Condicionado*.
8. Ruão, M., Costa, M. and Carvalho, M.G. – “Desenvolvimento de um Novo Sistema Não-intrusivo para Diagnósticos das Emissões de NO<sub>x</sub> em Sistemas de Queima Convencionais”. *INGENIUM – Journal of the Order of the Engineers*, August 1997, No. 20, II Series, pp. 58-62.
9. Costa, M., Mourão, N., Bordalo, C. and Carvalho, M.G. – “Fornalha Semi-Industrial de 0,5 MW para o Estudo de Processos de Combustão”. *INGENIUM - Journal of the Order of the Engineers*, November 1996, No. 13, II Series, pp. 72-76.
10. Carvalho, M.G. and Ramos, J.E. – “Qualidade do Ar de Interiores e Ventilação Geral”. 2º Encontro Nacional de Engenharia Municipal, Figueira da Foz, Portugal, 13-15 June 1996. *O Instalador*, September-October 1996, No. 5 and 6, pp. 5-14.
11. Ruão, M., Mourão, M., Melo, J., Pratas, M., Silva, P., Costa, M. and Carvalho, M.G. – “Investigação Experimental do Processo de Combustão num Forno de Vidro”. *INGENIUM - Journal of the Order of the Engineers*, August/September 1996, No. 11, II Series, pp. 74-78.
12. Carvalho, M.G. and Pitarma, R.A. – “Cálculo de Escoamentos Turbulentos com Transmissão de Calor em Geometrias Industriais Complexas” - *Educação e Tecnologia*, July 1992, No. 10, pp. 139-152.
13. Ramos, J.E. and Carvalho, M.G. – “A Acumulação de Calor-Estratégias de Gestão”. *Grau Celsius - Journal of the APIRAC - Associação Portuguesa da Indústria de Refrigeração e Ar Condicionado*, May 1992, No. 49, pp. 23-34.
14. Carvalho, M.G. – “Modelação Físico-Matemática dos Fenómenos Ocorrentes dentro de Câmaras de Combustão”. *Técnica*. December 1990, pp. 27-42.
15. Carvalho, M.G., Pereira, F.J.D. and Ramos, J.A.E. – “Cálculo de Escoamentos em Geometrias Industriais Complexas” - *APIRAC - Associação Portuguesa dos Industriais de Refrigeração e Ar Condicionado*. No. 24, II Series, October 1989, pp. 23-32.
16. Carvalho, M.G. – “Simulação Numérica de Câmaras de Combustão”. *Tecnometal*. Revista de Informação Técnica, Metalúrgica e Metalomecânica, No. 55, March/April 1988, pp. 5-13.

#### **4.1.8 Theses**

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#### **4.1.9 International Conferences and Symposia**

1. Carvalho, M.G., Durão, D.F.G. and Lockwood, F.C. - “Mathematical Simulation of an Industrial Glass Furnace”. 1st European Congress on Economics and Management of Energy in Industry (ECEMEI), Albufeira, Portugal, 1984.
2. Carvalho, M.G., Durão, D.F.G. and Lockwood, F.C. - “Computation of Thermal Radiation for Gas Turbine Conditions”. AGARD/PEP 65th Symposium, Conference Proceedings Nº 390 - “Heat Transfer and Cooling in Gas Turbines”, Paper Nº 20, Bergen, Noruega, 1985, pp. 20.1-20.7.

3. Carvalho, M.G., Durão, D.F.G. and Semião, V. - "Simulação Numérica de uma Fornalha de Vidro". Primero Congresso Iberoamericano de Métodos Computacionales en Ingenieria, Madrid, Espanha, 4-5 Julho 1985.
4. Carvalho, M.G., Durão, D.F.G. and Pereira, J.C.F. - "Prediction of the Flow, Reaction and Heat Transfer in an Oxy-Fuel Glass Furnace". 3rd International Conference on Numerical Methods for Non-Linear Problems, Dubrovnik, Jugoslávia, Setembro 1986.
5. Azevedo, J.L.T., Carvalho, M.G., Durão, D.F.G. and Moreira, A.L.N. - "Modelling of Fluidized Bed Combustors". International Specialists Meeting on Solid Fuel Utilization, Paper Nº 4.2, Lisboa, Portugal, 6-9 Julho 1987, pp. 4.2.1-4.2.8.
6. Carvalho, M.G. - "Radiation Heat Transfer in Gas Turbine Combustion Chambers". Apresentação por convite na NATO/ASI on "Instrumentation for Combustion and Flow in Engines", Paper Nº P10, Vimeiro, Portugal, 14-25 Setembro 1987.
7. Carvalho, M.G. and Coelho, P. - "Radiation Transfer in Gas Turbine Combustors". AGARD/PEP 70th Symposium on Combustion and Fuels in Gas Turbine Engines, AGARD-CP422, Paper Nº 19, pp. 19.1-19.22., Creta, Grécia, Outubro 1987.
8. Carvalho, M.G., Durão, D.F.G., Heitor, M.V., Moreira, A.L.N. and Pereira, J.C.F. - "The Flow and Heat Transfer in an Oxy-Fuel Glass Furnace". 1st European Conference on Industrial Furnaces and Boilers, Lisboa, Portugal, 21-24 Março 1988.
9. Carvalho, M.G. and Fontes, P. - "Prediction Radiative Transfer in an Absorbing - Emitting Medium using the Discrete Transfer Model". Euromech Colloquium 249 - Plumes and Turbulent Jet Diffusion Flames in the Atmosphere, Madrid, Espanha, 22-26 Maio 1989.
10. Carvalho, M.G. and Semião, V. - "Predictions of Two-phase Flow Properties of a Confined Spray Flame". European Two-phase Flow Group Meeting, Paris, França, Junho 1989.
11. Carvalho, M.G., Semião, V., Lockwood, F.C. and Costa, M. - "The Prediction of SMD and Droplet Size Distribution for Different Atomisers". Proceedings of Int. Conf. on Mechanics of Two-Phase Flows, Taiwan, 12-15 Junho 1989, pp. 254-260.
12. Carvalho, M.G. and Coelho, P. - "Prediction of the Flow and Heat Transfer Distribution in an Oil - Fired Water - Tube Boiler". Fourth Asian Congress of Fluid Mechanics, Hong Kong, 21-25 Agosto 1989.
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198. Liposcak, M., Curto, P., Duic, N., and Carvalho, M.G. – “Feasibility of Microcogeneration Plant Installation: Portuguese Legal Framework Implemented in Creation Circumstances”. “Poster” apresentado na Seventh International Conference on Energy for a Clean Environment, Lisboa, Portugal, 7-10 Julho 2003.
199. Chen, F., Duic, N. and Carvalho, M.G. – “Introduction of Renewable Energy to Northwest of China Using the Clean Development Mechanism: Case Studies of Lanzhou and Urumqi”. “Poster”

apresentado na Seventh International Conference on Energy for a Clean Environment, Lisboa, Portugal, 7-10 Julho 2003.

200. Alves, L.M., Fernandes, U. and Carvalho, M.G. – “Promoting the Use of New and Renewable Energy Sources for Island Sustainable Development”. “Poster” apresentado na Seventh International Conference on Energy for a Clean Environment, Lisboa, Portugal, 7-10 Julho 2003.
201. Carvalho, M.G. and Afgan, N. – “Sustainability Index of New and Renewable Energy Power Plants”. The First International Exergy, Energy and Environment Symposium, Izmir, Turquia, 13-17 Julho 2003.
202. Pitarma, R.A., Ramos, J. E. and Carvalho, M.G. – “Computational and Experimental Reduced-Scale Modelling of Air-Conditioned Rooms”. Eighth International IBPSA Conference Building Simulation 2003, Eindhoven, Holanda, 11-14 Agosto 2003. Proceedings, Vol III, pp. 1041-1045.
203. Carvalho, M.G. and Nogueira, M. – “Modelização Matemática de Fornos – Novas Perspectivas de Aplicação”. 6<sup>th</sup> Brazilian Symposium on Glass, Campos do Jordão, Brasil, 21-25 Setembro 2003.
204. Fernandes, T.R., Gonçalves, G., Chen, F. and Carvalho, M.G. – “HySociety – The European Hydrogen-Based Society”. 2004 European ELE-DRIVE Transportation Conference and Exhibition on “Urban Sustainable Mobility is Possible Now”, Cascais, Portugal, 18-19 Março 2004.
205. Chen, F., Fernandes, T., Yetano Roche, M. and Carvalho, M.G. – “Challenges to the Use of Hydrogen as an Energy Carrier in the EU vs Transition Economies”. ENERGEX 2004 – 10<sup>th</sup>. International Energy Forum, Energy & Society, Lisboa, Portugal, 3-6 Maio 2004. Proceedings, Universidade Nova de Lisboa (Ed. Leopoldo Guimarães e Rodrigo Martins), pp. 324-329.
206. Duic, N., Lerer, M. and Carvalho, M.G. – “Increasing the Supply of Renewable Energy Sources in Island Energy Systems”. ENERGEX 2004 – 10<sup>th</sup>. International Energy Forum, Energy & Society, Lisboa, Portugal, 3-6 Maio 2004. Proceedings, Universidade Nova de Lisboa (Ed. Leopoldo Guimarães e Rodrigo Martins), pp. 330-337.
207. Chen, F., Yetano Roche, M., Fernandes, T.R. and Carvalho, M.G. – “Analysis of Barriers to the Hydrogen Society in EU vs Emerging Economies” International Conference on New and Renewable Energy Technologies for Sustainable Development, Évora, Portugal, 28 Junho-1 Julho 2004.
208. Afgan, N., Jovanovic, M. and Carvalho, M.G. – “Sustainability Assessment of Solar Energy Systems”. International Solar Energy Conference ISEC 2004, Portland, Oregon, E.U.A., 11-14 Julho 2004.
209. Duic, N., Krajacic, G., Lerer, M., Firak, M. and Carvalho, M.G. – “Hydrogen from Renewable Energy as Energy Carrier in Island Energy Supply”. International Congress Energy and the Environment 2004, Opatija, Croácia, 27-29 Outubro 2004.
210. Afgan, N. and Carvalho, M.G., – “Sustainability and Safety: The Hydrogen System Properties”. 1<sup>st</sup> World Congress of Young Scientists on Hydrogen Energy Systems, Turim, Itália, 18-20 Maio 2005. Proceedings HYSYDAYS (Ed. Naim H.Afgan, Fabio Orecchini and Adriano Santiangeli), pp.19-25.
211. Teixeira, M.A. and Carvalho, M.G. – “Analysis of the Cogeneration Power Production Potential within Brazilian Babassu Oil Extraction Industry”. 3<sup>rd</sup>. Dubrovnik Conference on Sustainable Development of Energy, Water and Environment Systems, Dubrovnik, Croácia, 5-10 Junho 2005.
212. Teixeira, M.A., Carvalho, M.G., Alves, L.M. and Santos, S.T. – “CDM in Africa – An Analytical Framework for Action”. 3<sup>rd</sup>. Dubrovnik Conference on Sustainable Development of Energy, Water and Environment Systems, Dubrovnik, Croácia, 5-10 Junho 2005.
213. Lund, H., Duic, N., Krajacic, G. and Carvalho, M.G. – “Two Sustainable Energy System Analysis Models. A Comparison of Methodologies and Results”. 3<sup>rd</sup>. Dubrovnik Conference on Sustainable Development of Energy, Water and Environment Systems, Dubrovnik, Croácia, 5-10 Junho 2005.
214. Duic, N., Fonseca, J.P. and Carvalho, M.G. – “Increasing the Penetration of Renewable Energy by Merging Energy and Water Supply Systems: Case Study Corvo Island, Azores”. 3<sup>rd</sup>. Dubrovnik Conference on Sustainable Development of Energy, Water and Environment Systems, Dubrovnik, Croácia, 5-10 Junho 2005.
215. Teixeira, M.A. and Carvalho, M.G. – “Assessment of CDM Potential in North and Northeast Regions in Brazil”. Eighth International Conference on Energy for a Clean Environment – CLEAN AIR 2005, Lisboa, Portugal, 27-30 Junho 2005.

