Manuel J. Blanco, Ph.D., Dr. Engr.

European Research Area Chair in
Solar Thermal Technologies for the Eastern Mediterranean
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Key experience

Thirty-six years of experience as a solar researcher and engineer, leading research teams and advancing the state-of-the-art of Concentrating Solar Thermal (CST) technologies. Expert on Thermodynamics, Heat Transfer, Optics, and Modelling of Energy Systems.

Full Professor with Tenure of the Cyprus Institute (CYI) and Holder of the European Research Area (ERA) Chair in Solar Thermal Technologies for the Eastern Mediterranean (ERA Chairs is a program of the European Commission (EC) devoted to bring "outstanding academics, with proven research excellence and management skills, to universities and research institutions in 'Widening' countries with potential for research excellence".) Current Vice-Chair and former Chair of the Executive Committee of SolarPACES, the Technology Collaboration Program of the International Energy Agency responsible for promoting the development and deployment of solar thermal power technologies and the solar-assisted manufacture of fuels and chemicals.

Earlier I served as Science Leader of the Solar Energy Systems Research Group of CSIRO (Australia's National Research Agency); Director of the Australian Solar Thermal Research Initiative (ASTRI) -a research program to increase the cost competitiveness of CST technologies, involving the participation of CSIRO, six Australian universities and three US Institutions (NREL, Sandia National Labs and Arizona State University); General Coordinator of EU-SOLARIS, an EC project whose goal was to carry out the preparatory activities needed to create an international organization to manage the CST research infrastructures of eleven European and Mediterranean research centres; Director of the Solar Thermal Energy Department of CENER, the National Renewable Energy Centre of Spain; Chair and Full Professor of the Engineering Department of the University of Texas at Brownsville; Director of the Plataforma Solar de Almería of CIEMAT -the largest European solar research infrastructure; and Principal Investigator of the EC SOLGAS and SIREC solar tower technology R&D projects, which paved the way towards PS10, the first commercial solar tower power plant.

Author of numerous scientific publications, and participation in a senior capacity in a large number of national and international expert groups and committees.

Education

School	Major	Degree	Year
University of Seville	Industrial Engineering	Doctor of Engineering	1996
University of Massachusetts Lowell	Applied Physics	Doctor of Philosophy	1993
University of Massachusetts Lowell	Energy Engineering	Master of Science	1988
University of Seville	Industrial Engineering	Master of Science	1985

Professional Registration

- Professional Engineer, member of the Official Association of Industrial Engineers of Western Andalusia (Spain) since 1994 (member no.: 1954)

Professional and Academic Experience

THE CYPRUS INSTITUTE

September 2016 – to date: European Research Area Chair in Solar Thermal Technologies for the Eastern Mediterranean and Full Professor with Tenure.

Responsibilities: The European Research Area (ERA) Chair in Solar Thermal Technologies for the Eastern Mediterranean (CySTEM – ERA Chair) project is one of the few selected ERA Chair projects awarded by the EC across Europe. As stated in the EC in its website, "the ERA Chairs is an important part of the EU's effort to unlock Europe's potential in research and innovation." It is a prestigious and ambition action funded under Horizon 2020.

The CySTEM ERA Chair project has the goal of enhancing the international standing of CYI Solar and Desalination (SED) Group to consolidate the group into a leader in the CST research field. It is a 5-year project with a total budget of €3.5 Million (including €2.5 Million from the EC), which started on 1 July 2015 and is scheduled to end on 30 June 2020.

Within the project, the main responsibilities of the ERA Chair are: to define a Scientific Work Program (SWP) that will substantially enhance the capabilities of the SED Group; to recruit internationally a team of outstanding researchers to assist him in the development of the program; and to develop the program, in close collaboration with the rest of the SED Group and CYI's Upper Administration.

Although the ERA Chair as a project has a duration of 5 years, as the ERA Chair holder, I was hired by CYI as Full Professor with Tenure and, therefore, I have a permanent professorial position at CYI.

Main accomplishments:

Working in close collaboration of CYI Upper Administration and the Human Resources Department, we managed to attract to the ERA Chair Research Team high caliber young researchers from prestigious international institutions, such as CSIRO, the Royal Institute of Technology (KTH) in Stockholm, or the University of Cambridge.

Under my leadership, the team has developed a comprehensive Scientific Work Program targeted to improve the modelling and testing capabilities of CYI's SED Group, and it is successfully implementing it. It has also successfully pass the EC Mid-Term Review of the project, and has provided a substantial boost to the scientific publications of the SED Group and has been instrumental in bringing and/or securing almost one million Euros in new research funding to CYI from the EC and the Cyprus Government.

In addition to carrying out research and capacity building activities, the ERA Chair Team, was instrumental in the organization at the end of 2018 of the International Conference CSP4Climate 2018, the first ever conference about the important role CST technologies can play in the decarbonization of the Energy Sector in the Eastern Mediterranean and the Middle East. This conference was a complete success both in terms of the quality and interest of the International Speakers and in terms of attendance in-person and on-line.

Some activities currently in progress under the framework of the ERA Chair CySTEM project are:

- The submission of two patent applications regarding drone-based airborne systems for improving the continuous monitoring of CST systems, particularly of solar tower systems.
- The upgrading of PROTEAS, the solar testing infrastructure of CYI near Pentakomo, with the following systems to enhance the capabilities of the infrastructure as a testing facility:
    - A solar radiation and meteorological station meeting the requirements to be part of the Baseline Solar Radiation Network (BSRN) of the World Meteorological Organization, which is the most important network of this kind world-wide.
    - A test bed for advanced flux measurement systems, which will initially host two flux measurement systems, a billboard-based and a moving-bar based system, but which is designed to host additional flux measurement systems and to allow their experimental comparison.
    - A swarm-of-drones based airborne system to characterize continuously and in detail the geometry of the reflecting surfaces of the heliostats of the PROTEAS heliostat field and to fully characterize and monitor the optical behavior of the field.
    - A high-flux test bed to enable solar thermal testing at very high flux levels (between 5 to 10 MW/m2) in order to facilitate solar chemistry and material research activities at PROTEAS.
- The extension of the PROTEAS heliostat field with 25 additional heliostat to increase its nominal potential and expand the scope of the tests that can be carried out at PROTEAS.
- The finalization of the first public release versions of the open source software programs that the CySTEM ERA Chair team is developing to assist in the design, analysis and optimization of CST systems, particularly solar tower systems.
- The organization of the International Conference CSP4Climate 2020, which will be the second conference ever about the important role CST technologies can play in the decarbonization of the Energy Sector in the Eastern Mediterranean and the Middle East.

The successful implementation of the aforementioned projects/tasks will multiply the impact of the project itself and it will increase its visibility. It will also assist in securing the long-term sustainability of the team, resulting in a great success story for the ERA Chair program.

COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANIZATION (CSIRO)

February 2013 – August 2016: ASTRI Programme Director and Science Leader of CSIRO's Solar Energy Systems Research Group.

Responsibilities: Strategic coordination, on behalf of CSIRO, of the Australian Solar Thermal Research Initiative (ASTRI), an 87 million dollars research program aimed to increase the cost competitiveness of CST technologies and to foster the growth of the CST industry in Australia through R&D. In addition to CSIRO, the execution of ASTRI involved the participation of six top Australian universities (Australian National University, University of Queensland, University of Adelaide, University of South Australia, Queensland University of Technology, and Flinders University) and three top US Institutions (NREL, Sandia National Labs and Arizona State University).

Main accomplishments: Under my direction, the ASTRI program progressed properly, submitting all program deliverables on time and getting its milestone reports approved. The post-doctoral researchers CSIRO had the obligation to contract were contracted and participated in the execution of ASTRI projects and in the drafting of articles that were submitted to international conferences and to peer-reviewed scientific journals.

Substantial progress was made in improving the program management procedures and its associated supporting tools, as well as in providing support to ASTRI participants in the appropriate way to use those tools within ASTRI. The Australian Renewable Energy Agency (ARENA), which funded the project, as well as the Australian Solar Industry were kept fully aware of how the ASTRI Program was being developed. A consistent program was designed and implemented to elicit their feedback and orientation with regard to the execution of the program.

The process to select ASTRI projects was continuously improved. After the first round of projects were awarded, a new, more structured and thorough process, to select the second round of ASTRI project was defined, developed and implemented. All second round projects were identified and awarded, the activities of ASTRI for the first four years of the project were fully programmed and budgeted, and the scope, goals, and deliverables of all ASTRI projects were fully aligned with the overall goals of the ASTRI research program. Because of all of these actions, ASTRI successfully passed on July 2016 the Mid-Term Review carried out, on behalf of ARENA, by an International Committee composed of well-known solar technologies experts from Australia, Europe and the USA, both from academia and industry.

SPAIN'S NATIONAL RENEWABLE ENERGY CENTRE (CENER)

June 2006 – January 2013: Director, Solar Thermal Energy Department.

Responsibilities: To start-up, develop, and manage CENER's Solar Thermal Energy Department. This responsibility included the definition and implementation of almost every aspect of the department business and operational models, and its integration with the corresponding CENER's institutional models: from the drafting of the department's strategic plans, to the detailed definition of the portfolio of R&D services

offered. It also included the definition and implementation of the strategies to achieve the economic, technical and scientific goals of the department.

Main accomplishments: Starting from scratch, in a relatively short span of time, I was able to create and expand the department until it reached twenty-four employees. I was also able to consolidate it at the international level as a high-added value R&D service provider in the CST technology field. I managed the department so that every year it achieved, just with minor deviations, the corresponding economic goals negotiated with CENER's Upper Administration. I successfully adapted it to the changes that from 2006 to 2013 underwent in Spain the policies in support of renewable energies, and to the changes that occurred at the international level, because of the global economic crisis.

THE UNIVERSITY OF TEXAS AT BROWNSVILLE (UTB)

Period	Department	Faculty rank	Position
08/26/06 - 10/26/06	Engineering	Full-Professor	Department Chair
01/01/05 – 08/25/06		Associate Professor	
01/01/03 – 12/31/05	Engineering Technology	Associate Professor	Department Chair
09/01/02 – 12/31/02			Faculty member

Responsibilities: To lead the department through a period of rapid transition, working with multiple internal and external stakeholders in issues ranging from accreditation to fund raising and the initiation and follow through of funded research activities. To teach senior courses in Thermodynamics and Heat Transfer; carry out specific research activities in the solar thermal energy field; and provide leadership and service to the Department of Engineering in issues relating to strategic planning, academic standards and accountability, departmental governance; curriculum and instruction; faculty and staff affairs; professional development; student affairs; external affairs; budget and resource management; operations; and internal control.