216. Ponte, A.F., Teixeira, M.A. and Carvalho, M.G. – “Biodiesel, an Opportunity for CDM in Indonesia”. Eighth International Conference on Energy for a Clean Environment – CLEAN AIR 2005, Lisboa, Portugal, 27-30 Junho 2005.
217. Ponte, A.F., Teixeira, M.A. and Carvalho, M.G. – “Designing a Biodiesel CDM Project in Indonesia”. Eighth International Conference on Energy for a Clean Environment – CLEAN AIR 2005, Lisboa, Portugal, 27-30 Junho 2005.
218. Pereira, S., Teixeira, M.A. and Carvalho, M.G. – “Corn as an Energy Crop in Alqueva – South of Portugal”. Eighth International Conference on Energy for a Clean Environment – CLEAN AIR 2005, Lisboa, Portugal, 27-30 Junho 2005.
219. Fernandes, T.R., Yetano Roche, M., Hugh, M., Duic, N., Gonçalves, G. and Carvalho, M.G. – “A Discussion on the Potential for Development of Hydrogen as an Energy Carrier in Portugal”. Eighth International Conference on Energy for a Clean Environment – CLEAN AIR 2005, Lisboa, Portugal, 27-30 Junho 2005.
220. Afgan, N. and Carvalho, M.G. – “Hydrogen System Sustainable Development”. International Hydrogen Energy Congress, Istambul, Turquia, 13-15 Julho 2005.
221. Santos, Ruy Spencer L. dos and Carvalho, M.G. – “Thermal Wind Solar Power Plant as a Solution for the Energy Security Supply Problem on Islands”. “Poster” apresentado na 2006 Ecostock –The Tenth International Conference on Thermal Energy Storage, Pomona, New Jersey, E.U.A., 31 Maio-2 Junho 2006.
222. Afgan, N.H. and Carvalho, M.G. – “Hydrogen System Sustainable Development”. NATO Advanced Research Workshop “Assessment of Hydrogen Energy for Sustainable Development: Energy & Environmental Security”, Istambul, Turquia, 12 Junho 2006.
223. Afgan, N.H., Andre, P. and Carvalho, M.G. – “Sustainability: the Management System Property”. Portland International Conference on Management of Engineering and Technology, PICMET 06, Istambul, Turquia, 8-13 Julho, 2006.
224. Garcia, J., Cerdeira, R., Tavares, N., Coelho, L. M. R., Carvalho, M. G. Study of children exposure to Particulate Matter in indoor air in school. Submetido ao VII Mediterranean Congress of Air Conditioning (CLIMAMED), 3-4 October 2013, Istanbul, Turquia
225. Garcia, J.M., Teodoro, F., Cerdeira, R., Coelho, L.M.R., Carvalho, M.G., Developing a methodology to predict PM10 outdoor urban concentrations using GLM. Aceite para apresentação oral e publicação nos proceedings, 22nd International Conference on Modelling, Monitoring and Management of Air Pollution, 7 - 9 July, 2014, Opatija, Croatia

#### **4.1.10 National Conferences and Symposia**

1. Carvalho, M.G., Durão, D.F.G. e Semião, V. – "Simulação Numérica de um Forno de Vidro Industrial". Congresso da Ordem dos Engenheiros, Coimbra, 25-29 Maio 1985.
2. Carvalho, M.G. e Semião, V. – "A Optimização do Funcionamento de Fornos de Vidro através da Simulação em Computador". Congresso da Ordem dos Engenheiros, Porto, 18-22 Janeiro 1988.
3. Carvalho, M.G. – "Simulação Computacional em Mecânica de Fluidos, Transmissão de Calor e Combustão". 1º Encontro Nacional de Mecânica Computacional, Tróia, 27-30 Março 1988, Vol. 1, pp. 8.7-8.26, 1989.
4. Carvalho, M.G., Coelho, P. e Semião, V. – "Modelação Matemática, Física e Numérica de Câmaras de Combustão". 1º Encontro Nacional de Mecânica Computacional, Tróia, 27-30 Março 1988, Vol. 2, pp. 191-214, 1989.
5. Carvalho, M.G., Pereira, F.J.D. e Ramos, J.A.E. – "Modelação de Escoamentos em Geometrias Industriais Complexas". 2º Encontro Nacional de Refrigeração e Ar Condicionado, Lisboa, 6-8 Junho 1989.
6. Carvalho, M.G., Durão D.F.G. e Heitor, M.V. – "AIMBURN - Sistema Inteligente Multi-Sensor para o Controlo de Fornos e Caldeiras Industriais. Descrição dos Objectivos". Congresso da Ordem dos Engenheiros, Tema 3 - Produtividade e Gestão da Qualidade na Indústria e Metalomecânica. Coimbra, 9-13 Outubro 1989.
7. Ramos, J.A.E. e Carvalho, M.G. – "A Acumulação de Calor - Estratégias de Gestão". ENRAC - 3º Encontro Nacional de Refrigeração e Ar Condicionado, Hotel Penta, Lisboa, 28-30 Janeiro 1992.

8. Carvalho, M.G., Azevedo, J.L.T., Barreiros, A., Coelho, P., Martins, N. e Nogueira, M. – "Simulação Físico-matemática de Fornos e Caldeiras Industriais" - 3º Encontro Nacional de Mecânica Computacional, Coimbra, 28-30 Setembro 1992, pp. F 12.1 - F. 12.12.
9. Coelho, P.J. e Carvalho, M.G. – "Modelação Matemática da Câmara de Combustão de um Sistema de Propulsão" - Ciclo de Conferências sobre Ciência e Tecnologia Aeroespacial para a Inovação no 42º Aniversário da Força Aérea, I.S.T., Lisboa, 27-30 Junho 1994, Actas, pp. 104-114.
10. Ramos, J.A.E., Pitarma, R.A. e Carvalho, M.G. – "Modelação do Conforto Térmico em Salas Climatizadas". 1<sup>as</sup>. Jornadas Nacionais do Colégio de Engenharia Mecânica da Ordem dos Engenheiros, Porto, 9-10 Março 1998.
11. Coelho, P., Vieira, A., Carvalho, M.G. e Ferreira, M. – "Estudo Experimental e Numérico de uma Caldeira da Central Térmica de Setúbal", 1<sup>as</sup>. Jornadas Nacionais do Colégio de Engenharia Mecânica da Ordem dos Engenheiros, Porto, 9-10 Março 1998.
12. Coelho, L.M.R., Azevedo, J.L.T. e Carvalho, M.G. -- "Técnicas de Redução de Emissões de NO<sub>x</sub> em Caldeiras de Carvão Pulverizado (Simulação Numérica). Congresso'98, Ordem dos Engenheiros, Lisboa, 18-21 Junho 1998.
13. Afgan, N. e Carvalho, M.G. – "Cátedra UNESCO: Em Desenvolvimento Sustentável". Congresso'98, Ordem dos Engenheiros, Lisboa, 18-21 Junho 1998.
14. Rebola, A., Azevedo, J., Silva, P., Pratas, M., Ruão, M., Mourão, M., Costa, M. e Carvalho, M.G. - "Projectos de I & D com a Indústria Portuguesa durante a Presente Década". Congresso'98, Ordem dos Engenheiros, Lisboa, 18-21 Junho 1998.
15. Pitarma, R.A., Ramos, J.E. e Carvalho, M.G. – "Modelação Matemática de Câmaras Frigoríficas". Jornadas de Aplicações da Matemática. Instituto Superior de Engenharia de Lisboa, Lisboa, 14-16 Outubro 1998, Actas, pp. 197-201.
16. Alves, L.M., Pipio, A. e Carvalho, M.G. – "Fontes de Energia Novas e Renováveis em Ilhas e Regiões Remotas". II Jornadas Insulares de Engenharia, Funchal, Madeira, 20-22 Maio 1999.
17. Viegas, J.C., Carvalho, M.G. e Saraiva, J. – "Incêndios em Edifícios. Validação de um Modelo de Campo para Previsão do Escoamento". VI Congresso Nacional de Mecânica Aplicada e Computacional, Universidade de Aveiro, 17-19 Abril 2000.
18. Carvalho, M.G. – "O Papel da Cooperação Científica no Desenvolvimento Sustentável". XIII Congresso 2000 Engenharia e Cultura, Ordem dos Engenheiros, Porto, 21-23 Setembro 2000.
19. Carvalho, M.G. – "Energia e Desenvolvimento Sustentável". Ciclo de Conferências "Perspectivar o Futuro – Engenharia do Ambiente". Escola Superior de Tecnologia e Gestão, Instituto Politécnico de Leiria, Leiria, 25 Outubro 2000.
20. Ramos, J.E., Pitarma, R.A., Martinho, N.A. e Carvalho M.G. – "O Papel da Modelação Matemática na Optimização da Climatização de Edifícios". 1<sup>as</sup>. Jornadas Politécnicas de Engenharia Mecânica, Automóvel, Gestão industrial e Ambiente, Leiria, 14-16 Novembro 2001.
21. Soares, F.S., Lemos, J.M.F. e Carvalho, M.G. – "A Declaração de Bolonha e os Perfis de Engenharia". XIV Congresso da Ordem dos Engenheiros, Coimbra, 27-29 Junho 2002.
22. Carvalho, M.G. and Nogueira, M. A. – "Utilização de Modelos Matemáticos no Controlo e Supervisão de Processos Industriais de Combustão". VII Congresso de Mecânica Aplicada e Computacional, Évora, 14-16 Abril 2003.

#### **4.1.11 Invited Lectures in Seminars**

1. Title: Vantagens Económicas e Competitivas da Aplicação das MTD  
In: Melhores Técnicas Disponíveis (MTD) no Regime de Prevenção e Controlo Integrados da Poluição (PCIP)  
Venue: Instituto Superior Técnico, Lisbon, Portugal  
Date: 19 January 2007
2. Title: Energia: Uma Visão para o Futuro  
In: A Invesigação Científica na Universidade Técnica de Lisboa

Venue	Instituto Superior Técnico, Lisbon, Portugal
Date:	3 February 2006
3. Title:	O Hidrogénio – Um Vector Energético na Casa do Futuro
In:	Ciclo de Workshops “A Energia na Casa do Futuro”
Venue:	University of Aveiro, Aveiro, Portugal
Date	20 January 2006
4. Title:	A Universidade de Cabo Verde – Seu Papel no Desenvolvimento Social e Económico e na Criação de uma Capacidade em Ciência, Inovação e Tecnologia
In:	Ciclo de Conferência da Comissão Nacional para a Instalação da Universidade de Cabo Verde
Co-authors	Luís Manuel Alves
Venue:	Instituto da Biblioteca Nacional e do Livro, Praia, Cabo Verde
Date:	21 July 2005
5. Title:	Novos Desafios no Espaço do Ensino e Investigação dos Países de Língua Portuguesa
In:	XV Encontro da AULP – Associação das Universidades de Língua Portuguesa
Venue:	UTL, Lisbon, Portugal
Date	22-25 May 2005
6. Title:	O Processo de Bolonha
In:	Dia do Departamento, Ciências Naturais, Ambientais e Biotecnológicas
Venue:	Universidade Lusófona, Lisbon, Portugal
Date:	20 May 2005
7. Title:	Utilização do SIG na Avaliação e Utilização do Potencial de Energias Renováveis na Ilha do Santo Antão de Cabo Verde
In:	IX Encontro Nacional do Colégio de Engenharia Geográfica da Ordem dos Engenheiros
Venue:	Sesimbra, Portugal
Date:	24 May 2003
8. Title:	Engineers, Actors in a Competitive Economy
In:	International Seminar Increasing the Competitiveness of the Engineering Education and Profession in the European Union
Venue:	Leuven, Belgium
Date	11-12 April 2003
9. Title:	Tecnologias de Combustão de Gás Natural
In:	Utilização do Gás Natural na Combustão e Respectivas Tecnologias
Venue:	Centro de Geologia, University of Porto, Oporto, Portugal
Date:	13 February 2003
10. Title:	Os Desafios Energéticos e Ambientais e o Desenvolvimento Sustentável
In:	Seminário Internacional Engenharia e Desenvolvimento Sustentável
Co-authors	Luís Manuel Alves, Sérgio Teixeira Santos
Venue:	Maputo, Mozambique
Date:	24 September 2002
11. Title:	New and Renewable Energy Sources for Sustainable Communities
In:	VII Encontro Regional do Engenheiro
Co-authors	Luís Manuel Alves, Anildo Costa e Neven Duic
Venue:	Angra do Heroísmo, Terceira, Azores
Date:	20 July 2002
12. Title:	Kyoto Protocol
In:	Conference on Sustainable Development of Energy, Water and Environment Systems (Round Table)
Co-authors	Neven Duic and Luís Manuel Alves
Venue:	Dubrovnik, Croatia
Date:	2-7 June 2002
13. Title:	Energia – Passado, Presente e Futuro – Introdução ao Tema
In:	XV Jornadas de Engenharia Química
Venue:	Instituto Superior Técnico, Lisbon, Portugal
Date	7 May 2002
14. Title:	Central Virtual a Pilha de Combustível Vaillant – Introdução ao Tema
In:	6ª Conferência COGEN Portugal “A Cogeneração Face às Novas Realidades”

- Co-authors João Toste de Azevedo and Gonçalo Gonçalves  
 Venue: Lisbon, Portugal  
 Date: 22 April 2002
15. Title: As Questões dos Países em Desenvolvimento no Contexto das Alterações Climáticas  
 In: Cumprindo os Objectivos do Protocolo de Quioto e Promovendo a Transferência de Tecnologia para Países Insulares em Desenvolvimento – Projecto CDMSIDS  
 Co-author Luís Manuel Alves  
 Venue: Sal, Cape Verde  
 Date: 1 March 2002
16. Title: End-Use Approach for GHG Reduction in SIDS – The Case of Santo Antão, Cape Verde  
 In: Cumprindo os Objectivos do Protocolo de Quioto e Promovendo a Transferência de Tecnologia para Países Insulares em Desenvolvimento – Projecto CDMSIDS  
 Co-authors Anílido Costa and Gonçalo Gonçalves  
 Venue: Sal, Cape Verde  
 Date: 1 March 2002
17. Title: The Potential for Clean Development Mechanism in Electricity Production  
 In: Cumprindo os Objectivos do Protocolo de Quioto e Promovendo a Transferência de Tecnologia para Países Insulares em Desenvolvimento – Projecto CDMSIDS  
 Co-authors Neven Duic, Luís Manuel Alves and Anílido Costa  
 Venue: Sal, Cape Verde  
 Date: 1 March 2002
18. Title: Facilitating the Kyoto Protocol Objectives by Clean Development Mechanism in Small Island Developing States – CDMSIDS Project  
 In: Cumprindo os Objectivos do Protocolo de Quioto e Promovendo a Transferência de Tecnologia para Países Insulares em Desenvolvimento – Projecto CDMSIDS  
 Venue: Sal, Cape Verde  
 Date: 1 March 2002
19. Title: Cooperação e Desenvolvimento  
 In: 3º Encontro de Engenheiros Lusófonos, Seminário “A Cooperação no Âmbito da CPLP” e II Cimeira das Engenharias da CPLP.  
 Co-author Luís Manuel Alves  
 Venue: Praia, Cape Verde  
 Date: 8 October 2001
20. Title: O Ensino Superior no Sistema de Ciência e Tecnologia: Contribuição do Instituto Superior Técnico para a Cooperação Científica entre Portugal e Cabo Verde  
 In: III Jornadas de Ciência e Tecnologia  
 Co-author Luís Manuel Alves  
 Venue: Praia, Cape Verde  
 Date: 4-6 October 2001
21. Title: Qual o Papel das Energias Novas e Renováveis no Cumprimento dos Objectivos do Protocolo de Quioto e na Segurança do Abastecimento?  
 In: Total Energy 2001  
 Co-authors Anílido Costa and Patrícia Rei  
 Venue: Hotel Novotel, Lisbon, Portugal  
 Date: 24-27 September 2001
22. Title: As Questões dos Países em Desenvolvimento no Contexto das Alterações Climáticas  
 In: 1º Curso Lusófono sobre Gestão Ambiental, Painel "Convenção sobre Alterações Climáticas"  
 Co-author Luís Manuel Alves  
 Venue: Sesimbra, Portugal  
 Date: 10-14 September 2001
23. Title: Mecanismos Financeiros no Âmbito da União Europeia  
 In: 1º Curso Lusófono sobre Gestão Ambiental  
 Co-authors Luís Manuel Alves  
 Venue: Sesimbra, Portugal  
 Date: 10-14 September 2001
24. Title: The Clean Development Mechanism - A Framework for Co-Operation with Developing Countries  
 In: Workshop on Clean Development Mechanism

	Co-authors	Neven Duic and Luís Manuel Alves
	Venue:	Edifício da Alfândega, Oporto, Portugal
	Date:	11 July 2001
25.	Title:	Implementação de Tecnologias Energéticas Eficientes
	In:	Seminário APEMETA "Eficiência Energética e Energias Renováveis - Incentivos Financeiros"
	Co-authors	Luís Manuel Alves and Gonçalo Gonçalves
	Venue:	INETI, Lisbon, Portugal
	Date	29 June 2001
26.	Title:	O Planeamento Energético de Moçambique no Contexto das Alterações Climáticas
	In:	Seminário SYNERGY
	Co-authors	Neven Duic and Luís Manuel Alves
	Venue:	Maputo, Mozambique
	Date:	22 June 2001
27.	Title:	Quioto e a Cogeração
	In:	5ª Conferência COGEN Portugal "O Preço dos Combustíveis, Ameaça ou Oportunidade para a Cogeração?"
	Venue:	Fundação Dr. António Cupertino de Miranda, Oporto, Portugal
	Date:	16-17 May 2001
28.	Title:	Novas Tecnologias Energéticas Limpas
	In:	XIV Jornadas de Engenharia Química do Instituto Superior Técnico (IST)
	Venue:	Centro de Congressos do IST, Lisbon, Portugal
	Date:	9-10 May 2001
29.	Title:	Gás Natural na Indústria Vidreira e Cerâmica
	In:	Debate "Introdução do Gás Natural na Indústria Vidreira e Cerâmica"
	Venue:	Escola Irmãos Stephens, Marinha Grande, Portugal
	Date:	8 May 2001
30.	Title:	Tecnologias Energéticas na Próxima Década
	In:	Seminar "Energia, Portugal, Século XXI"
	Venue:	Centro Cultural de Belém, Lisbon, Portugal
	Date:	1 March 2001
31.	Title:	FLOXCOM – Low-Nox Flox Combustor for High Efficiency Gas Turbines
	In:	First Workshop – Cleaner and More Efficient Gas Turbines – A Thematic Network of the FPV
	Venue:	Energie Programme Brussels, Belgium
	Date:	16 February 2001
32.	Title:	The Case of Santo Antão, Cape Verde
	In:	Workshop Economia do Carbono: Identificar os Constrangimentos e Promover as Potencialidades para Portugal
	Co-authors	Neven Duic and Luis Manuel Alves
	Venue:	Auditório do Welcome Centre, Lisbon, Portugal
	Date:	12-13 February 2001
33.	Title:	A Convenção sobre Alterações Climáticas e os Países em Desenvolvimento
	In:	Seminar Alterações Climáticas: Resultados e Motivações da Conferência de Haia
	Co-author	Luís Manuel Alves
	Venue:	Auditório da Direcção Geral do Ambiente, Lisbon, Portugal
	Date:	1 February 2001
34.	Title:	The Kyoto Protocol: Integrated Framework for Developing Countries – The Negotiations during the Portuguese Presidency
	In:	CTI/IEA Seminar on Clean Development Mechanism Opportunities in Latin America for Spain and Portugal
	Venue:	Madrid, Spain
	Date:	18 September 2000
35.	Title:	Tecnologias Energéticas e Renováveis em Ilhas e Regiões Remotas
	In:	VI Dia Regional do Engenheiro nos Açores
	Co-authors	A. Costa, N. Duic and L. Alves
	Venue:	Ponta Delgada, Azores, Portugal
	Date:	28 July 2000