Main accomplishments: On January 1st, 2003, four months after I joined the Department of Engineering Technology, I was elected its Chair. During my tenure as Chair, I led the transformation of the Engineering Technology Department into a Department of Engineering, changed it from a barely sustainable mostly teaching department into one with a balanced and ambitious portfolio of research, teaching and service. We raised the enrolment and were able to secure external and institutional funding to embark students with great potential into research activities in several areas, notably in the solar field. Some of those students co-authored and received credit for their contributions to the elaboration of Tonatiuh, one of the industry standards in solar optical modelling, and several were able to present their work at national meetings.

At a more personal level, in August 2006, the University of Texas System approved my promotion from Associate Professor with Tenure to Full-Professor. In the research and consultancy area, I was able to secure a three year contract with the National

Renewable Energy Laboratory (NREL) to develop a computer tool for the optical simulation of solar concentrating systems, and a short but important consultancy contract with the Andalusian Energy Agency to provide technical expertise to the Government of Andalusia in Southern Spain, on the design and development of the Advanced Renewable Energy Technical Centre (CTAER), which was successfully implemented.

SPAIN'S RESEARCH CENTRE FOR ENERGY, ENVIRONMENT, AND TECHNOLOGY (CIEMAT)

November 1996 – January 2002: Director, Plataforma Solar de Almería (PSA).

Responsibilities: To manage the PSA -Europe's largest CST research centre. To represent Spain in the Steering Committee that supervises the execution of the "Spanish German Agreement for the Joint Use of the Plataforma Solar de Almería."

Main accomplishments: The transformation of the PSA from a Test Facility into a Research Centre. This transformation involved, among other things:

- The renegotiation in 1997 of the Spanish German Agreement for the Join Use of the PSA in terms much more favourable to the interest of Spain,
- The restructuring of the PSA research groups and the incorporation into the PSA organization of all Concentrating Solar Power and Solar Chemistry R&D Teams and Facilities located at CIEMAT's Headquarters in Madrid,
- The renegotiation with CIEMAT and the Spanish Ministry of Science and Education of their contributions to the financing of the PSA,
- The improvement, and streamline, of all PSA administrative procedures, as well as the modernization of the PSA information systems.
- The implementation of new policies to foster R&D activities, and to track and evaluate the advances achieved by the different groups in their specific research fields.

During the more than five years that I was Director of the PSA, I also was:

- Principal Investigator of the SIREC Project, one of the largest Spanish solar research project ever undertaken, with a budget for the years 2000-2001 of nearly three million U.S. Dollars.
- Scientific Director of the Colón Solar Project "Solar Group". This group, made up of INABENSA, AICIA, DLR and CIEMAT technical personnel, was in charge of defining the detailed engineering of the solar subsystem for the Colon Solar Project, the objective of which was the hybridization with solar energy solar of the Spanish utility Endesa's "Cristóbal Colón" power plant in Huelva (Spain).
- Alternate Representative of the Government of Spain and Head of Sector 3.2. "Facilities and Supporting Tools" in Task III "Solar Technology and Applications" of the International Energy Agency's SolarPACES Implementing Agreement, until April 2, 2000, when I was elected Executive Secretary of SolarPACES.
- Advisor to the Presidency of the Andalusian Government in matters of new and renewable energy technologies.

UNIVERSITY OF ALMERIA

October 1997 – September 2001: Part-Time Faculty member of the Department of Applied Physics.

Responsibilities: To develop and teach graduate level courses in Solar Energy and Heat Transfer of the Doctoral Degree Program in Applied Physics offered by the Applied Physics Department; supervise graduate physics and engineering students research projects; participate in energy-related research activities, and in other instruction and scholarly activities.

Main accomplishments: To increase the renewable energy content of the University of Almería Doctoral Degree Program in Applied Physics; foster R&D-related collaboration among several university departments and the Plataforma Solar de Almeria.

ANDALUSIAN ENERGY AGENCY (SODEAN)

November 1992 – October 1996: Consultant and Project Director.

Responsibilities: To provide consultancy services and to manage the development of energy projects for the Andalusian Energy Agency.

Main accomplishments: Among the activities carried out during this period the most outstanding were:

- Definition, organization and general coordination of the SOLGAS Project. The goal of this project was to carry out a feasibility study of a new solar thermal power tower concept as well as a market analysis of its potential for application in the Mediterranean area. In addition to SODEAN, Endesa (Spain), Electricidade de Portugal (Portugal), DLR (Germany), ABENGOA (Spain), INETI (Portugal) and ZSW (Germany) also participated in the project, which was partially funded by the EC.
- Evaluation of the potential direct solar irradiance at the site selected for the first SOLGAS power plant.
- Design and coordination, in collaboration with the International University of Andalusia (La Rábida Center) and the Andalusian Government President's Council, of a six-month Master's course in Renewable Energies for Latin-American students.
- Preparation, in collaboration with Endesa, of the basic engineering documents for the supply of process heat to the ERTISA factory (Huelva, Spain) by a SOLGAS-type solar plant.
- Senior involvement in international meetings, workshops, educational and training programs.

UNIVERSITY OF SEVILLE

January 1991 – September 1996: Assistant Professor, Department of Energy Engineering.

Responsibilities: To teach Classical Thermodynamics courses to junior level undergraduate engineering students; supervise graduate engineering students research projects; participate in energy-related research activities, and in other instruction and scholarly activities.

Main accomplishments: To contribute to the improvement of Classical Thermodynamics courses delivered by the department. To foster collaboration between the department and the Andalusian Energy Agency in the development and execution of solar energy-related EC funded projects.

STATE SOCIETY FOR THE UNIVERSAL EXPOSITION SEVILLA 1992 (EXPO'92)

Period	Position
09/01/89 - 10/01/92	Advisor to the President and Co-director of the Cartuja'93 Department
10/01/88 – 08/31/89	Director of the Innovation Program

Responsibilities: To advise the President of the Expo'92 State Society in matters related to the future use of the Universal Exposition's Pavilions, Facilities, and Infrastructures, after the exposition. To organize and manage the Cartuja'93 Department, which was the department in charge of the definition, promotion, and implementation of the Cartuja'93 technological park, built to reuse the Expo'92 installations, after the event. To manage the definition of the "Plan for Innovative Energy Applications in the Universal Exposition in Seville 1992" and to assist in its implementation.

Main accomplishments: The general coordination, on behalf of the Expo'92 State Society, of the study entitled "Andalusia and the New Technologies", and the edition of its Final Report. The goal of this two-year study was to analyze the potential influence of the new technologies on the economic development of the Andalusian region, and to define the technological, economic, and urban model of the Cartuja'93 technological park. Professors Manuel Castells and Peter Hall directed the study, with the participation of over twenty national and international professors and specialists in diverse scientific and technological disciplines. It culminated in the publication of the book entitled: "Andalusia: Economic development and technological innovation", Biblioteca de Economía. Series: Manuales. Espasa Calpe. Madrid 1992. ISBN 84-239-6321-7. This publication in particular, and the dissemination of the findings of the mentioned study at large, was instrumental in the public acceptance of the Cartuja'93 project.

The initiation of the negotiations that concluded in the acquisition by the Andalusian Government of the "Plaza de America" pavilion, one of the most emblematic, large,

and expensive pavilions of the State Society Expo'92, to relocate the Engineering School of the University of Seville –one of the five top Engineering Schools of Spain.

UNIVERSITY OF MASSACHUSETTS - LOWELL

December 1986 - February 1988: Fulbright Postdoctoral Scholar

Responsibilities: To carry out a research project in secondary concentrators for solar thermal tower systems under a Post-Doctoral US-Spain Fulbright Scholarship at the University of Massachusetts Lowell.

Main accomplishments: I finished the Fulbright research project properly and on schedule, and used it as the basis for my Thesis for the Master of Science in Energy Engineering. While at UMass, in addition to the Master, I also obtained a Ph.D. in Applied Physics. In addition, I co-authored the "Radiation Heat Transfer" chapter of the Handbook of Heat Transfer Special Topics, published in 1989 by the McGraw-Hill Book Company, joined the Computer Graphics research team of the Centre for Productivity Enhancement and contributed to the development of the Image Kernel System (IKS) -a software library for image processing. Furthermore, I provided consultancy services to the Spanish CIEMAT on the design, construction and testing of a secondary concentrator for the Plataforma Solar de Almería SSPS-CRS solar thermal central tower.

INTERNATIONAL ENERGY AGENGY – SSPS PROJECT

September 1983 – August 1985: Member of the IEA SSPS Project International Test and Evaluation Team (ITET)

Responsibilities: To contribute to the evaluation of the two Concentrating Solar Power plants erected at the Plataforma Solar de Almeria (Spain) within the framework of the International Energy Agency (IEA) Small Solar Systems Project (SSPS).

Main accomplishments: Initially contracted under a research scholarship of the German Aerospace Institute (DLR), and later as a research member of the AICIA-University of Seville, I participated in the evaluation of heliostat field and of the sodium receiver of the Central Receiver System (CRS) Plant of the SSPS Project. I was responsible for Task I (Heliostat Aiming Strategy) of the International Energy Agency's Small Solar Power Systems (SSPS) Project High Flux Experiment. I also carried out research on distributed collector solar systems; developed programs based on Artificial Intelligence techniques to control the power that the heliostat field delivers to the receiver; participated in the calibration and evaluation of the system to measure the flux distribution on the central receiver aperture; and in the characterization of direct solar irradiance data.

Other Academic Experience

[1] July 10 – August 9, 2012. International Scholar. Invited by the University of Colorado at Boulder and the College of Engineering & Applied Science to teach ECEN 5007 - Solar Thermal Power Plants offered through the Electrical Engineering Department.

[2] July – August 2011. International Scholar. Invited by the University of Colorado at Boulder and the College of Engineering & Applied Science to teach ECEN 5007/GEEN 4830- Solar Thermal Power Plants offered through the Electrical Engineering Department.

[3] September 1985 – November 1986. Teaching Assistant of the Department of Chemical and Nuclear Engineering and Research Assistance of the Centre for Productivity Enhancement of the University of Massachusetts at Lowell.

[4] September 1982 – August 1983, Research Assistant, Department of Energy Engineering, University of Seville (Spain).

Other Teaching Experience

[1] November 20 – 28, 2018. Third NESTER Winter School held at CYI in Nicosia, Cyprus. Third and final of a series of two-week Annual Schools on CST technologies that were delivered under the framework of the EC H2020 TWINNING NESTER (Networking for Excellence in Solar Thermal Energy Research) project. The school was organized by CYI in collaboration with four of the most prestigious Research Centres in Europe in this field: CIEMAT (Spain), CNRS (France), ENEA (Italy) and RWTH-Aachen (Germany). Participated as member of the Technical Committee defining the school and as a lecturer, delivering a 45 minutes lecture on the “Role of CST in the energy system of the future”; a 90 minutes lecture on the “Outlook on research and commercial projects – future perspectives”; a 90 minutes lecture on “Upper limits on the light collection and concentration subsystem of solar tower systems”; a 90-minute lecture on “High optical efficiency multi-receiver solar tower systems”.