36. Title: A Transacção de Direitos de Emissão  
 In: 4<sup>a</sup> Conferência COGEN Portugal, "A Cogeração Face a Novos Desafios"  
 Co-authors A. Martins, A. Barreiros, C. Pimenta, M. Fernandes and R. Santos  
 Venue: Fundação Dr. António Cupertino de Miranda, Oporto, Portugal  
 Date: 15-16 March 2000
37. Title: Resultados do Projecto FUEL BLENDS sobre a Queima com Combustíveis Auxiliares de Resíduos Industriais e Agrícolas (têxteis, plásticos, caroço de pêssego e casca de pinho) em Caldeira de Grelha de Biomassa e em Fornalha Semi-industrial - IST/PORTUCEL  
 In: Forum Debate sobre Queima de Resíduos Industriais como Combustíveis Auxiliares  
 Venue: CITEVE, Vila Nova de Famalicão, Portugal  
 Date: 15 December 1998
38. Title: Estudo das Condições de Operação das Instalações de Cogeração com Motores Diesel  
 In: 3rd Conference COGEN Portugal "A Liberalização do Sector Energético e as Perspectivas para a Cogeração"  
 Co-authors A. Rebola and M. Costa  
 Venue: Tagus Park, Oeiras, Portugal  
 Date: 3 December 1998
39. Title: Tecnologias Limpas e Novas Tecnologias Energéticas  
 In: Energia e Tecnologia: Suportes do Desenvolvimento Sustentável no Próximo Milénio  
 Venue: INETI, Lisbon, Portugal  
 Date: 24-25 November 1998
40. Title: Co-utilisation of Fossil Fuels and Wastes  
 In: Coal and Biomass: High-Tech Fuels for the Future  
 Venue: Brussels, Belgium  
 Date: 11-12 November 1998
41. Title: Full Boiler Performance Modelling  
 In: Coal and Biomass: High-Tech Fuels for the Future  
 Venue: Brussels, Belgium  
 Date: 11-12 November 1998
42. Title: Sustainability Criterions for Heat Exchanger Design  
 In: NATO Advanced Study Institute  
 Co-authors N. Afgan  
 Venue: Izmir, Turkey  
 Date: 25 May-5 June 1998
43. Title: Control, Design and Operation Optimization of Industrial Combustion Equipment Based on Computer Simulation  
 In: Norwegian University of Science and Technology, Trondheim, Norway  
 Venue: Norwegian University of Science and Technology, Trondheim, Norway  
 Date: 22 January 1998
44. Title: Control, Design and Operation Optimization of Industrial Combustion Equipment Based on Computer Simulation  
 In: Yale University, USA  
 Venue: Yale University, USA  
 Date: 4 August 1997
45. Title: O Papel da Mecânica de Fluidos Computacional na Gestão da Energia e do Ambiente em Edifícios  
 In: Energia e Espaço Urbano - O Caso EXPO'98 - Novas Tecnologias de Apoio o Projecto e Gestão do Ambiente Contruído  
 Co-authors João E. Ramos  
 Venue: INETI, Lisbon, Portugal  
 Date: 26-27 June 1997  
 Published: Comunicações, pp. 39-46
46. Title: NO<sub>x</sub> Abatement Technologies in Coal-fired Utility Boilers  
 In: New Concepts in Energy Sector. Projecto Tempus  
 Co-authors J.L.T. Azevedo and L. Coelho  
 Venue: Zakopane, High Tatra Mountains, Poland  
 Date: 20 June 1997
47. Title: Expert Systems and the Use of Mathematical Models in On-line Glass Melting Optimization  
 In: Advanced Control for Industrial Glass Melters

- Co-authors M. Nogueira and N. Speranskaia  
 Venue: Maastricht, The Netherlands  
 Date: 6-7 May 1997
48. Title: Optimização de Sistemas Industriais de Queima  
 Venue: Academia de Engenharia, Lisbon, Portugal  
 Date: 7 April 1997
49. Title: Expert System for Energy Efficiency and Pollution Abatement in Industry  
 In: Seminar on Rational Use of Energy in Industry  
 Venue: University of Liège, Belgium  
 Date: 25-26 November 1996
50. Title: Modelação Numérica de Técnicas de Redução de NO<sub>x</sub> em Caldeiras de Carvão Pulverizado  
 In: Jornadas Europeias sobre Tecnologias de Combustão Limpa de Carvões  
 Co-authors L.M.R. Coelho and J.L.T. Azevedo  
 Venue: University of Aveiro, Portugal  
 Date: 13 November 1996
51. Title: Control, Design and Operation Optimization of Industrial Furnaces and Boilers  
 In: Tempus Structural Joint European Project  
 Venue: Technical University of Sofia, Bulgaria  
 Date: 16-18 September 1996
52. Title: Modelação Numérica de Fornos Indústriais  
 In: Secção Portuguesa do Instituto de Combustão  
 Venue: Lisbon, Portugal  
 Date: June 1996
53. Title: Radiative Heat Transfer in Combustion Chambers  
 In: Tempus Structural Joint European Project  
 Co-author T. Farias  
 Venue: Niedzica, Poland  
 Date: 17-22 June 1996  
 Published: Proceedings of a Workshop on Measurement Techniques in Energy Systems and Processes, pp. 329-359
54. Title: Mathematical Modelling and Experimental Validation of Industrial Combustion Chambers  
 In: Tempus Structural Joint European Project  
 Venue: Niedzica, Poland  
 Date: 17-22 June 1996
55. Title: Improvement of Energy Efficiency in Furnaces, Kilns and Ovens  
 In: Open Workshop on Advanced Modelling and Sensing Tools for Energy Saving in Industry  
 Venue: Hotel Tivoli, Sintra, Portugal  
 Date: 10-12 April 1996
56. Title: Mathematical Modelling of Radiative Heat Transfer  
 In: Tempus Structural Joint European Project  
 Co-author T. Farias  
 Venue: Gliwice, Poland  
 Date: 19-24 June 1995
57. Title: Mathematical Modelling of Industrial Furnaces and Boilers  
 In: Tempus Structural Joint European Project  
 Venue: Gliwice, Poland  
 Date: 19-24 June 1995
58. Title: Optical Operation of Kilns in the Ceramic Industry  
 In: COMETT Seminar sponsored by the European Union  
 Venue: École Supérieure de l'Énergie et des Matériaux, University of Orleans, France  
 Date: 12-16 June 1995
59. Title: Tecnologia Limpas de Combustão - Avaliação de Modificações na Combustão para a Redução de NO<sub>x</sub> em Sistemas de Combustão  
 In: Colloquium "Petróleos e Ambiente - Novas Tecnologias. Prós e Contras"  
 Venue: Ordem dos Engenheiros, Lisbon, Portugal  
 Date: 5 June 1995

60. Title: Avaliação de Modificações na Combustão para a Redução de Emissões de NO<sub>x</sub> em Caldeiras de Carvão Pulverizado  
 In: Jornadas Europeias sobre Tecnologias de Combustão Limpa de Carvões organised by programme THERMIE  
 Venue: Serviço de Transportes Colectivos do Porto, Oporto, Portugal  
 Date: 18 May 1995
61. Title: Modelling of Glass Melting Furnaces for the Development of Expert Systems  
 In: Joint IST/IVD Workshop on Mathematical Modelling of Industrial Furnaces  
 Venue: University of Stuttgart, Germany  
 Date: 13 October 1994
62. Title: Radiative Heat Transfer Modelling.  
 In: Joint IST/IVD Workshop on Mathematical Modelling of Industrial Furnaces  
 Venue: University of Stuttgart, Germany  
 Date: 13 October 1994
63. Title: Combustion Fundamentals and Simulation of Large Scale Equipment.  
 In: Workshop on Simulation of Combustion in Large Scale Equipment  
 Venue: ENEL, Pisa, Italy  
 Date: 15 September 1994
64. Title: Modelação da Combustão de Carvão Pulverizado em Centrais Termoeléctricas — O Caso da Central Termoeléctrica de Sines  
 In: Conferência sobre Tecnologias de Combustão Limpa de Carvões organized by Programme THERMIE  
 Venue: I.S.T., Lisbon, Portugal  
 Date: 28 June 1994
65. Title: 3-D Numerical Model for Predicting NO<sub>x</sub> Emission from an Industrial Pulverized Coal Combustor  
 In: SINO-EU Workshop on Fluidized Bed Combustion  
 Co-authors C. Coimbra and J. Azevedo  
 Venue: Huazhong University of Science and Technology, Wuhan, China  
 Date: 23-25 June 1994  
 Published: SINO-EU Workshop on Fluidized Bed Combustion, European Commission DGXII, ed. I.F.W. Romey, September 1995, pp. 197-198.
66. Title: Mathematical Simulation of a Circulating Fluidized Bed Combustor  
 In: SINO-EU Workshop on Fluidized Bed Combustion  
 Co-authors P. Saraiva and J. Azevedo  
 Venue: Huazhong University of Science and Technology, Wuhan, China  
 Date: 23-25 June 1994  
 Published: SINO-EU Workshop on Fluidized Bed Combustion, European Commission DGXII, ed. I.F.W. Romey, September 1995, pp. 195-196
67. Title: Mathematical Modelling of Coal-Fired Fluidized Bed Combustors  
 In: SINO-EU Workshop on Fluidized Bed Combustion  
 Co-authors J. Azevedo and D.F.G. Durão  
 Venue: Huazhong University of Science and Technology, Wuhan, China  
 Date: 23-25 June 1994  
 Published: SINO-EU Workshop on Fluidized Bed Combustion, European Commission DGXII, ed. I.F.W. Romey, September 1995, pp. 193-194.
68. Title: Combustion Modelling  
 In: Generic Combustion Workshop  
 Venue: European Commission, Brussels, Belgium  
 Date: 12-13 April 1994
69. Title: Desenvolvimento e Especificidade dos Projectos Aeroespaciais  
 In: Seminário-Tecnologia e Indústria Aeroespaciais  
 Venue: Centro Cultural de Belém, Lisbon, Portugal  
 Date: 18-22 October 1993
70. Title: Modelling of Glass Melting Industrial Furnaces  
 Co-author M. Nogueira  
 Venue: Tsinghua University, China

- Date: 20 August 1993
71. Title: Three-dimensional Mathematical Modelling of 100% Oxi-fuel Fired Glass Furnaces  
 In: Seminar organized by PRAXAIR, USA  
 Co-author M. Nogueira  
 Venue: Venice, Italy  
 Date: 23 June 1993
72. Title: Optimização de Fornos de Vidro Usando um Modelo Tri-dimensional  
 In: "Novas Tecnologias na Indústria do Vidro - A Utilização de Gases Industriais" - PEDIP Programme 5  
 Co-author M. Nogueira  
 Venue: Marinha Grande, Portugal  
 Date: 19 November 1992
73. Title: Physically-Based Mathematical Modelling of Glass-Melting of Glass-Melting Furnaces  
 Venue: Drexel University, Department of Mechanical Engineering and Mechanics, Philadelphia, USA  
 Date: 7 August 1992
74. Title: Heat Transfer in Gas Turbine Combustors - Window-On-Science. Programme financed by the USAF (United States Air Force) Office of Scientific Research.  
 Venue: Wright Laboratory, Wright - Petterson Air Force Base, Ohio, USA.  
 Date: August 1992
75. Title: A Computer Code to Predict the Flow, Combustion and Heat Transfer in Glass Melting Kilns  
 Venue: University of Erlangen-Nurenberg, Germany  
 Date: 9 December 1991
76. Title: O Projecto de Fornos Industriais e Caldeiras  
 In: O Projecto Mecânico e a Indústria  
 Venue: Instituto Superior Técnico, Lisbon, Portugal  
 Date: 8-12 April 1991
77. Title: Present Activities and Future R&D Requirements in Furnace Modelling - Workshop "Furnace Modelling".  
 In: 2nd European Conference on Industrial Furnaces and Boilers - INFUB  
 Venue: Vilamoura, Portugal  
 Date: 4 April 1991
78. Title: Modelling and Optimization of Industrial Glass Furnaces  
 Venue: Saint Gobain, France  
 Date: 21 February 1991
79. Title: Modelação Física e Matemática de Transmissão de Calor por Radiação  
 Venue: Physics Department, IST, Lisbon, Portugal  
 Date: January 1990
80. Title: CIM for the Environment  
 In: 6th ESPRIT Conference  
 Venue: Brussels, Belgium  
 Date: 29 November 1989
81. Title: Mathematical Modelling of Coal Fired Fluidised Bed Combustors  
 In: COMETT "Combustion en Lechos Fluidizados"  
 Co-author J.L.T. Azevedo  
 Venue: University of Zaragoza, Spain  
 Date: 31 May-2 June 1989
82. Title: Modelação de Fenómenos Ocorrentes em Fornos e Caldeiras  
 Venue: Instituto Superior Técnico, Lisbon, Portugal  
 Date: 17 February 1989
83. Title: Modelação Matemática Aplicada à Propagação de Incêndios  
 Venue: SEGUREX, F.I.L., Lisbon, Portugal  
 Date: 26 January 1989
84. Title: Modelling of Fluidized Coal Combustion  
 Venue: University of Zaragoza, Spain  
 Date: September 1988. Invited by Prof. C. Dopazo
85. Title: Modelling of Three-dimensional Combustion Chambers