[2] November 6 – 16, 2017. Second NESTER Winter School held at CYI in Nicosia, Cyprus. Participated both as member of the Technical Committee defining the conference.

[3] May 18 – 19 2017. SFERA Summer School on Modelling and Validation, held at DLR facilities in Alexanderplatz, Berlin, Germany. Invited by the event’s organizer, DLR’s Solar Institute, to deliver a 60-minute class on “Ray Tracing Simulations for CSP Applications based on the Open Source Code Tonatiuh”.

[4] November 7 – 17, 2016. First NESTER Winter School at CYI in Nicosia, Cyprus. Participated both as member of the Technical Committee defining the conference and as a lecturer, delivering a 90-minute class on “CSP Research Future Perspectives”.

[5] April 4 – 6, 2001. Speaker at the Seminar of the International University Menéndez Pelayo “Solar Electricity: Thermal and Photovoltaic”, lecturing on “R&D activities at: the Plataforma Solar de Almería”. Seville, Spain.

[6] November 23, 2000. Lecturer at the “1st Course on Renewable Energies”, organized by the University of Jaén, lecturing on “Solar Thermal Technologies. Medium and High Temperature Applications”. Andujar, Spain.

[7] August 20, 1999. Lecturer at the XIV Summer School on “Sources of Energy: Present and Future Perspectives”, organized by the University of Cantabria and the Laredo Town Council, lecturing on “R&D Strategies in Solar Thermal Energy”. Laredo, Spain.

[8] June 29, 1998. Speaker at the “Workshop on Renewable Energies, a sustainable energy strategy”, lecturing on “Technological Situation and Perspectives of Solar Energy”. Vitoria, Spain.

[9] April 3, 1998. Lecturer at the “1st Course on the Science Today: Science at the doors of the 21st Century”, organized by the Parque de las Ciencias and the University of Granada, lecturing on “Energy for the Future”. Granada, Spain.

[10] July 7 – 11, 1997. Speaker at the Seminar of the International University Menéndez Pelayo “Technological Developments in the Field of Energy”, lecturing on “The future of solar thermal energy: the Plataforma Solar de Almería”. Santander, Spain.

[11] July 7 – 11, 1997. Co-Director of the Summer School on “Renewable Energies and Cogeneration in Spain”, sponsored by the Foundation of the Universidad Complutense. Aguadulce, Almería, Spain.

[12] March 6 – 8, 1996. Lecturer at the “Course on Electricity Production with Renewable Energies”, organized by the CIEMAT’s Institute of Renewable Energies, lecturing on the “Production of Electricity with Solar Thermal Energy”. Madrid, Spain.

[13] January 8 – March 10, 1996. Lecturer at the “Master’s program on Renewable Energy Techniques in Engineering, Architecture and Agriculture”, organized by the Iberamerican Center of the International University of Andalusia, lecturing on “Solar Thermal Energy at Medium and Low Temperatures”. Santa María de la Rábida, Spain.

[14] May 8 – 11, 1995. Lecturer at the “Course on Electricity Production with Renewable Energies” organized by the CIEMAT’s Institute of Renewable Energies, lecturing on “Solar Thermal Energy”. Madrid, Spain.

[15] March 27 – 29, 1995. Speaker at the Seminar: “The Energy Challenge: Renewable Energies” for graduates of the Chemistry Faculty of the University of Seville, Seville, Spain.

[16] September 16 – 20, 1991. Secretary of the International University Menéndez Pelayo Course on: “The Technological Project at the Cartuja de Sevilla”. Seville, Spain.

[17] November 13, 1989 – March 30, 1990. Speaker at the session on “Renewable Energy Applications” organized by the Occupational Training Program of the European Social Fund Program. Seville, Spain.

[18] July 7 – 11, 1986. Lecturer at the Solar Thermal Power Course organized by the CIEMAT’s Institute for Energy Studies and Renewable Energies, lecturing on “High Temperature Solar Concentrating Systems”. Almería, Spain.

[19] September 23 – 27, 1985. Lecturer at the High-Temperature Solar Thermal Power Course organized by the CIEMAT’s Institute for Energy Studies and Renewable Energies, lecturing on “Simulation of Solar Concentrating Systems”.

Special Appointments

[1] February 3 – 5, 2020. Evaluation of the DLR Institute of Solar Research. Member of the International Panel of Experts in charge of the scientific review of the of the DLR Institute of Solar Research, on behalf of DLR. Jülich, Germany.

[2] February 14 – 16, 2018. Scientific Helmholtz Evaluation of DLR Energy Research. Member of the International Panel of Experts in charge of the scientific review of the research activities of the German Aerospace Centre (DLR) in the field of Energy, on behalf of the Helmholtz Association of German Research Centers (HGF). Stuttgart, Germany.

[3] October 2017 – to date. Vice-Chair of the Executive Committee of SolarPACES, the Technology Collaboration Program of the International Energy Agency devoted to foster the development and market penetration of Solar Power and Chemical Energy Systems.

[4] September 2011 – to September 2017. Chair of the Executive Committee of SolarPACES.

[5] September – November 2011. Consultant to the EC Directorate-General for Research to act as external reviewer in the SFERA Mid-term review. The SFERA research project, partially funded by the EC, is a project designed “to boost scientific collaboration among the leading European research institutions in solar concentrating systems, offering European research and industry access to the best research and test infrastructures and creating a virtual European laboratory”.

[6] 2011 – 2012. Member of the Advisory Committee of the Spanish Concentrating Solar Thermal Power (CSTP) Technology Platform “SOLAR CONCENTRA” and Coordinator of the R&D Working Group. This technology platform provides a framework for the Spanish CSTP stakeholders, led by industry and key technological research centres, to define research priorities and action plans.

[7] January 2010 – December 2012. Convener of the Renewable Energy Sources Group of the European Union (EU) – Gulf Cooperation Council (GCC) Clean Energy Network. The goal of this EU-GCC network is to improve the relations between the EU and GCC countries (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and United Arabs Emirates) through the development of structures and instruments suitable for cooperative activities of mutual interest in the field of clean energy technologies.

[8] 2010 – to 2013. Member of the Scientific and Technical Committee of ESTELA, the European Solar Thermal Industry Association.

[9] 2010. Research Evaluator of The Research Promotion Foundation (RPF) of Cyprus (founded by the Government of the Republic of Cyprus to promote research and innovation activities in the country) under the umbrella of the RPF's Framework Program for Research, Technological Development and Innovation to assist in the evaluation of research proposals.

[10] March 9 – 10, 2009. Member of the Panel of Experts in charge of reviewing the DOE Solar Energy Technologies Program.

[11] 2000 – 2001. Executive Secretary of SolarPACES.

[12] 1998 – 2001. Alternate Representative of the Government of Spain on the Executive Committee of SolarPACES.

[13] 1998 – 2000. Task 3.2 Sector Leader "Supporting Tools and Test Facilities" of the International Energy Agency Implementing Agreement on Solar Power and Chemical Energy Systems, SolarPACES.

[14] 1997 – 2002. Representative of the Government of Spain on the Steering Committee supervising the "Spanish – German Cooperation Agreement on the Co-operation in the Field of Solar Thermal Research, covering in particular the long-term Utilization of the Plataforma Solar de Almería".

[15] July 15, 1998 – February 26, 1999. Member of the Technology Commission of the President of the Andalusian Government Special Task Force "Andalusia on the New Century".

Participation in Conferences and Expert Groups

[1] February 11-13, 2020. "2nd General Assembly and 3rd Management Board Meeting of SFERA-III (Solar Facilities for the European Research Area - Third Phase) an EC H2020-INFRAIA-2018-1 project. ENEA Casaccia Research Centre, via Anguillarese 301, 00123 Rome, Italy. Participation as the representative of CYI in the project's consortium.

[2] October 5, 2019. "97th Meeting of the IEA/SolarPACES Executive Committee. EXCO Conference Center. Meeting room 314. Daegu, Republic of Korea. Participation as Vice-Chair of the SolarPACES Executive Committee.

[3] October 1 – 4 2019. “SolarPACES International Conference 2019”. EXCO Conference Center. 10 Exco-ro, Buk-gu. Daegu 41515. Korea. Participation as Chair of Session THU-4-C on “Software Tools for CSP Analysis and Simulation”.

[4] September 5 2019. Meeting of the EU-SOLARIS (The European Infrastructure for Concentrated Solar Thermal and Solar Chemistry Technologies) Board of Government Representatives. Building 1-Meeting Room C, CIEMAT. Avenida Complutense, 40, Madrid, Spain. Participation in representation of the Cyprus Government.

[5] August 1 2019. “2nd Management Board Meeting of SFERA-III”, Rudolf-Schulten-Straße 11, 52428 Jülich, Germany. Participation as representative of CYI in the project’s consortium.

[6] January 23 – 24 2019. “1st General Assembly and 1st Management Board Meeting of SFERA-III”, Plataforma Solar de Almeria, Ctra. de Senes. km 4.5, Tabernas, Almeria, Spain. Participation as representative of CYI in the project’s consortium.

[7] November 29 – December 1 2018. “CSP4Climate 2018 International Conference – The Decarbonization of the Energy Sector in the Mediterranean Region and Middle East. The Role of CSP.” CYI Novel Technologies Laboratory Building. Athalassa Campus, Nicosia, Cyprus. Participation as Co-Chair of the International Scientific Committee, Chair of the Local Organising Committee, and a Key Note Speaker in Session 1 – Welcome and keynote presentations, delivering a thirty minutes presentation on “The value proposition of Concentrating Solar Power (CSP) technologies”.

[8] October 16, 2018. “EC WIDENING DAY 2018”, Covent Garden – 16 place Rogier – 1210 Brussels. Participation as European Research Area (ERA) Chair.

[9] October 6, 2018. “95th Meeting of the IEA/SolarPACES Executive Committee”, Room Beausejour, Hyatt Regency Hotel, Casablanca, Morocco. Participation as Vice-Chair of the SolarPACES Executive Committee.

[10] October 2 – 5 2018. “SolarPACES International Conference 2018” Hyatt Regency Casablanca, Casablanca, Morocco. Participation as Chair of Session THU-3-B on “Software Tools for CSP Analysis and Simulation”.

[11] July 3 – 5 2018. "2nd Coordination Meeting of INSHIP (Integrating National Research Agendas on Solar Heat for Industrial Processes)” an EC H2020-LCE-2016-ERA project. CYI, Athalassa Campus, Nicosia, Cyprus.