	Venue:	University of Zaragoza, Spain
	Date:	September 1988. Invited by Prof. C. Dopazo
86.	Title:	Improved Design for Glass Smelting Kilns
	In:	Meeting organized by DG XII E.C. - "Energy Efficiency in Industrial Processes"
	Venue:	Brussels, Belgium
	Date:	29 June 1988
87.	Title:	Sistemas de Queima
	In:	1 <sup>as</sup> Jornadas IST/LNETI para a Inovação e Modernização Industrial
	Venue:	Lisbon, Portugal
	Date:	27-28 April 1988
88.	Title:	Simulação Numérica de Fornos Industriais
	Venue:	COPPE – Federal University of Rio de Janeiro, Brazil
	Date:	April 1988
89.	Title:	Utilização de Gás Natural e Fuel na Indústria Vidreira
	In:	1 <sup>as</sup> Jornadas Técnicas de Engenharia Mecânica
	Venue:	Ordem dos Engenheiros, Lisbon, Portugal
	Date:	March 1988
90.	Title:	Modelling of Industrial Furnaces
	In:	Workshop "Physical and Mathematical Modelling of Furnaces".
	Venue:	1st European Conference on Industrial Furnaces and Boilers - INFUB
		Lisbon, Portugal
	Date:	23 March 1988
91.	Title:	Modelling of Thermal Radiation
	In:	COMETT "European Programme of Professional Training in Combustion Energy and Pollution"
	Venue:	Lisbon, Portugal
	Date:	February 1988
92.	Title:	Modelação Numérica de Fornos Industriais
	In:	Meeting on "Management and Conservation of Energy in Burning of Energy in Burning Systems"
	Venue:	Portuguese Section of the Combustion Institute, Lisbon, Portugal
	Date:	16 June 1986
93.	Title:	Estudo das Condições de Funcionamento de um Forno de Vidro Cerâmico
	In:	Meeting on "Optimization of the Efficiency in Combustion Systems"
	Venue:	Portuguese Section of the Combustion Institute, Lisbon, Portugal
	Date:	31 January 1985
94.	Title:	Prediction of a Glass Furnace
	In:	Meeting on "Combustion and Fuels"
	Venue:	Portuguese Section of the Combustion Institute, Lisbon, Portugal
	Date:	5 January 1984
95.	Title:	Mathematical Simulation of an Industrial Combustion Chamber
	Venue:	Imperial College, Mechanical Engineering Department, Fluids Section, London, U. Kingdom
	Date:	May 1983

#### 4.1.12 Papers of Scientific and Technical Dissemination

1. A Importância das Regiões Ultra-Periféricas para o Espaço Europeu de Investigação – O Caso da Madeira". Madeira Regional Government, Funchal, Madeira, Portugal, 24 January 2003.
2. Presentation on Continuous Training. Encontro Nacional do Colégio de Engenharia Civil da Ordem dos Engenheiros, Oporto, Portugal, 25-26 October 2002.
3. "The Qualification of the Engineers in Portugal". CLAIU Meeting, Ordem dos Engenheiros, Lisbon, Portugal, 16 September 2002.

4. "A Engenharia na Resposta aos Desafios da Sociedade". Debate sobre "A Integração do Conhecimento no Tecido Empresarial". Instituto Superior Técnico, Lisbon, Portugal, 5 August 2002.
5. "A Declaração de Bolonha e a Acreditação Profissional das Formações em Engenharia". Grupo de reflexão no âmbito do Conselho Coordenador dos Colégios da Ordem dos Engenheiros, Abril 2002.
6. "Sociedade do Hidrogénio". INETI, Lisbon, Portugal, 22 March 2002.
7. "RTD Priorities for Energy in FP6 – Developments in the Power Sector", co-authored by Manfred Aigner. Debate on the 6<sup>th</sup> Framework Programme, European Parliament, Brussels, Belgium, 16 October 2001.
8. "A Engenharia como Factor de Integração das Ilhas da Macaronésia". III Jornadas de Ingeniería Insular (Azores, Madeira, Cabo Verde y Canarias), Institución Ferial de Canarias (INFECAR), Las Palmas de Gran Canaria, Canarias, 12-15 June 2001
9. Intervention at the Meeting on the Reconstruction of Scientific Cooperation in South East Europe, organized by UNESCO (ROSTE), co-authored by Prof. N. Afgan, Venice, Italy, 24-27 March 2001
10. "Management Policies of Industrial and Hospital Wastes". Evaluation of the implementation processes of the several strategy plans, Lisbon, Portugal, January 2001.
11. "Acreditação de Acções de Formação Contínua para a Qualificação de Competências dos Engenheiros". 2º Encontro Nacional do Colégio de Engenharia Mecânica da Ordem dos Engenheiros, Coimbra, Portugal, 15-16 December 2000.
12. "A Certificação da Formação Contínua". Co-author José Manuel Tribolet. Representative of the Portuguese Society of Engineers in the 25<sup>th</sup> Anniversary of Engineering in Universidade do Minho, Guimarães, Portugal, 8 November 2000.
13. Presentation of the Panel "Science and Modelling in e-Europe" in MODELUS 2000 – Modelling for a Sustainable Development, Estoril, Portugal, 13 October 2000.
14. Participation in the Discussion Panel "Diversas Maneiras de Ver" within the Seminar "Perspectivas para a Produção e Utilização de Energia em Portugal", Ordem dos Engenheiros, Lisbon, Portugal, 12 October 2000.
15. Presentation of the Conclusions of the Study on the Emissions Market in Portugal, Renewable Electricity Certificate Trading, Lisbon Workshop Programme, Instituto Superior Técnico, Lisbon, Portugal, 18 July 2000.
16. Debate in the Seminar on the Potentialities of the RTD 5<sup>th</sup> Framework for the Portuguese Industry, Ordem dos Engenheiros, Lisbon, Portugal, 21 June 2000.
17. Information Sessions of the E.C. Programme Energie, Museu da Electricidade, Funchal, Madeira, Portugal, 23 March 2000 and Instituto Superior Técnico, Lisbon, Portugal, 24 March 2000.
18. "An Integrated Model for the Sustainable Development for South European Cities". European Parliament, Brussels, Belgium, 27 May 1999.
19. Information Sessions on the E.C. Programme of R & TD Energy, Environment and Sustainable Development (1998-2002), Instituto Superior Técnico, Lisbon, Portugal, 15 April 1999.
20. "Energia". Information Day of the 5<sup>th</sup> Framework on R&TD (1998-2002). Laboratório Nacional de Engenharia Civil, Lisbon, Portugal, 29 January 1999.
21. "A Ordem e a Formação Contínua dos Engenheiros". Representative of Ordem dos Engenheiros in the Meeting "A Ciência e a Tecnologia como Factores de Desenvolvimento Nacional". Instituto Pedro Nunes, Coimbra, Portugal, 16 October 1998, Proceedings, pp. 165-167.
22. Participation in the Debate Panel within the Forum Portugal Ciência e Tecnologia. Laboratório Nacional de Engenharia Civil, Lisbon, Portugal, 21 April 1998.
23. Written contribution to "Dossier on Women and Sustainable Development" of the series "Women of Europe Dossiers" published by Women's Information Section, DG X European Commission, Brussels, Belgium, November 1997.
24. "The JOULE Activities in the Area of Clean Technologies for Solid Fuels". Thermie Solid Fuels Contractor's Meeting, Athens, Greece, 8-10 October 1997.
25. "Investigação, Desenvolvimento Tecnológico e Demonstração na Área da Energia em Portugal". Direcção Geral do Ensino Superior e Ciência, I Jornadas de Ciência e Tecnologia, Mindelo, Cape Verde, 30 September 1997.

26. "How to Secure an Adequate Science Base in Europe to Support Cooperation in the Field of HPC CFD Modelling". Discussion in a Specialists Pannel at the Conference "The Industrial Application of HPC CFD", Manchester, United Kingdom, 22 May 1997.
27. "Estudo das Condições de Operação das Instalações de Cogeração com Motores Diesel". APPEC - Associação Portuguesa de Produção de Energia em Cogeração, Lisbon, Portugal, 11 March 1997.
28. "Research on Energy for a Sustainable Development". Proposal of Guidelines for PRAXIS XXI. Co-author: Prof. Eduardo Oliveira Fernandes, March 1995.
29. "Simulação Física e Matemática de Câmaras de Combustão" - Paper in Revista Futuro, 1992.
30. Participation in a TV Programme of the American network Maryland Public Television - "Europe - Road to Unity" - 1 hour. Exhibit of Science and Technology in Portugal.
31. Participation in the video entitled "Sky Technology for Europe" (19 min 14 sec). Exhibit of a Brite/Euram Project in the area of Aeronautics.
32. "The Development of a Five Nation European Postgraduate Training Programme in the Area of Fluid and Heat Transfer Engineering", December 1986.
33. Heat and Mass Transfer. Programme and Pedagogic Methods, March 1986.

## **4.2 PUBLICATIONS AS MEMBER OF THE EUROPEAN PARLIAMENT**

### **4.2.1 Parliamentary Reports and Opinions**

1. Report on simplifying the implementation of the Research Framework Programmes, nominated May 2010, ITRE Committee, rapporteur. Report adopted November 2010.
2. Report on facing the challenges of the safety of offshore oil and gas activities, ITRE Committee, shadow rapporteur. Report adopted in 2011.
3. Opinion on the proposal for a regulation establishing a programme to aid economic recovery by granting Community financial assistance to projects in the field of energy, BUDG Committee, shadow rapporteur. Opinion adopted in 2010.
4. Opinion on the mid-term review of the 7th Framework Programme for research, BUDG Committee shadow opinion. Opinion approved in 2011.
5. Report on Engaging in energy policy cooperation with partners beyond our borders: A strategic approach to secure, sustainable and competitive energy supply. ITRE Committee shadow rapporteur. Approved in June 2012
6. Report on the proposal for a Council decision establishing the Specific Programme Implementing Horizon 2020 - The Framework Programme for Research and Innovation (2014 - 2020). ITRE Committee rapporteur. Report approved in November 2013.
7. Opinion on the proposal for a regulation of the European Parliament and of the Council amending Regulation (EC) No 294/2008 establishing the European Institute of Innovation and Technology, BUDG Committee shadow rapporteur. Approved in 2012.
8. Opinion on the proposal for a Council decision on the adoption of a Supplementary Research Programme for the ITER project (2014-2018), BUDG Committee shadow opinion. Approved in 2012.
9. Opinion on the proposal for a regulation of the European Parliament and of the Council on the establishment of a Programme for the Environment and Climate Action (LIFE), BUDG Committee shadow rapporteur. Approved in 2012.
10. Opinion on the proposal for a Council regulation on Union support for the nuclear decommissioning assistance programmes in Bulgaria, Lithuania and Slovakia, BUDG Committee shadow rapporteur. Approved in 2012.