[12] January 16 – 18 2018. 2nd General Assembly Meeting of INSHIP”, Hotel Das Weitzer, Grieskai 12-14, 8020 Graz, Austria. Participation as representative of CYI in the project’s consortium.

[13] November 8 2017. "EC Widening Days: Towards the creation of the WIDENING Community", Covent Garden – 16 place Rogier – 1210 Brussels, Belgium. Participation as ERA Chair.

[14] October 1, 2017. "93rd Meeting of the IEA/SolarPACES Executive Committee", Hotel Diego de Almagro. San Pedro de Atacama, Chile. Participation as Chair of the SolarPACES Executive Committee.

[15] September 26 – 29, 2017. "SolarPACES International Conference 2017" Hotel W Santiago. Santiago de Chile. Chile. Participation as Key Note Speaker at the plenary "Opening Session" delivering a presentation entitled "Overview of SolarPACES" and as Chair of Session WED-4-C on "Software Tools for CSP Analysis and Simulation".

[16] August 8 – 10 2017. "2017 China Solar Thermal Electricity Conference", Silk Road Yiyuan Hotel, Dunhuang, Gansu, China. Participation as a Key Note Speaker, delivering a presentation about "Advances in Concentrating Solar Thermal Research and Technology".

[17] June 20 – 22 2017. "1st Coordination Meeting of INSHIP. Fraunhofer Institute for Solar Energy Systems ISE, Heidenhofstr. 2, 79110 Freiburg, Germany. Participation as representative of CYI in the project's consortium.

[18] March 29 – 30 2017. "Seventy-first Meeting of the IEA Working Party on Renewable Energy Technologies (IEA/REWP)", French Ministry of the Environment, Energy and the Sea. 244, boulevard Saint-Germain, 7th arrondissement, Paris, France. Participation as Chair of the SolarPACES Executive Committee.

[19] Tuesday 28 March 2017. "Scaling-up renewables through decentralised energy solutions", invitation-only Workshop hosted by IEA/REWP. UIC-P Espaces Congrès, 16 rue Jean Rey, 15th arrondissement Paris, France.

[20] October 17 – 18 2016. "Seventieth Meeting of the IEA Working Party on Renewable Energy Technologies (IEA/REWP)". China National Renewable Energy Centre (CNREC). Beijing, China. Participation as Chair of the SolarPACES Executive Committee, presenting the End of Term report as well as the request for extension of the SolarPACES TCP.

[21] October 16 2016. "91st Meeting of the IEA/SolarPACES Executive Committee". Masdar City, Masdar Institute Multi Use Hall (MUH), Abu Dhabi, UAE. Participation as Chair of the SolarPACES Executive Committee.

[22] October 11 – 14 2016. "SolarPACES International Conference 2016" Jumeirah at Etihad Towers, Abu Dhabi, UAE. Participation as Key Note Speaker at the plenary "Opening Session" delivering a presentation entitled "Overview of SolarPACES".

[23] May 16 2016. CYI Colloquium. Participation as Speaker delivering a general public colloquium on "Mapping the Solar Tower Technology Research Landscape". CYI Guy Ourisson Building. Seminar Room, 1st Floor. Athalassa Campus. Nicosia, Cyprus.

[24] April 5 – 7 2016. "90th Meeting of the IEA/SolarPACES Executive Committee", Zurich, Switzerland. Participation as Chair of the SolarPACES Executive Committee.

[25] March 15 – 16 2016. “Sixty-Ninth Meeting of the IEA Working Party on Renewable Energy Technologies (IEA/REWP)”, IEA Secretariat (Room 2). 9 rue de Fédération, 15th arrondissement, Paris, France. Participation as Chair of the SolarPACES Executive Committee, delivering the Annual Brief from SolarPACES TCP.

[26] March 14 2016. “Renewable Energy Policies Post-COP21” invitation-only Workshop hosted by IEA/REWP. UIC-P Espaces Congrès. 16 rue Jean Rey, 15th arrondissement Paris, France.

[27] October 18 2015. “89 IEA/SolarPACES Executive Committee Meeting”, Cape Town, South Africa. Participation as Chair of the SolarPACES Executive Committee.

[28] October 13 – 16 2015. “SolarPACES International Conference 2015” Cape Town International Convention Centre, Cape Town, South Africa. Participation as Key Note Speaker at the plenary “Opening Session” delivering a presentation entitled “Overview of SolarPACES”.

[29] March 24. – 26 2015. “88 IEA/SolarPACES Executive Committee Meeting”, Rome, Italy. Participation as Chair of the SolarPACES Executive Committee.

[30] September 24 2014. “HYUNDAI E&C, Technical Forum 2014”, Seoul, Republic of Korea. Participation as Technical Session Speaker, delivering a presentation on “Solar Thermal Electricity”.

[31] September 21 2014. “87 IEA/SolarPACES Executive Committee Meeting”, Beijing, China. Participation as Chair of the SolarPACES Executive Committee.

[32] September 16-19, 2014. “SolarPACES International Conference 2014.” Beijing, China. Participation as Key Note Speaker at the plenary “Opening Session” delivering a presentation entitled “Overview of SolarPACES”

[33] May 8 – 9 2014. “2014 Solar Conference & Expo.” Melbourne, Australia. Participation as a Key Note Speaker, delivering a presentation entitled “Overview of R&D activities in Solar Thermal Electricity technologies worldwide” and as co-author of the technical article “Supercritical CO2 Systems for Concentrating Solar Power”.

[34] March 26 – 27 2014. “65th Meeting of the Working Party on Renewable Energy Technologies of the International Energy Agency”. Paris, France. Participation as Chair of the SolarPACES Executive Committee presenting the Medium-Term Report on the SolarPACES Implementing Agreement.

[35] March 11 – 13 2014. “86 IEA/SolarPACES Executive Committee Meeting”, Abu Dhabi, UAE. Participation as Chair of the SolarPACES Executive Committee.

[36] November 12 – 13 2013. “CSP Today Enhanced Plant Engineering 2013”, Seville, Spain. Participation as an Invited Speaker delivering a presentation entitled “Overview of R&D activities in tower technology worldwide” and as a moderator of several round tables.

[37] November 5 – 6 2013. “Third EU-Australia workshop on research infrastructure”, Shine Dome, Canberra. Australia. Participation as Co-Chair of the Clean Energy sessions.

[38] September 22 2013. “85 IEA/SolarPACES Executive Committee Meeting”, Las Vegas, Nevada, USA. Participation as Chair of the SolarPACES Executive Committee.

[39] September 17 – 20, 2013. “SolarPACES International Conference 2013.” Las Vegas, Nevada, USA. Participation as Key Note Speaker at the plenary session on “Global CSP Initiatives” delivering a presentation on “The Australian Solar Thermal Research Initiative (ASTRI)”.

[40] July 4 – 5, 2013. “EUROTHERM Seminar No. 98 on Concentrating Solar Energy Systems”. Vienna University of Technology, Vienna, Austria. Participation as Invited Speaker, delivering a presentation on “Australian Research Activities on Concentrating Solar Technologies.”

[41] May 23 – 24 2013. “Solar 2013 Conference and Exhibition.” Melbourne Exhibition Centre, Melbourne, Australia. Participation as Invited Speaker, delivering a presentation on “Solar Thermal’s Potential.”

[42] April 15 – 18, 2013. “84 IEA/SolarPACES Executive Committee Meeting”, Newcastle, Australia. Participation as Chair of the SolarPACES Executive Committee.

[43] February 7 – 8, 2013. “Solar Thermal Chemical and Industrial Processes Workshop”, the University of Adelaide. Adelaide, Australia. Participation as Invited Speaker, delivering a presentation on “Current status on CST technologies.”

[44] September 9 2012. “83 IEA/SolarPACES Executive Committee Meeting”, Marrakech, Morocco. Participation as Chair of the SolarPACES Executive Committee.

[45] May 17 2012. Forum “Enabling deployment of renewable energy in the Kingdom of Saudi Arabia” within the World Renewable Energy Forum 2012 of American Solar Energy Society. Denver, United States. Participation as Invited Speaker of the King Abdullah City for Atomic and Renewable Energy (K.A.CARE) speaking about “CSP Technologies, R&D Trends and its Impacts in CSP Deployment”.

[46] March 27 – 29, 2012. “82 IEA/SolarPACES Executive Committee Meeting”, Jerusalem and Rehovot, Israel. Participation as Chair of the SolarPACES Executive Committee.

[47] March 14 – 15, 2012. “Assessment of NREL Competitive Position on Concentrating Solar Power Task Force”. National Renewable Energy Laboratory. Golden, Colorado. Participation as one of the six Task Force members external to NREL.

[48] February 19 – 20 2012. Key Note Speaker at the “1st International Saudi Arabian Renewable Energy Conference” organized by the Center of Research Excellence in Renewable Energy (CoRE-RE) at King Fahd University of Petroleum & Minerals. Participation as Invited Speaker, lecturing on “Modelling, Analysis and Design of Concentrating Solar Thermal Power Plants”.

[49] November 30 2011. “First General Assembly of SOLAR CONCENTRA”. Seville, Spain. Participation as Coordinator of Working Group 4: Prioritization of R+D+I activities.

[50] November 22 – 23, 2011. “2011 International Workshop on Concentrated Solar Power”. Daegu. Korea. Participation as Chair of the Executive Committee of SolarPACES, providing an overview of the CSP industry in Europe.

[51] October 27 2011. “SOLAR CONCENTRA Steering Committee Meeting”. Madrid, Spain. Participation as a member of the Steering Committee.

[52] September 20 2011. “European Solar Thermal Electricity Association Scientific and Technical Committee Meeting (ESTELA-STC)”. Granada, Spain. Participation as member of the ESTELA-STC.

[53] September 18 2011. “81 IEA/SolarPACES ExCo Meeting”, Granada, Spain. Participation as a candidate to the position of Chair of the Executive Committee. Elected Chair of the SolarPACES ExCo.

[54] July 4 – 5, 2011. “General Meeting and Summer Workshop of the (ESTELA)”. Brussels, Belgium. Participation as a member of the EU-GCC Clean Energy Network to present the goals of the network and analyze possibilities of collaboration between the network and ESTELA.

[55] June 21 2011. “Kick-off meeting of SOLAR CONCENTRA”, Madrid, Spain. Participation as a member of the Steering Committee of this technological platform of the Spanish CSP sector, and as the Coordinator of Working Group 4: Prioritization of R+D+I activities.

[56] November 15 – 17 2006. “71 IEA/SolarPACES ExCo Meeting, Brussels, Belgium. Participation as a guest of the SolarPACES Executive Committee.

[57] May 8 – 9 2001. “60th IEA/SolarPACES ExCo Meeting, Cuernavaca, Mexico. Participation as Spanish SolarPACES Executive Committee Alternate Member.

[58] May 26 2000. “EUREC Workshop”, Petten, Netherlands, Participation as expert in Solar Thermal Power Stations.

[59] March 5 – 7 2000. “58th IEA/SolarPACES ExCo Meeting, Sydney, Australia, Participation as Spanish Alternate Member. Elected Executive Secretary.

[60] July 3 1999. “13th IEA/SolarPACES Task III: Solar Technology and Applications Meeting” Kibbutz Shefayim, Israel. Participation as Spanish National Representative and of Task 3.2 Sector leader: “Supporting Tools and Test Facilities”.

[61] June 29 – 30 1999. “56th IEA/SolarPACES ExCo Meeting, Kibbutz Shefayim, Israel. Participation as Spanish Alternate Member.

[62] March 14 1999. “IEA/SolarPACES Task III: Solar Technology and Applications Meeting” Sydney Australia. Participation as Spanish National Representative and of Task 3.2 Sector leader: “Supporting Tools and Test Facilities”.

[63] February 26 1999. “Foro Andalucía en el Nuevo Siglo”. Final Plenary Session, Sevilla, This expert forum, organized by personal initiative of the President of the Government of Andalusia, had the mandate of assessing key aspects of the Andalusian society and elaborate proposals for legal and other institutional measures to improve them, paving the way for a better future for the Andalusian region. The forum was divided in seven Commissions. Participation as a member of the Commission on New Technologies, within which contributed to the assessment of the Andalusian energy sector and to the elaboration of proposals for improvement. The assessment and proposals made special emphasis on the present status and potential for use of Renewable Energy Technologies to decrease the strong dependence of Andalusia on fossil fuel imports and to reduce the environmental impact of energy related activities in the region.

[64] January 15 1999. “Foro Andalucía en el Nuevo Siglo” Meeting of the Commission on a Technologically Advanced Andalusia, Malaga.

[65] October 23 1998. “Foro Andalucía en el Nuevo Siglo” Meeting of the Commission on a Technologically Advanced Andalusia, Seville.

[66] July 15 1998. “Foro Andalucía en el Nuevo Siglo” First Plenary Session, Seville.

[67] June 23 1998. “IEA/SolarPACES Task III National Representatives Meeting”, Centre National de la Recherche Scientifique. Institut de Science et de Génie des Matériaux et Procédés. Odeillo (France). Participation as Spanish National Representative.

[68] June 8 1998. “Opportunities for Independent Power Production with Solar Thermal Power Technology; A Workshop” Brussels, Belgium.

[69] March 2 – 4 1998. “11th IEA/SolarPACES Task I and III Meetings”. Aguadulce, Almería, Spain. Participation as speaker on “DISS” y “Colon Solar” projects in Task I and activities of Sector 3.2 “Supporting Tools and Test Facilities” in Task III.

[70] September 15 – 16, 1997. “10th IEA/SolarPACES Task I and III Meetings”. Albuquerque, New Mexico, USA. Participation as speaker on the advances made by the Colon Solar Project in Task I and activities of Sector 3.2 “Supporting Tools and Test Facilities” in Task III.

[71] May 7 – 8 1997. “Workshop para Generação Heliotérmica de Electricidade” held at CEPEL in Rio de Janeiro. Participation as speaker, member of the SolarPACES International Team of Experts.

[72] October 6 – 11 1996. “8th International Symposium on Solar Thermal Concentrating Technologies”. Cologne. Participation as invited speaker on “SOLGAS European Initiatives”.

[73] November 27 – 28 1995. “Solar Thermal Electricity Call for Offers. THERMIE 1995 - 1996. Call for Interest Meeting and Technology Prospective”. Aguadulce, Almería, Spain. Organized by the Commission of European Communities DG XVII, Thermie Program and the Plataforma Solar de Almería. Participation as speaker, with a representative of the Sevillana de Electricidad, on: “The Tower Technology. Development worldwide and possibilities in Europe”.

[74] November 22 – 25 1995. “European Conference on Renewable Energy Development”. Venice, Italy. Participation as speaker, as APAS-SOLGAS Project Coordinator, reporting on: “RENA-CT94-0043: Solgas - Hybrid Combined Cycle Cogeneration Plant Based on Central Receiver Technology. Status Report”.

[75] March 6 – 9 1995. “IEA/SolarPACES Task I: Electric Power Systems. Task I Meeting”. Paul Scherrer Institute. Villigen, Switzerland. Participation as speaker on: “SOLGAS Project Review”.

[76] February 3 1995. “APAS - Contractor’s Meeting of Contracts on wind / desalination and electricity production”. CRES, Pikermi, Athens, Greece. Organized by the Commission of the European Communities, Directorate General XII for Science, Research and Development. Participation as APAS - SOLGAS project coordinator.

[77] January 27 1995. “Solar Thermal Trough Power Plant Technology and its Transferability to the Mediterranean Region”. Institute for Prospective Technological Studies (IPTS) Seville, Spain. Workshop organized by the Commission of the European Communities, Directorate General XII. Participation as expert.

[78] September 26 – 30 1994. “7th International Symposium on Solar Thermal Concentrating Technologies”. Moscow, Russia. Participation as speaker on: “The SOLGAS Cogeneration Project: A Paradigm Shift of the Solar Thermal Industry”.

[79] September 24 1994. “IEA/SolarPACES Task I: Electric Power Systems. Task I Meeting”. Moscow, Russia. Participation as speaker on: “Spanish power tower project status”.

[80] May 2 – 6 1994. “Workshop on Renewable Sources of Energy”. United Nations. Economic Commission for Europe. Committee on Energy. Mojacar, Almería, Spain. Participation as speaker on: “The SOLGAS Cogeneration Project: A Paradigm Shift for the Solar Thermal Industry”.

[81] September 7 1992. “EUREKA DAY”. Seville, Spain. Organized by the Commission of the European Communities and the Ministry of Industry, Commerce and Tourism, with the collaboration of the State Society for the Universal Exposition Seville 1992. Participation as representative of the State Society for the Universal Exposition Seville, 1992.

[82] September 24 – 27 1991. “Ninth International PLEA Conference: Architecture and Urban Space”. Seville, Spain. Participation as Member of Organizing Committee; Vice-Chairman of the Urban Projects Session, a judge in the PLEA’91 Architecture Contest.

[83] April 25 1991. “Jornada sobre Planificación Estratégica y Desarrollo Regional”. Organized by the Regional Government of Gipuzkoa, San Sebastián, Spain. Participation as speaker on: “The Cartuja’93 Project”.

[84] September 12 1988. Workshop on Secondary Concentrators, DFVLR, Cologne-Porz, Germany. Participation as speaker on: “Optical Analysis of Secondary Concentrators”.

[85] November 2 – 5 1987. “Electronic Imaging’87. International Electronic Imaging Exposition and Conference”. World Trade Center, Boston, Massachusetts, USA. Participation as an Imaging Researcher of the Center for Productivity Enhancement of the University of Lowell, Massachusetts, presenting an image processing software package and another for simulation of robot work cells (virtual factory).

[86] June 23 – 27 1986. “Third International Workshop on Solar Thermal Receiver Systems”, Konstanz, Germany. Participation as speaker on several subjects.

[87] April 1985. “XXXIII International Congress of COMPLES”, Seville, Spain. Participation as speaker on “Control of the Power Sent to the Receiver”.

[88] October 15 – 18, 1984. “IEA/SSPS Deliverables Review”, Almería, Spain. Participation as speaker on several subjects.

Grants

[1] €3,499,375. Cyprus Solar Thermal Energy Chair for the Eastern Mediterranean (CySTEM). Awarded by the EC within the Horizon 2020 Framework Programme. Executed by CYI. Role: ERA Chair and Project Coordinator.

[2] $AU 87,300,000. Australian Solar Thermal Research Initiative (ASTRI). Awarded by the Australian Renewable Energy Agency (ARENA). Executed by CSIRO in collaboration with the Australian National University, The University of Adelaide, The University of Queensland, Queensland University of Technology, University of South Australia, and Flinders University. Role: Director of the research program. (November 2012 – November 2020).

[3] €6,000,000. EU-SOLARIS Preparatory Phase. Awarded by the EC within the 7 Framework Programme (FP7). Executed by a consortium of the following international research centres and organizations: the Advance Technology Centre for Renewable Energies (CTAER, Spain); the National Laboratory for Energy and Geology (LNEG, Portugal), the University of Evora (Portugal), the Centre for Energy, Environment and Technology Research (CIEMAT, Spain), the Spanish Ministry of Economy and Competitiveness (Spain), the Middle East Technical University (Turkey), Selcuk University (Turkey), and the European Solar Thermal Electricity Association (ESTELA, Belgium). Role: General coordinator of the project.

[4] €219,180. Analysis of the CSP potential in the ECOWAS region. Executed by CENER in partnership with ECREEE (ECOWAS Regional Centre for Renewable Energy and Energy Efficiency). Role: Principal Investigator. (November 2011 – December 2012).

[5] $1,480,438, Bankable feasibility study for a 200 MW Concentrating Solar Thermal Power Plant in Botswana. Awarded by the Botswana Power Corporation (BPC). Executed by CENER in partnership with Nixus Consulting and Training Services, Ltd., Ynfinity Engineering Services (YES) – WEIR, and Parsons Brinckerhoff (PB). Role: Team leader. (September 2011 – December 2012).

[6] €2,100,000, EU GCC Clean Energy Network, to improve the relations between the European Union (EU) and the Gulf Cooperation Council (GCC) through the development of structures and instruments suitable for cooperative activities of mutual interest in the field of clean energy technologies. Awarded by the EC. Executed by CENER in partnership with ICCS National Technical University of Athens ICCS – NTUA. Role: Convener of the Renewable Energy Sources Group (2010 – 2013).

[7] €113,900, a local study of capabilities to manufacture and supply components for development of CST power plants in India. Awarded by the Word Bank. Executed by CENER in partnership with Nixus Consulting and Training Services, Ltd., and Aqua Management Consulting Group Pvt Ltd. Role: Principal Investigator. (2010 – 2011).

[8] €53,000, Evaluation of the solar thermoelectric energy potential in Spain. Awarded by the Institute of Energy Diversification and Savings (IDAE) of the Spanish Ministry of Industry, Tourism and Trade. Executed by CENER in partnership with AICIA (Andalusian Association for Research and Industrial Cooperation) and IDOM Engineering Services. Role: Technical Director.

[9] €40,000, Technical advisory to A.T. Kearney in the drafting of the Solar Thermal Electricity 2025 road map. Contracted by A.T Kearney, in which in turn was awarded a contract by the European Solar Thermal Electricity Association (ESTELA). Executed by CENER's Solar Thermal Energy Department. Role: Senior Consultant. (2009 – 2010).