11. Opinion on the proposal for a regulation of the European Parliament and of the Council on the implementation and exploitation of European satellite navigation systems (GALILEO), BUDG Committee rapporteur. Approved in 2013.
12. Opinion on the proposal for a regulation of the European Parliament and of the Council establishing the Copernicus Programme and repealing Regulation (EU) No 911/2010, BUDG Committee rapporteur. Approved in 2013
13. Opinion on the proposal for a decision of the European Parliament and of the Council establishing a space surveillance and tracking support programme, BUDG Committee rapporteur. Approved in 2013.
14. Report on the proposal for a decision of the European Parliament and of the Council on the participation of the Union in a second European and Developing Countries Clinical Trials Partnership Programme jointly undertaken by several Member States, ITRE Committee shadow rapporteur. Approved in 2014.
15. Opinion on the draft Council decision concerning the renewal of the Agreement on cooperation in science and technology between the European Community and the Government of the Russian Federation, BUDG Committee shadow rapporteur. Approved in 2013.
16. Report on Strategy for the development of the private sector including the innovation for a sustainable and inclusive development. Rapporteur ACP delegation
17. Report on regional integration and modernisation of customs for sustainable development in ACP Countries, in cooperation with the EU. Shadow rapporteur at ACP delegation.

#### **4.2.2 Resolutions**

1. Motion for a resolution on investing in the development of low carbon technologies (SET-Plan), approved on the Plenary Session, May 2010.
2. Motion for a resolution on electric vehicles, approved on the Plenary Session, May 2010.
3. Motion for a resolution on the outcome of the Copenhagen Conference on Climate Change (COP 15), approved on the Plenary Session, February 2010.
4. Motion for a resolution on major natural disasters in the Autonomous Region of Madeira, France and Spain, approved on the Plenary Session, March 2010.
5. Joint motion for a resolution on the major natural disaster in the autonomous region of Madeira and the effects of the storm 'Xynthia' in Europe, approved on the Plenary Session, March 2010.
6. Resolution on Côte d'Ivoire, adopted unanimously, May 2011.
7. Joint motion for a resolution on the Tuberculosis Vaccine Initiative (TBVI) – practical implementation of the Europe 2020 strategy with a view to meeting MDG 6 and eliminating tuberculosis by 2050, adopted, February 2011.
8. Resolution on the Republic of Guinea, adopted, June 2013.

#### **4.2.3 Organization of Seminars**

1. "Need: A new approach for research and innovation in Europe", European Parliament, Brussels, 30 November 2009
2. "A China e as Alterações Climáticas", European Parliament, Brussels, December 2009

3. "Capacitação, Transferência Tecnologia e adaptação às alterações climáticas em África", COP 15, Copenhagen, December 2009
4. "Cidades Sustentáveis e Alterações Climáticas - Como as cidades poderão combater as alterações climáticas", European Parliament, Brussels, 14 April 2010
5. "Rethinking 2050. A 100% Renewable Energy for the European Union", European Parliament, Brussels, 15 April 2010
6. "Science beyond Fiction: Future Emerging Technologies", European Parliament, Strasbourg, 20 and 21 April 2010
7. "Intergenerational fairness: giving the future a face", European Parliament, Brussels, 3 May 2010
8. "Gerações Futuras e UE 2020 - Garantir Oportunidades para os jovens, gerações futuras e património cultural", European Parliament, Brussels, 15 September 2010
9. "Processo paz e mocracia na Birmânia", European Parliament, Brussels, 5 October 2010
10. "Electric Vehicle Batteries Made in Europe", European Parliament, Brussels, 30 November 2010
11. "European Forum for Manufacturing Innovation, Research & Manufacturing", European Parliament, Brussels, 26 January 2011
12. "Assuring the future of a competitive and sustainable manufactory in Europe", European Parliament, Brussels, 10 February 2011
13. "Strategy for energy infrastructures in Europe", European Parliament, Brussels, 2 March 2011
14. "Meeting on European Education, Health, Structural Funds and Culture", European Parliament, Brussels, 21 March 2011.
15. "SAVE ENERGY", European Parliament, Brussels, 26 May 2011
16. "What future for European Research", European Parliament, Brussels, 1 June 2011
17. "Research for excellence at the European Parliament: a day with the IMM", European Parliament, Brussels, 15 June 2011
18. "How Research and Technology organisations strengthen the Research and Innovation base in Europe", European Parliament, Brussels, 23 June 2011
19. "Simplifying the implementation of Research Framework Programmes", European Parliament, Brussels, 1 September 2011
20. "Launching the Group of Friends of the EIT", European Parliament, Brussels, 21 September 2011
21. "Exposição Iniciativas Tecnológicas Conjuntas", European Parliament, Brussels, 5 October 2011
22. "Health and Life Science Research in Europe", European Parliament, Brussels, 19 October 2011
23. "FuturICT", European Parliament, Brussels, 20 October 2011
24. "Biomass and resource efficiency", European Parliament, Brussels, 10 November 2011
25. "From Copenhagen to Cancun, State of the climate talks", European Parliament, Brussels, 11 November 2011
26. "bate sobre o desenvolvimento das FCH JU", European Parliament, Brussels, 23 November 2011
27. "Simplification: The way ahead", co-organized with the Belgian Presidency, European Parliament, Brussels, 30 November 2011
28. "Horizonte 2020", Universidade de Évora, Évora, 5 January 2012
29. "Horizonte 2020, Multidisciplinaridade na Investigação Europeia", European Parliament, Brussels, 11 January 2012
30. "Horizonte 2020", Universidade dos Açores, Azores, 20 January 2012
31. "Horizonte 2020, Políticas europeias na área da saúde", European Parliament, Brussels, 24 January 2012

32. "Horizonte 2020", Universidade de Lisboa , Lisbon, 27 January 2012
33. "Horizonte 2020, Associação Internacional dos editores publicações científicas", European Parliament, Brussels, 7 February 2012
34. "Celebrating Success - meet the EIT Award winners", European Parliament, Brussels, 22 February 2012
35. "Horizonte 2020", Instituto Ciências Sociais da Universidade Lisboa, Lisbon, 2 March 2012
36. "Horizonte 2020, Iniciativas Tecnológicas Conjuntas JTI", European Parliament, Brussels, 6 March 2012
37. "A carbonização dos Sistemas Europeus Energia e Transportes", European Parliament, Brussels, 13 March 2012
38. "Horizonte 2020", Comissão Indústria, Investigação e Energia ITRE do European Parliament, Brussels, 20 March 2012
39. "Horizonte 2020, Indústrias de defesa", European Parliament, Lisbon, 5 April 2012
40. "Debate sobre a Estratégia e Prioridades Energéticas na Europa", European Parliament, Brussels, 11 April 2012
41. "Horizonte 2020", Fundação Champalimaud, Lisbon, 13 April 2012
42. "Horizonte 2020", Faculdade de Engenharia da Universidade do Porto, Porto, 26 April 2012
43. "Horizonte 2020", IV Congresso do Ensino Superior Politécnico, Lisbon, 27 April 2012
44. "Horizonte 2020", Instituto Superior Técnico IST, Lisbon, 18 May 2012
45. "Debate sobre as células estaminais", European Parliament, Brussels, 29 May 2012
46. "Advanced materials R&D&I, a crucial cross cutting element of Horizon 2020", European Parliament, Brussels, 30 May 2012
47. "Our Blue Future", European Parliament, Brussels, 30 May 2012
48. "Audição do Horizonte 2020 do Grupo do Partido Popular Europeu", European Parliament, Brussels, 5 June 2012
49. "The role of Horizon 2020 for the citizen, civil society and the public good", European Parliament, Brussels, 7 June 2012
50. "O papel das Universidades no Horizonte 2020", European Parliament, Brussels, 18 June 2012
51. "Horizonte 2020", Instituto de Apoio às Pequenas e Médias Empresas e à Inovação IAPMEI, Lisbon, 21 June 2012
52. "Horizonte 2020", Universidade Lusófona, Lisbon, 29 June 2012
53. "Retorno dos Investimentos da UE em Investigação na área da Saúde e desenvolvimento Global" European Parliament, Brussels, 26 September 2012
54. "Política Regulatória e Competitividade do Sector Energético na Europa", European Parliament, Brussels, 2 October 2012
55. "EIT Comunidade de Conhecimento e Inovação: Chegar às Regiões - EIT - um actor chave na perspectiva europeia ", European Parliament, Brussels, 2 October 2012
56. "A importância das KETs -Tecnologias Facilitadoras Essenciais- para a Inovação, o Abastecimento de Combustível, o Crescimento Económico e a Coesão na Europa", European Parliament, Brussels, 9 October 2012
57. "Open Access to Data in Horizon 2020", European Parliament, Brussels, 10 October 2012
58. "EIT ICT Labs: Bringing ICT Innovations to Life", European Parliament, Brussels, 10 October 2012
59. "A Inovação e o papel dos Engenheiros", European Parliament, Brussels, 22 January 2013
60. "Inovação na União Europeia num mundo em mudança", European Parliament, Brussels, 30 January 2013

61. "Para uma Comunidade de Conhecimento de Inovação KIC", European Parliament, Brussels, 19 February 2013
62. "Apoio na Investigação e na Inovação para PMEs de alto-crescimento", European Parliament, Brussels, 22 February 2013
63. "Um Acordo Estratégico para a Investigação e a Educação", European Parliament, Brussels, 4 March 2013
64. "Promover Excelência em I+D para a Saú Global", European Parliament, Brussels, 6 March 2013
65. "Contribuição das Infra-estruturas e Tecnologias do Gás para os Desafios da União Europeia da Energia e do Clima", European Parliament, Brussels, 13 March 2013
66. "A Economia Digital", European Parliament, Brussels, 19 March 2013
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105. "A Excelência na Investigação Europeia", European Parliament, Brussels, 16 October 2012
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107. "Competitividade regional e empreendedorismo na Europa", Gabinete do European Parliament em Portugal e European Commission, Faro, 19 October 2012
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- 138. " Reinforcing Research and Development - Horizon 2020", meeting of the EPP Group, Dubrovnik, 11 April 2013
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- 143. "O Horizonte 2020", IPO, Lisbon, 9 May 2013