[10] $144,265, Tonatiuh: An object-oriented, distributed computing, Monte Carlo ray tracer for the design and simulation of solar concentrating devices. Awarded by the Department of Energy and the National Renewable Energy Laboratory (NREL) under the Minority University Research Associates (MURA) program. Executed by the Engineering Department of the University of Texas at Brownsville. Role: Principal Investigator. (2004-2008)

[11] $2,850,000, SIREC project, a technology development program for the new generation of central receiver systems components and concepts. Awarded by Spain's Inter-Ministry Commission of Science and Technology (CICYT) and the EC Regional Development Fund. Role: Principal investigator. (2000-2001)

[12] $1,196,000, Colon Solar Project, a CSTP demonstration project to integrate solar energy in a conventional power plant. Awarded by the EC's Directorate-General for Energy and Transport, Thermie Program. Role: Co-Principal Investigator. (1996-1998)

[13] $600,000, SOLGAS Project, a CSP demonstration project to design, build, and evaluate a hybrid combined cycle cogeneration plant based on central receiver technology. Awarded by the EC's Directorate-General for Science, Research, and Development. Role: Principal Investigator. (1995)

Publications

Journal articles (peer reviewed)

[1] Wang Y, D Potter, C-A Asselineau, C Corsi, M Wagner, C Caliot, B Piaud, M Blanco, J-S Kim, J Pye, "Verification of optical modelling of sunshape and surface slope error for concentrating solar power systems." Solar Energy, Vol. 195. January 1 2020, Pages 461-474. https://doi.org/10.1016/j.solener.2019.11.035.

[2] Bonanos, A M, M Faka, D Abate, S Hermon, and M J Blanco. "Heliostat Surface Shape Characterization for Accurate Flux Prediction." Renewable Energy, 2019, 30–40. https://doi.org/10.1016/j.renene.2019.04.051.

[3] Blanco, M., Constantinou, M., Grigoriev, V., Milidonis, K., Panagiotou, C.F., Papanicolas, C.N., Corsi, C., and Pye. J., "FluxTracer: A Ray Tracer Postprocessor to Assist in the Design and Optimization of Solar Concentrators and Receivers." Journal of Solar Energy Engineering, Transactions of the ASME 141, no. 2. April 1, 2019. https://doi.org/10.1115/1.4042127.

[4] Peruchena, C.F., M. Larrañeta, M. Blanco, and A. Bernardos. "High Frequency Generation of Coupled GHI and DNI Based on Clustered Dynamic Paths." Solar Energy 159 (2018). https://doi.org/10.1016/j.solener.2017.11.024.

[5] Blanco, M, Th. I Oikonomou, and V Drosou. "EU-SOLARIS: The European Infrastructure for Concentrated Solar Thermal and Solar Chemistry Technologies." Procedia Environmental Sciences 38 (2017): 485–91. https://doi.org/10.1016/j.proenv.2017.03.111.

[6] Navarro, A.A., L. Ramírez, P. Domínguez, M. Blanco, J. Polo, and E. Zarza. “Review and Validation of Solar Thermal Electricity Potential Methodologies.” Energy Conversion and Management, Vol.126, 15 October 2016, Pages 42-50. https://doi.org/10.1016/j.enconman.2016.07.070.

[7] Coventry, J., C. Andraka, J. Pye, M. Blanco, and J. Fisher. “A Review of Sodium Receiver Technologies for Central Receiver Solar Power Plants.” Solar Energy 122 (2015). https://doi.org/10.1016/j.solener.2015.09.023.

[8] Fernández-Peruchena C.M., Gastón M., Sánchez, M., García-Barberena, J., Blanco M., Bernardos A., “MUS: A multiscale stochastic model for generating plausible meteorological years designed for multiyear solar energy yield simulations”, Solar Energy. Vol. 120, October 2015. Elsevier Science Ltd. Pages 244-256. https://doi.org/10.1016/j.solener.2015.07.037.

[9] Fernández-Peruchena C.M., Blanco M., Gastón M., Bernardos A., “Increasing the temporal resolution of direct normal solar irradiance series in different climatic zones”, Solar Energy. Vol. 115. May 2015. Elsevier Science Ltd. Pages 255-263. https://doi.org/10.1016/j.solener.2015.02.017.

[10] García-Barberena J., Garcia P., Sanchez M., Blanco M., Lasheras C., Padrós A., Arraiza J. “Analysis of the influence of operational strategies in plant performance using SIMULCET, simulation software for parabolic trough power plants.” Solar Energy, Vol. 86, Num. 1, January 2012. Elsevier Science Ltd. pp. 53-63. https://doi.org/10.1016/j.solener.2011.09.018.

[11] Blanco, M., Martin, J.G., Alarcón-Padilla, D.C. “Theoretical efficiencies of angular-selective non-concentrating solar thermal systems.” Solar Energy, Vol. 76, Num. 6. 2004. Elsevier Science Ltd. pp. 683-691. https://doi.org/10.1016/j.solener.2004.01.005.

[12] Blanco, M., Alarcón, D., López, T., Lara, M. “Computing the Solar Vector.” Solar Energy Vol. 70, No. 5, 2001. Elsevier Science Ltd. pp. 431-441. https://doi.org/10.1016/S0038-092X(00)00156-0.

[13] Romero, M., Marcos, M.J., Téllez, F.M., Blanco, M., Fernández, V., Baonza, F. and Berger, S. “Distributed Power from Solar Tower Systems: A MIUS Approach.” Solar Energy, Vol. 67, 1999. Elsevier Science Ltd. pp. 249-264. https://doi.org/10.1016/S0038-092X(00)00059-1.

[14] Ruiz, V., Blanco, M. and Silva M. “Las centrales energéticas termosolares.” Energía, no. 6, November/December 1999, pp. 47-55.

[15] Monterreal, R., Blanco, M., Alarcón, D. and Ballestrín, J. “Caracterización del helióstato Colón-Solar.” Energía, no. 6, November/December 1999, pp. 80-87.

[16] De Lara, A., Corrochano, D., Ruiz, V., Blanco, M. and Silva, M. Integration of Solar Thermal Energy in a Conventional Power Plant: The Colon Solar Project, 9th International Symposium on Solar Thermal Concentrating Technologies, Odeillo – Font-Romeu (France), June 22 – 26, 1998 in Proceedings, Journal de Physique IV, Vol. 9(3), 1999, pp.189-194. https://doi.org/10.1051/jp4:1999328.

[17] Gómez, C. and Blanco, M. “Estimación de la Atmósfera Estándar de Radiación Solar a partir del Concepto de Día Claro Envolvente”; Aplicación a la Plataforma Solar de Almería, Era Solar, no. 40, January-February, 1990. pp. 11-14.

Books and book chapters

[1] Blanco, M.J., and L.R. Santigosa. (Editors). Advances in Concentrating Solar Thermal Research and Technology. First Edition. Woodhead Publishing (Elsevier), 2017. https://doi.org/10.1016/B978-0-08-100516-3.00001-0.

[2] Blanco, M.J., and S. Miller. “Introduction to Concentrating Solar Thermal (CST) Technologies.” In Advances in Concentrating Solar Thermal Research and Technology, edited by Manuel J. Blanco and Lourdes Ramirez, 3–25. Woodhead Publishing (Elsevier), 2016. https://doi.org/10.1016/B978-0-08-100516-3.00001-0.

[3] Hennecke, K., Hoffschmidt, B., Meinecke, W., Blanco, A. Solar Process Heat, Chapter 10 of the book “The Future for Renewable Energy 2. Prospects and Directions”. EUREC Agency. James & James (Science Publishers) Ltd. London. 2002. ISBN: 1 902916 31 X. pp. 222-230.

[4] Becker, M., Meinecke, W., Geyer, M., Trieb, F., Blanco, M., Romero, M., Ferrière, A. “Solar Thermal Power Plants.” Chapter 5 of the book “The Future for Renewable Energy 2. Prospects and Directions”. EUREC Agency. James & James (Science Publishers) Ltd. London. 2002. ISBN: 1 902916 31 X. pp. 115-137.

[5] Romero, M, Zarza, E. and Blanco, M. “Centrales Eléctricas Termosolares.” Chapter 14 of the book “Tecnologías energéticas e impacto ambiental”. McGraw-Hill Professional, 2001. ISBN: 84-481-3360-9. pp. 259-282.

[6] Blanco, M. Plataforma Solar de Almería. Annual Technical Report 1998. (ed.) Almería, August 1999. ISBN: 238-99-027-0.

[7] Rojo, J.A., Mencía, F., Abellán, E., Aracil, J., Aranda, P., Arbona, P., Barragán, J.A., Benjumea, F., Blanco, M, et alter. “Andalucía una sociedad tecnológicamente avanzada.” Foro Andalucía en el Nuevo Siglo, Pascual A. (Editor). President Office of the Andalusian Government, Seville, February 1999. ISBN: 84-87004-53-9, pp. 285 – 334.

[8] Blanco, M., López, A. and Milow, B. “Plataforma Solar de Almería. Annual Technical Report 1996.” (ed.) Almería, June 1997. ISBN: 84-7834-316-4.

[9] Ruiz, V. and Blanco, M. “Energías Renovables, Andalucía: innovación tecnológica y desarrollo económico.” Ed., M. Castells, P. Hall, et al. Biblioteca de Economía. Serie Manuales. Editorial Espasa Calpe. Madrid 1992. ISBN 84-239-6321-7 (O.C.). pp. 683-710.

[10] Martín, J.G. and Blanco, M. Radiation Heat Transfer, in. Handbook of Applied Thermal Design, Guyer, G. (ed.), McGraw-Hill Book Company, 1988. ISBN 0-07-025353-6. pp. 1-85 – 1-102.

[11] Blanco, M. Heliostat Selection for Certain Peak / Power Levels, The IEA / SSPS High Flux Experiment. Testing the Advanced Sodium Receiver at Heat Fluxes up to 2.5 MW / m2, Schiel, W., Geyer, M. and Carmona, R. (Ed.). Springer-Verlag, New York Heidelberg Berlin, 1987. ISBN 0-387-18224-1. pp. 49-55.

[12] Blanco, M., Carmona, R. and Silva, M. Determination of Feasible Peak and Power Levels, The IEA / SSPS High Flux Experiment. Testing the Advanced Sodium Receiver at Heat Fluxes up to 2.5 MW/m2. Shiel, W., Geyer, M. and Carmona, R. (ed.), Springer-Verlag, New York Heidelberg Berlin, 1987. ISBN 0-387-18224-1. pp.56-65.