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177. "Liderança Industrial e interdisciplinaridade", Copenhagen Business School CBS, Copenhagen, 27 September 2013
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179. "Stairway to excellence", European Parliament, Brussels, 2 October 2013
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2. "Investir no futuro: Bambino bonds", *Diário de Notícias*, 5 February 2010
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11. "Apoios europeus à ciência e inovação em debate", *Público*, 20 July 2010
12. "Agência Europeia de Segurança Marítima deve alargar competências", *Diário de Notícias*, 22 July 2010
13. "Os fundos estruturais e o emprego", *Diário do Alentejo*, 23 July 2010
14. "Um ano no Parlamento Europeu", *Diário do Alentejo*, 6 August 2010
15. "As cidades e as alterações climáticas", *Diário do Alentejo*, 20 August 2010
16. "A Juventude e o Primeiro Emprego", *Diário do Alentejo*, 3 September
17. "Simplification, Simplification, Simplification", *The Parliament Magazine*, 20 September 2010
18. "O Orçamento Europeu do pós-crise", *Diário do Alentejo*, 1 October 2010
19. "Timor Leste, oito anos de independência", *Diário do Alentejo*, 15 October 2010
20. "Para quando eleições justas e livres na Birmânia?", *Diário de Notícias*, 23 October 2010
21. "A Birmânia na encruzilhada", *Diário do Alentejo*, 29 October 2010
22. "Para uma Agência de Segurança Marítima com novas competências", *Diário do Alentejo*, 12 November 2010
23. "Sakineh Ashtiani sobreviveu", *Margem Sul*, 16 November 2010
24. "Urge simplificar o acesso aos fundos europeus no pós-crise", *Diário Económico*, 22 November 2010
25. "Trust and simplify", *Times Higher Education Magazine*, 25 November 2010
26. "A democracia é possível na Birmânia", *Diário de Notícias*, 27 November 2010
27. "Simplify, simplify!", *The Parliament Magazine*, 29 November 2010
28. "Expectativas para a COP16", *Diário do Alentejo*, 10 December 2010
29. "A Conferência de Cancún", *Margem Sul*, 11 December 2010
30. "Uma nova oportunidade na luta pelo clima", *Diário de Notícias*, 28 December 2010
31. "A saga dos activistas residentes", *Diário do Alentejo*, 31 December 2010
32. "Liberdade de escolha na saúde", *Diário do Alentejo*, 14 January 2011
33. "Ano Novo auspicioso para o clima", *Expresso*, 15 January 2011
34. "Por uma Europa da Saúde", *Diário de Notícias*, 26 January 2011
35. "No limiar da terceira revolução industrial", *Diário do Alentejo*, 18 February 2011
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41. "A importância do orçamento europeu para a região do Alentejo", *Diário do Alentejo*, 17 May 2011
42. "Uma oportunidade para o crescimento", *Diário de Notícias*, 20 May 2011
43. "Como dinamizar o crescimento", *Margem Sul*, 27 May 2011
44. "Orçamento e o Algarve", *O Algarve*, 10 June 2011
45. "O Financiamento do Ensino Superior e o Algarve", *O Algarve*, 16 June 2011
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48. "Ensino Superior - o desafio do financiamento", *Diário do Alentejo*, 21 June 2011
49. "The future EU Research and innovation programmes", *Science and Business*, 11 July 2011
50. "O futuro orçamento europeu para a ciência e inovação", *O Algarve*, 14 July 2011
51. "Um orçamento corajoso e inovador", *Diário de Notícias*, 26 July 2011
52. "European Parliament propõe o reforço da ciência e da inovação", *Diário do Alentejo*, 27 July 2011
53. "Um Plano Marshall para relançar a economia europeia", *O Algarve*, 12 August 2011
54. "Ciência e inovação europeias reforçadas", *Margem Sul*, 28 August 2011
55. "Plano Marshall Europeu", *Diário de Notícias* 06 September 2011
56. "Um plano europeu para o crescimento da economia", *Diário do Alentejo*, 9 September 2011
57. "O futuro orçamento europeu para a ciência e inovação", *O Algarve*, 16 September 2011
58. "Recordar o passado para ganhar o futuro", *O Algarve*, 1 October 2011
59. "A saída da Crise", *O Algarve*, 14 October 2011
60. "Finalmente um Plano Marshall europeu", *Diário de Notícias* 27 October 2011
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62. "Parcerias tecnológicas", *Diário Económico* 2 November 2011
63. "Europa tem novo plano Marshall", *Diário do Alentejo*, 4 November 2011
64. "Estratégia Europeia para o clima prevalece", *Diário de Notícias*, 12 December 2011
65. "O significado da Plataforma de Durban", *Agência Lusa*, 12 December 2011
66. "Durban", *O Algarve*, 23 December 2011
67. "A saga dos activistas residentes", *Diário do Alentejo*, 31 December 2011
68. "A verdadeira Primavera de Argel", *Diário de Notícias*, 16 January 2012
69. "A difícil primavera argelina", *Diário do Alentejo*, 27 January 2012
70. "A Primavera de Argel I", *O Algarve*, 27 January 2012
71. "A Primavera de Argel II", *O Algarve*, 3 February 2012
72. "Financiamento europeu pode dinamizar a economia", *Diário do Alentejo*, 3 March 2012
73. "Urge reprogramar, simplificar e executar o QREN", *O Algarve*, 3 March 2012
74. "União Europeia a uma só voz para a Energia", *Água e Ambiente*, 4 March 2012
75. "Recordar o passado para ganhar o futuro", *Diário de Notícias*, 15 March 2012

76. "Estratégia da União Europeia para a Energia e as Alterações Climáticas", *Planeta Azul*, 29 March 2012
77. "Inovação, competitividade, Crise e Europa 2020", *Eixo Atlântico Newsletter*, 20 June 2012
78. "A importância do novo quadro comunitário 2014-2020 para Portugal", *Espaço Global*, 11 June 2013
79. "Horizonte 2020", *Alentejo em linha*, 3 June 2013
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82. "O Alentejo e o novo Quadro Estratégico Europeu", *Diário do Alentejo*, 14 February 2013
83. "Algarve: Região em Transição", *Semanário O Algarve*, 14 February 2013
84. "Parceria UE-Cabo Verde", *GLOBO*, 12 February 2013
85. "COP18: Uma ponte para o futuro", *Diário de Notícias*, 12 December 2012
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88. "Horizonte 2020", *Climatização*, 3 September 2012
89. "Economia de Baixo Carbono", *Planeta Azul*, 30 August 2012
90. "A estratégia europeia para a energia e o clima", *Jornal I*, 31 July 2012
91. "O Futuro da Ciência", *PUBLICO*, 23 July 2012
92. "The Challenges Faced by Research and Innovation in Europe", *EPLO*, 12 April 2013
93. "Women in Science", *The Parliament Magazine*, 27 March 2012
94. "A importância do novo quadro comunitário 2014-2020 para Portugal", *Espaço Global*, 11 June 2013
95. "Horizonte 2020", *Diário de Notícias*, 28 June 2013
96. "Horizon 2020", *Pan European Networks*, 30 August 2013
97. "Estado da União: o elogio do crescimento", *Diário de Notícias*, 12 September 2013
98. "Stairway to Excellence", *The European Files*, 15 September 2013
99. "Horizonte 2020: um desafio e uma oportunidade", *Diário de Notícias*, 12 December 2013
100. "A posição única do Alentejo", *Jornal Negócios*, 19 December 2013
101. "EU Space Policy - A Driver for Growth", *The Parliament Magazine*, 21 January 2014
102. "Governo apoia ciência na transição entre quadros europeus", *Diário de Notícias*, 28 February 2014
103. "Horizonte 2020 - o futuro da ciência e da inovação na Europa", *Newsletter da PARSUK - Portuguese Association of Researchers and Students in the UK*, March 2014
104. "Boosting Energy Research and Innovation in Europe", in *European Energy Innovation*, Spring 2014
105. "Research and innovation in Europe for better international industrial competitiveness", *European Files Magazine*, February 2014
106. "Mudanças no ensino e na investigação em Portugal", *Técnico - Valores Próprios*, número especial dedicado aos 40 anos do 25 April de no Técnico, February 2014
107. "Portugal no centro da Europa", *Clube Europeu do Agrupamento de Escolas de Vilela*, em Pares, February 2014
108. "Entrevista a Maria da Graça Carvalho", *Vida! Magazine*, March 2014
109. "Entrevista a Maria da Graça Carvalho", *MEMO*, ESEnfC publication, March 2014

## **4.3 ACTIVITIES AND PUBLICATIONS AS PRINCIPAL ADVISOR IN BEPA - BUREAU OF EUROPEAN POLICY ADVISERS – EUROPEAN COMMISSION**

### **4.3.1 Conferences and Seminars**

- *Science and EU Decision-making*, in CER (Communicating European Research) Conference, Bruxelas, 14 and 15 November 2005.
- *The Renewed Lisbon Strategy and the Bologna Process*, in the Ceremony of CESPU Day (Cooperativa de Ensino Superior, Politécnico e Privado), "Processo de Bolonha um Desafio para a Europa", Porto, 15 November 2005.
- *Building Europe of Knowledge*, in the Conference "The Future of Knowledge: Evolutionary Challenges of the 21st Century", World Academy of Art and Science, ZAGREB, 19 and 20 November 2005.
- *Competitiveness and Sustainability*, in CEPI (Confederation of European Paper Industries) Annual Conference, Bruxelas, 1 December 2005.
- *Ethics and Epidemics*, in DG Research Workshop "Globalisation and New Epidemics: Ethics, Security and Policy Making", Brussels, 23 May 2006.
- *UTL in the European Higher Education*, in the I Congress of Universidade Técnica de Lisboa, "A UTL no Espaço de Ensino Superior Português e Europeu", Lisboa, 1 JJune 2006.
- Seminar IV Ciclo de Palestras Testemunhos/Referência, Universidade Lusíada de Lisboa, 2 June 2006.
- *Policy Making*, in the Workshop: Sustainability and the Science of Complexity, Brussels, 16 June 2006.
- *Green Book – Estratégia Europeia para uma Energia Sustentável, Competitiva e Segura*, in the 10<sup>a</sup> Conference Cogen Portugal, "Mercados de Energia", Lisbon, 7 November 2006.
- *Modernisation of Higher Education Institutions, in the Opening Session Session Solemn Opening of the Academic Year 2006/2007 Polytechnic Institute of Leiria*, November 22, 2006.
- *Innovation and the Lisbon agenda on seminar Wake up with Portugal, "Lisbon Agenda and Innovation"*, Brussels, 28 November 2006.
- *European Energy Strategy, the Transatlantic Conference on Renewable Energies*, Azores, 8 and 9 December 2006.
- *Implementing the Renewed Partnership for Growth and Jobs: - The European Institute of Technology in Amisa Breakfast Meeting*, Brussels, 11 January 2007.
- *The European Strategy for Energy Seminar in Simmons & Simmons Rebelo de Sousa, on "Lisbon Agenda and Innovation"*, Lisbon, January 16, 2007.
- *Economic Benefits and Competitive Application of BAT in the Information Session "Best Available Techniques (BAT) in Scheme Integrated Prevention and Pollution Control (IPPC)" and "Emerging Techniques and Candidates the Best Available Techniques (BAT) the Scheme of Integrated Prevention and Pollution Control (IPPC) - IST*, Lisbon, January 19, 2007.
- *Energy Policy in GeSI (Global e-Sustainability Initiative) Workshop, "Applying ICT-Based Solutions to Energy Efficiency Challenges"*, January 31, 2007.
- *European Energy Strategy. Opportunities and Challenges in AREAM Seminar (Regional Agency for Energy and Environment of the Autonomous Region of Madeira)*, Funchal, April 20, 2007.