[13] Blanco, M. and Silva, M. Evaluation and Qualification of the HFD Bar, The IEA / SSPS High Flux Experiment. Testing the Advanced Sodium Receiver at Heat Fluxes up to 2.5 MW / m2, Shiel, W., Geyer, M. and Carmona, R. (Ed.). Springer-Verlag, New York Heidelberg Berlin, 1987. ISBN 0-387-18224-1. pp. 66-71.

[14] Gregory, N., Wattiez, P. and Blanco, M., Plant History and Operation: 1981 – 1984, The IEA / SSPS Solar Thermal Power Plants - Facts and Figures - Final Report of the International Test and Evaluation Team (ITET). (ed.) Kesselring, P. and Selvage, C. S., Springer-Verlag New York Heidelberg Berlin Tokyo. 1986 ISBN 0-387-16148-1. pp. 3.1-1 – 3.1-33.

[15] Benedetti, A. de and Blanco, M. ASR Performances: Comparison with Simulation, The IEA / SSPS Solar Thermal Power Plants - Facts and Figures - Final Report of the International Test and Evaluation Team (ITET). (Ed.). P. Kesselrin and C. S. Selvage Springer-Verlag New York Heidelberg Berlin Tokyo. 1986 ISBN 0-387-16148-1. pp. 5.7-1 – 5.7-37.

[16] Sánchez, M. and Blanco, M. Tracking: Control of Incident Power at Receiver, The IEA / SSPS Solar Thermal Power Plants - Facts and Figures - Final Report of the International Test and Evaluation Team (ITET). (ed.) Kesselring, P. and Selvage, C. S., Springer-Verlag, New York Heidelberg Berlin Tokyo, 1986 ISBN 0-387-16148-1.

Conference Proceedings (peer reviewed)

[1] Blanco, M., M. Constantinou, C. Corsi, V. Grigoriev, K. Milidonis, C.F. Panagiotou, C.N Papanicolas, J. Pye, and E. Votyakov. “Analysis of the Focal Region of the Heliostat Field of the ASTRI Reference Plant with FluxTracer” 24rd International Conference on Concentrating Solar Power and Chemical Energy Systems, SolarPACES 2018; Casablanca, Morocco; October 2-5; Code 141990. AIP Conference Proceedings 2126, no. 1 (July 28, 2019): 170001–2. https://aip.scitation.org/doi/pdf/10.1063/1.5117672.

[2] Corbett, D.R., M Blanco, A M Bonanos, M C Georgiou, C N Papanicolas, C Roussos, E Stiliaris, K Stokos, and E Votyakov. “Object Oriented Modelling of the CSP-DSW Facility.” 24rd International Conference on Concentrating Solar Power and Chemical Energy Systems, SolarPACES 2018; Casablanca, Morocco; October 2-5; Code 141990. AIP Conference Proceedings 2126, no. 1 (July 28, 2019): 30011–16. https://aip.scitation.org/doi/pdf/10.1063/1.5117528.

[3] Loureiro, Tatiana, Raymond Sterling, Claudio Testani, Elena Torralba-Calleja, Luca Turchetti, Manuel Blanco, Alain Ferriere, and Fabrizio Perrotta. “Next Generation of Concentrated Solar Power Technologies.” Proceedings 20(1), 7; MDPI AG, (July 22, 2019). https://doi.org/10.3390/proceedings2019020007.

[4] Corsi, C, J Pye, J.-S. Kim, and M Blanco. “Point-Focus Multi-Receiver Fresnel Loop - Exploring Ways to Increase the Optical Efficiency of Solar Tower Systems.” 23rd International Conference on Concentrating Solar Power and Chemical Energy Systems, SolarPACES 2017; Santiago; Chile; September 26 - 29 2017. AIP Conference Proceedings, 2033 (November 8, 2018). https://aip.scitation.org/doi/pdf/10.1063/1.5067165.

[5] Bonanos, A.M., M Faka, D Abate, S Hermon, and M J Blanco. “Optical Characterization of Heliostats Using Multiple 3D Geometry Characterization Sensors.” 23rd International Conference on Concentrating Solar Power and Chemical Energy Systems, SolarPACES 2017, Santiago; Chile; September 26 - 29 2017. AIP Conference Proceedings, 2033 (November 8, 2018). https://doi.org/10.1063/1.5067044.

[6] Wang, Y, C.-A. Asselineau, J Pye, D Potter, C Corsi, J.-S. Kim, M Wagner, and M Blanco. “Comparison of Optical Modelling Tools for Sunshape and Surface Slope Error.” 23rd International Conference on Concentrating Solar Power and Chemical Energy Systems, SolarPACES 2017, Santiago; Chile; September 26 - 29 2017. AIP Conference Proceedings, 2033 (November 8, 2018). https://doi.org/10.1063/1.5067222.

[7] Blanco, M, E Votyakov, C Christou, C N Papanicolas, C Corsi, and J Pye. “FluxTracer -a 3d-Partitioning and Radiant Flux Computer Tool to Analyse the Optical Behaviour of Light Collection and Concentration Subsystems Using High Performance Computers.” In ASME 2018 12th International Conference on Energy Sustainability, ES 2018. American Society of Mechanical Engineers (ASME), 2018. https://doi.org/10.1115/ES2018-7415.

[8] Corsi C, M Blanco, J-S Kim, J Pye, “Upper Limits to the Annual Optical Efficiency of Solar Tower Systems”, Proceedings of ECOS 2018 - 31st International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems, Guimaraes, Portugal. June 17 - 21, 2018.

[9] Nielsen, K.P., F. Vignola, L. Ramírez, P. Blanc, R. Meyer, and M. Blanco. “Excerpts from the Report: ‘Beyond TMY - Meteorological Data Sets for CSP/STE Performance Simulations.’” 22nd International Conference on Concentrating Solar Power and Chemical Energy Systems, SolarPACES 2016. Abu Dhabi, United Arab Emirates. AIP Conference Proceedings 1850 (June 27, 2017). https://doi.org/10.1063/1.4984525.

[10] Grigoriev, V., C. Corsi, and M. Blanco. “Fourier Sampling of Sun Path for Applications in Solar Energy.” 21st International Conference on Concentrating Solar Power and Chemical Energy Systems, SolarPACES 2015, Cape Town; South Africa; October 13 - 16 2015. AIP Conference Proceedings, 1734 (May 31, 2016). https://doi.org/10.1063/1.4949032.

[11] Coventry, J, M Arjomandi, J Barry, M Blanco, G Burgess, J Campbell, P Connor, et al. “Development of the ASTRI Heliostat.” 21st International Conference on Concentrating Solar Power and Chemical Energy Systems, SolarPACES 2015, Cape Town; South Africa; October 13 - 16 2015. AIP Conference Proceedings 1734 (May 31, 2016). https://doi.org/10.1063/1.4949029.

[12] Corsi C, V Grigoriev, M Blanco, “Far-field optimisation of heliostat shape and spacings.” 2015 Asia-Pacific Solar Research Conference. http://apvi.org.au/solar-research-conference/wp-content/uploads/2016/01/C-Corsi_Peer-Reviewed_FINAL.pdf

[13] Fernández-Peruchena C.M., Blanco M., Bernardos A., “Increasing the temporal resolution of Direct Normal Solar Irradiance series in a desert location”, Energy Procedia 69, May 2015, Pages 1981-1988. Proceedings of the SolarPACES 2014 International Conference. Beijing, September 16-19, 2014. https://doi.org/10.1016/j.egypro.2015.03.199.

[14] H Guregenci, W Stein, A Beath, M Blanco, E Sauret, “The case for supercritical CO2 radial turbine development within the Australian Solar Thermal Research Initiative (ASTRI) program.” Proceedings of the 52nd Annual Conference, Australian Solar Energy Society (Australian Solar Council), Melbourne, Australia. May 2014.

[15] Fernández-Peruchena C.M., Blanco M., Bernardos A., “Generation of Series of High Frequency DNI Years Consistent with Annual and Monthly Long-term Averages using Measured DNI Data”, Energy Procedia 49, 2014, Page 2321-2329. Proceedings of the SolarPACES 2013 International Conference. Las Vegas, September 17-20, 2013. https://doi.org/10.1016/j.egypro.2014.03.246.

[16] Blanco M., Sánchez M., García-Barberena J., Monreal A., “The Potential for Cost Reduction of Solar Towers with Decoupled Combined Cycles”, SolarPACES International Conference 2012. Marrakech, Morocco, September 11-14, 2012.

[17] Gastón M., Pagola I., Blanco M., “A New Approach for Creating Solar Radiation Maps Combining Numerical Weather Prediction Models, Ground Measurement and Satellite Images Using Learning Machines”, SolarPACES International Conference 2012. Marrakech, Morocco, September 11-14, 2012.

[18] Eck, M, T Hirsch, C Ho, J Garcia-Barberena, J Dersch, N Janotte, R Meyer, P Stukenbrock, M Wagner, B Westphal, M Blanco, J-I Burgaleta, “Developing guidelines for the yield analysis of solar thermal power plants - current status of the SolarPACES project guiSmo.” SolarPACES International Conference 2012. Marrakech, Morocco, September 11-14, 2012.

[19] Blanco M., Mutuberria A., Monreal A., Albert R. “Results of the Empirical Validation of Tonatiuh at Mini-Pegase CNRS-PROMES Facility” Proceedings. 17th SolarPACES International Conference, Granada, Spain. September 20–23, 2011.

[20] Eck M., Barroso H., Blanco M., et al. “guiSmo: Guidelines for CSP performance modelling – Present status of the SolarPACES Task-1 project.” Proceedings. 17th SolarPACES International Conference, Granada, Spain. September 20–23, 2011.

[21] Hirsch, T., Eck, Blanco M., et al., “Standardization of CSP performance model projection – Latest results from the Guismo project”, ASME 5th International Conference on Energy Sustainability. Washington, DC. August 07-10, 2011. https://doi.org/10.1115/ES2011-54478.

[22] Blanco M., Mutuberria A., Martinez D., “Experimental validation of Tonatiuh using the Plataforma Solar de Almería secondary concentrator test campaign data”, SolarPACES 2010, September 21-24, 2010.

[23] Fernández-Peruchena C., Ramírez L., Blanco M., Bernardos A., “Variability in global and direct irradiation series generation: scope and limitations”, SolarPACES 2010, September 21-24, 2010.

[24] Fernández-Peruchena C., Blanco M., Ramírez L., Bernardos A., “Synthetic generation of monthly irradiation series from long term values of monthly KT”, SolarPACES 2010, September 21-24, 2010.

[25] Pagola I., Salbidegoitia I., Ramírez L., Blanco M., “Comparison of measured and estimated linke turbidity factors in Spain”, SolarPACES 2010, September 21-24, 2010.

[26] Garcia P., Sánchez M., Blanco M., Valenzuela L., “Validation of a dynamic model for direct steam generation in parabolic troughs using data from the DISS installation”, SolarPACES 2010, September 21-24, 2010.