- *Knowledge Society, Conference on "The Right to and rights in education - under the protection of the judge retrospection and future perspectives", Bruges, April 27, 2007.*
- *European Energy Strategy at the International Seminar "Hydrogen Economy and the Challenges of Sustainability", the Portuguese Association for the Promotion of Hydrogen, Osier, 7 and May 8, 2007.*
- *The Energy Strategy for Europe, the Directors Club Conference "Energy and Beyond", Lisbon, 10 and May 11, 2007.*
- *Global Perspective on further Priorities and Actions to Improve Capacity-Building in Research Ethics, the EC Conference, Ethics, Research and Globalisation, Europe and its Partners in Research Ethics Capacity Building, Brussels, 14 and 15 May 2007.*
- *European Institute of Technology, the General Assembly of the CLUSTER (Consortium Linking Universities of Science and Technology for Education and Research), Barcelona, May 18, 2007.*
- *7th Framework Programme, the Seminar Course Introduction to Entrepreneurship for Scientific and Technological Basis, "7th Framework Programme for Research and Technological Development of the EU: Opportunities for Entrepreneurship Scientific and Technological Base", Lisbon, May 17, 2007.*
- *Innovation in the final conference of the project "Space Planning Participated in Europe," Barreiro, 23 and May 24, 2007.*
- *European Strategy for Energy Association Seminar on Think Global, Civic Movement, Harbor, May 25, 2007.*
- *The Energy Strategy for Europe, the Conference on Sustainable Development of Energy, Water and Environment Systems, Dubrovnik 3 - June 7, 2007.*
- *Contribution of the Renewable Energy Sources in the Energy Mix-Azoren H2RES applying the Model to Terceira Island, in the Conference on Sustainable Development of Energy, Water and Environment Systems, Dubrovnik 3 - June 7, 2007.*
- *The GIS 3-D Modelling of MSW Collection with Optimisation of Fuel Consumption, in Conference on Sustainable Development of Energy, Water and Environment Systems, Dubrovnik 3 - June 7, 2007.*
- *Waste-to-Energy Island Communities, in Conference on Sustainable Development of Energy, Water and Environment Systems, Dubrovnik.*
- *Markets for Sustainable Construction, Second European Forum on Eco-innovation, "Markets for Sustainable Construction", Brussels, 11 and 12 June 2007.*
- *The Contribution of Education and Training to Social Inclusion and Social Integration, in Symposium on the Future Perspectives of European Education and Training for Growth, Jobs and Social Cohesion, Brussels, 19 and 20 June 2007.*
- *Research and Innovation at the University of Lisbon Convention, "Higher Education Reform", Lisbon, June 22, 2007.*
- *European Energy Strategy, the Day of the Department of Engineering and Natural Sciences Lusophone University of Humanities and Technologies, "European Energy Strategy", Lisbon, June 22, 2007.*
- *Cooperation in the Areas of Education, Science and Technology between the European institutions and Angolan, Universidade Agostinho Neto, Luanda, June 27, 2007.*
- *Taking Stock of Europe's Social Reality, MG Carvalho and Roger Liddle, Lisbon, UTL, September 17, 2007.*
- *The Energy Strategy for Europe, Materials Conference, Lisbon, 4-5 October, 2007*
- *The Energy Strategy for Europe, Conference on "Energy for Development 2007," Beja, 11 October, 2007.*

- *The Energy Strategy for Europe, EIC General Assembly Business Workshop on "Construction and Opportunities in the Field of Energy Efficiency & Renewable Energies", Cascais, 12 October, 2007.*
- *Academic Cooperation between Africa and Europe, International Workshop on Academic Cooperation between Europe and Africa, Lisbon, November 9, 2007.*
- Knowledge Society, Seminar in the University of Lisbon, December 14, 2007.
- *Higher Education and Scientific Research in Europe, Scientific Awards UTL / Santander Totta, IST, Lisbon, January 18, 2008.*
- *The EU Strategy Towards a Low Carbon Society, Connected Urban Development Conference, San Francisco, February 21, 2008.*
- *European Strategy for Energy and Climate Change, Renewable Energy III Conference, Lisbon, March 26, 2008.*
- Co-author with Ramon Marimon, Governance and Coordination of S & T Policies in the European Research Area, Ljubljana, March 27, 2008.
- *Plan for Promoting the Efficient Use of Electricity, ERSE, Centro Cultural de Belém, April 4, 2008.*
- *Bioenergy: Challenges and Opportunities, University of Minho, April 7, 2008.*
- *Climate Change at World Level, Lusophone University, Lisbon, April 8, 2008*
- *European Strategy for Energy and Climate Change, The Energy Sector in the National Panorama - Investments and Technologies, INETI, Lisbon, April 8, 2008.*
- *The EU Strategy Towards a Low Carbon Society Seminar on Consumers Rights, Harbor, April 12, 2008.*
- *Scenarios and Impacts of Climate Change, Mafra, 16 April 2008.*
- *Reform of Higher Education in Europe, Madeira Technopole, April 18, 2008.*
- *Twentieth Anniversary Celebration of the University of Madeira, Madeira, May 6, 2008.*
- *Energy and UTL, UTL, Lisbon, 19 Maio 2008*
- *The Role of Universities in Educating the Citizens of the Knowledge Society, Trento, May 30, 2008.*
- *The EU Strategy towards a Low Carbon Society and Consumers, Meeting on Energy and Consumers, Berlaymont, Brussels, 4 June 2008*
- *Celebration of the Day of the Instituto Superior Manuel Teixeira Gomes, Lusophone University, Lagos, June 14, 2008.*
- *EGE Roundtable: Ethics of Modern Developments in Agriculture Technologies, Brussels, June 18, 2008.*
- *Ambitech Azores 2008 - Expoconference Water, Waste, Energy and Cities, Ponta Delgad10 July 2008*
- *Construction of the European Research Area (ERA) – the example of the European Strategic Energy Technology Plan (Set-Plan), ESOF2008 Euroscience Open Forum, Barcelona, July 19, 2008*
- *The European Strategy for a Low Carbon Society, Cape Verde, 25-31 July 2008*
- *Europe of Knowledge - the Knowledge Society and the Role of Universities, Kazan Technical University Kazan, Russia, 25-28 August 2008*
- *European Research Area, DG RTD, Brussels, 12 September 2008*
- *ComplexEIT, 17 September 2008*
- *A Low Carbon Society in 2050, Agency Power, Cascais, 16 October 2008*

- *Towards a low carbon society in 2050 - The challenges for the transport sector, October 2008*
- *The European Strategy for a Low Carbon Society, Beja, 25 October 2008*
- *The European Strategy for a Low Carbon Society, Energy Commission, Portuguese Parliament, Lisbon, 27 October 2008*
- *Towards a low carbon society in 2050, Energy Forum, 31 October 2008*
- Release TV Energy, Portugal, November 10, 2008
- *Africa, Education and Development, International Cooperation Workshop Académica Europe-Africa to the knowledge society, Lisbon, November 10, 2008*
- *Biofuels and Innovation, International Biofuels Conference, Toronto, November 19, 2008*
- European Strategy for Energy, Zaragoza University, Zaragoza, November 26, 2008
- *Lisbon beyond 2010, CLUSTER, Brussels, 5 December 2008*
- *International Conference on New Challenges of the Portuguese Higher Education, FAP, Porto, 6 December 2008*
- *Lisbon beyond 2010, December 2008*

#### **4.3.2 Reports**

- *Globalisation of R&D, High Level Group of Commissioner Potocnik on Acknowledge for Growth, 2007*
- *Governance and Coordination of S&T Policies in the European Research Area, 2008*
- *Um Modelo de Desenvolvimento para a Universidade da Madeira, February 2008*
- *Um Modelo para a Organização da Área da Energia na UTL, February 2008*

#### **4.3.3 Notes and Interviews**

- *Technical Note on Biofuels, M.G. Carvalho, C. Hammarlund, M.J. Albernaz, July 1, 2007.*
- *Biocombustíveis, M.G. Carvalho, C. Hammarlund, M.J. Albernaz, V. Ferreira, L. Alves, July 1, 2007.*
- *The Bio-Ethanol Brazil Programme, M.G. Carvalho, C. Hammarlund, M.J. Albernaz, July 1, 2007.*
- *Biofuels - The European Union, M.G. Carvalho, C. Hammarlund, M.J. Albernaz, July 1, 2007.*
- *Biofuels - Markets, M.G. Carvalho, C. Hammarlund, M.J. Albernaz, July 1, 2007.*
- *Biofuels - USA, M.G. Carvalho, C. Hammarlund, M.J. Albernaz, July 1, 2007.*
- *Contributos para o Dicionário de Termos Europeus, European Commission, July 13, 2007.*
- *Energy, Climate Change and India, M.G. Carvalho, M.J. Albernaz, E. Fulekyova, November 23, 2007.*
- *Energy, Climate Change and China, M.G. Carvalho, M.J. Albernaz, E. Fulekyova, November 23, 2007.*
- *Energy, Climate Change - India and China: the three scenarios of the International Agency Energy Outlook 2007, M.G. Carvalho, E. Fulekyova, M.J. Albernaz, November 23, 2007.*
- *O Desafio do Hidrogénio, Entrevista a Quem é Quem, Revista EDP, November 2007.*

#### **4.3.4 Papers**

- *After Kyoto*, in BEPA Monthly Brief, M.G. Carvalho, C. Hammarlund, February 1, 2007.
- *Os Desafios da Estratégia Europeia para a Energia*, Jornal Água&Ambiente, edição especial de Agosto, 2007.
- *From Heiligendamm to Copenhagen*, in BEPA Monthly Brief, M.G. Carvalho, Issue 9, November 2007.
- *From Bali to Copenhagen*, in BEPA Monthly Brief, January, 2008.
- *Estratégia Europeia para a Energia e Alterações Climáticas*, in Revista Europa: Novas Fronteiras, nº 22, February 2008.
- *Investing in Youth: Bambini Bonds*, BEPA Monthly Brief - Issue 16, June 2008.
- *Cooperação Académica entre África e Europa*, in *Proceedings - Internacional Workshop on Cooperação Académica Europa-África para a Sociedade do Conhecimento*, Lisboa, June, 2008.
- *Progress towards the Lisbon objectives in education and training: indicators and benchmarks 2008*, BEPA Societal Brief - Issue N ° 3: EDUCATION, October 30, 2008
- *Higher education reforms in Europe and the emergence of knowledge conglomerates*, BEPA Societal Brief - Issue N ° 3: EDUCATION, October 30, 2008
- OVERVIEW by Maria da Graça Carvalho and Vitor Gaspar in BEPA Monthly Brief – Issue 21, Special issue on Energy, December, 2008

#### **4.3.5 Editorial Activity**

- BEPA Societal Brief - Issue N° 1: Special on HUNGARY, September 11, 2008
- BEPA Societal Brief - Issue N ° 2: MIGRATION, October 6, 2008
- BEPA Societal Brief - Issue N ° 3: EDUCATION, October 30, 2008
- BEPA Societal Brief - Issue N ° 4: FRANCE, November 7, 2008
- BEPA Societal Brief - Issue N ° 5: CULTURE, November 25, 2008
- BEPA Societal Brief - Issue N° 6: Special on Czech Republic, December 17, 2008
- BEPA Monthly Brief – Issue 21, Special issue on Energy, December, 2008

#### **4.3.6 Activity as Moderator**

- ""Environment, Transport and Sustainable Urban" Days in the Department of Engineering and Natural Sciences Lusophone University, Lisbon, May 19, 2006.
- Conference "Bologna and Inclusion in the Labour Market" Lusophone University, Lisbon, November 3, 2006.
- 10th Power Markets Conference, COGEN Portugal, Lisbon, 6 and 7 November 2006.
- Energy Conference Expo, Tagus Park, Oeiras, November 21, 2007.

### **4.4 ACTIVITY AS MINISTER FOR SCIENCE, INNOVATION AND HIGHER EDUCATION**

Over 115 speeches on Higher Education, Science and Education.

## **4.5 PATENTS**

- Registration of a copyright on a scientific work entitled: "3D VITRUM - Physically Based Three-Dimensional Model of Glass Furnaces - Computational Application".
- National Patent No. 101653 - registered by the Portuguese Instituto Nacional da Propriedade Industrial, in 1998: "Fluxímetro de Sopro – Instrumento para a Medição de Fluxos de Calor por Radiação e Convecção". Together with N. Martins, N. Afgan and A. Leontiev.