[27] Blanco M., Mutuberria A., Garcia P., Gastesi R., Martin V., “Preliminary validation of Tonatiuh”, Symposium SolarPACES 2009, September 15-18, 2009.

[28] Sánchez M., Pérez I., Mutuberria A., Blanco M., Villasantes C., Gutiérrez A., “Characterization of solar collector for electricity production by software enhanced laser tracking techniques”. Symposium SolarPACES 2009, September 15-18, 2009.

[29] Gastesi R., Bernad, I. Olano, X. Ramírez L., Blanco M., “The radiometric station of CENER (Pamplona, Spain). BSRN Station”, Symposium SolarPACES 2009, September 15-18, 2009.

[30] García-Barberena J., Garcia P., Sánchez M., Blanco M., Lasheras C., Padrós A., Arraiza J., “Analysis of the influence of operational strategies in plant performance using SIMUCET©, a simulation software for parabolic trough power plants”, Symposium SolarPACES 2009, September 15-18, 2009.

[31] Garcia P., Mutuberria A., García-Barberena J., Sánchez M., Blanco M., Lasheras C., Padrós A., Arraiza J., “Validation of DINACET computational scheme using Nevada solar one power plant data”, Symposium SolarPACES 2009, September 15-18, 2009.

[32] Gastón M., Lorenz E., Lozano S., Heienmann D., Blanco M., Ramírez L., “Comparison of global irradiance forecasting approaches”, Symposium SolarPACES 2009, September 15-18, 2009.

[33] Blanco, M. Amieva, J. Mancillas, A. “The Tonatiuh Software Development Project: An Open Source Approach to the Simulation of Solar Concentrating Systems”. Proceedings of the 2005 ASME International Mechanical Engineering Congress and Exposition. Orlando, Florida. November 5-11, 2005. In Computers and Information in Engineering, 2005:157–64, 2005. https://doi.org/10.1115/IMECE2005-81859.

[34] Blanco, M., Amieva, J., Mancillas, A. Design Principles of Tonatiuh, an Open Source Computer Program for the Design and Analysis of Solar Concentrating Systems. Proceedings of the International Conference on Solar Concentrators for the Generation of Electricity or Hydrogen. Scottsdale, Arizona, May 1-5, 2005.

[35] Blanco, M. Overview of the Tonatiuh software development effort. Seventh Annual Program Review Meeting and “KICK OFF” of the DOE-NREL Minority University Research Associates (MURA) Program for Solar Technology. Florida Solar Energy Center. Cocoa. Florida. August 11-13, 2004.

[36] Blanco, M., Berg, W. M., Urbani, F. Wireless solar radiation and meteorological instrument for K-12 Technology Education. Proceedings of the 2003 American Society for Engineering Education Annual Conference & Exposition. Session 2359. pp. 1-8.

[37] Quaschning, V.; Blanco, M.: Solar Power - Photovoltaic or Solar Thermal Power? VGB Congress Power Plants 2001. Brussels, 10-12 October 2001. pp. 1-8.

[38] Blanco, M. and Alarcón, D. “EnerTracer: A New Computer Tool for Energy Analysis of Concentrating Systems”, 10th International Symposium on Solar Thermal Concentrating Technologies, Sydney (Australia), March 8– 10, 2000. pp. 87-93.

[39] Osuna, R., Fernández, V., Romero, M., Blanco M.: PS10: A 10 MW Solar Tower Power Plant for Southern Spain, 10th International Symposium on Solar Thermal Concentrating Technologies, Sydney (Australia), March 8– 10, 2000. pp. 13-18.

[40] Romero, M., Marcos, M.J., Téllez, F.M., Blanco, M., Fernández, V., Baonza, F. and Berger, S. Distributed Power from Solar Tower Systems: A MIUS Approach, in Proceedings of the 1999 ISES Solar World Congress, Jerusalem, July 4-9, 1999.

[41] Pérez, M., Batlles, J., de las Nieves, F. and Blanco, M. Educational Activities of the University of Almería in the Field of Solar Energy, Proceedings, 2nd ISES Europe Solar Congress "EuroSun 98", 1998, pp. I.2.12 - I.2.12-4.

[42] Geyer, M. and Blanco, M. "Mediterranean Technology Transfer and Solar Business Opportunities at the Plataforma Solar de Almería", ISES 1997 Solar World Congress. Taejon, Korea. August 24 – 29, 1997, pp. 617 – 618.

[43] Geyer, M. and Blanco, M. "Solar Thermal R&D at the Plataforma Solar De Almeria: 1997-98". Proceedings of the International Solar Energy Conference, 1997; Washington D.C.; ASME Journal of Solar Engineering. ISBN: 0791815560.

[44] Blanco, M., Ruiz, V., Lara, A. de, Martín, J.G. "SOLGAS European Initiatives." 8th International Symposium on Solar Thermal Concentrating Technologies, Cologne (Germany) October 6 – 11, 1996, in Proceedings, vol. 1 (eds.) Becker, M. and Böhmer, M., C.F. Müller Verlag Heidelberg, 1997. ISBN: 3-7880-7616-X. pp. 299-313.

[45] Zarza, E., Blanco, M. "Advanced M.E.D Solar Desalination Plant Seven Years of Experience at the Plataforma Solar de Almería." In Proceedings of the Mediterranean Conference on Renewable Energy Sources for Water Production. Santorini, Greece, June 10-12, 1996, pp. 45 - 49.

[46] Blanco, M. and Ruiz, V. "RENA-CT94-0043: Sol-Gas - Hybrid Combined Cycle Cogeneration Plant Based on Central Receiver Technology. Status Report." European Conference on Renewable Energy Development, Venice, November 22 - 25, 1995. pp. 255-260.

[47] Blanco, M., Ruiz, V. and Martín, J. "The SOLGAS Cogeneration Project: A Paradigm Shift for the Solar Thermal Industry." 7th International Symposium on Solar Thermal Concentrating Technologies, Moscow, IVTAN, September 26 - 30, 1994. pp. 379-388.

[48] Blanco, M. and Martín, J. "An Inquiry Concerning the Concentration of Sunlight and High Temperature Applications." 7th International Symposium on Solar Thermal Concentrating Technologies, Moscow, September 26 – 30, 1994. pp. 730-741.

[49] Blanco M. and Martín, J.G. "Secondary Concentrators for a Central Receiver System." International Solar Energy Society World Congress, 1987. Advances in Solar Energy Technology. Hamburg (Germany). September 1987.

[50] Blanco, M. “Heliostat Selection code to Obtain Certain Peak Power Level (An Artificial Intelligence Approach).” Proceedings of the Third International Workshop on Solar Thermal Receiver Systems, vol. 1: Design, Construction and Operation, Springer-Verlag, New York Heidelberg Berlin, Konstanz, June 1986. ISBN 0-387-17052-9. pp. 213-219.

[51] Blanco M. and Silva, M. “Evaluation and Qualification of the HFD Bar Measurements During the ASR High Flux Experiment.” Proceedings of the Third International Workshop on Solar Thermal Receiver Systems, Vol. 1: Design, Construction and Operation. Springer-Verlag New York Heidelberg Berlin, Konstanz, June 1986, ISBN 0-387-17052-9. pp. 409-422.

[52] Blanco, M. and Sánchez, M., “Control of the Power Sent to the Receiver.” XXXIII Congreso de COMPLES. La Energía Solar en la Cooperación Norte-Sur. (Ed.). Ruiz, V. and García, M., Sevilla, April 1985. pp. 539 – 544.

Technical reports (peer reviewed)

[1] Ramirez, L, K P Nielsen, F Vignola, M Blanco, P Blanc, R Meyer, and S Wilbert. “Road Map for Creation of Advanced Meteorological Data Sets for CSP Performance Simulations.” IEA SolarPACES Report, 2017. http://www.solarpaces.org/wp-content/uploads/SolarPACES-T5_BeyondTMY_Road_Map.pdf.

[2] Nielsen, K P, P Blanc, F Vignola, L Ramírez, M Blanco, and R Meyer. “Discussion of Currently Used Practices for: "Creation of Meteorological Data Sets for CSP/STE Performance Simulations.” SolarPACES Report, 2017. http://www.solarpaces.org/wp-content/uploads/BeyondTMY_Discussion_of_current_methods_v3_0-1.pdf.

[3] Coventry, Joe, Jon Campbell, Peng Xue Yun, Colin Hall, Jin-Soo Kim, John Pye, Greg Burgess, et al. “Heliostat Cost Down Scoping Study - Final Report.” ASTRI Technical Report. Canberra, 2016. https://www.researchgate.net/publication/312214094_Heliostat_Cost_Down_Scoping_Study_-_Final_Report.

[4] V Ruiz, M Silva, I Lillo, S Moreno, J Domínguez, M Blanco, L Ramírez, et al. “Evaluación del potencial de energía solar termoeléctrica: Estudio tecnico PER 2011-2020”. Instituto para la Diversificacion y Ahorro de la Energía. Government of Spain. Madrid, Spain. 2011. https://www.idae.es/uploads/documentos/documentos_11227_e12_termoelectrica_A_fd47d41f.pdf.

[5] Roy, A., Meinecke, W. and Blanco, M. Introductory Guidelines for Preparing Reports on Solar Thermal Power Systems, SolarPACES Technical Report No. III – 3/97, Subtask 3.2.3: System Evaluation and Standardization, July 1997.

[6] Cordeiro, P., Kolb, G., Epstein, M., Geyer, M. and Blanco, M. “START Mission to Brazil”, International Energy Agency SolarPACES START Report 3/97, May 5-9 1997.

[7] Blanco, M., et al. SOLGAS Project: Hybrid combined cycle cogeneration plant based on central receiver technology. Final Report. Study carried out for the Commission of European Communities, Directorate General XII. Seville, February 29, 1996.

[8] Blanco, M., et al. “Estudio Técnico sobre una Central SOLGAS.” Sociedad para el Desarrollo Energético de Andalucía (SODEAN). Technical study carried out for the Department of Industry, Commerce and Tourism of the Government of Andalusia. Seville, January 22, 1996. pp. 1-117.

[9] Blanco M. “Diseño de concentradores para campos de helióstatos. Aplicación a centrales de torre existentes.” IEA/SSPS Report. Doc. No. R-17/87MB. Almería, October 1987. pp. 1-26.

[10] Blanco, M., Silva, M. “Evaluation and qualification of the HFD bar.” IEA/SSPS Report. Doc. No. R-12/86MSil. Almería, March 1986. pp. 1-30.

[11] Blanco, M. and Jacobs, H. “Production of the data base for ASR tests.” IEA/SSPS Report. Doc. No. R-1/86MBHJ. Almería, January 1986. pp. 1-24.

[12] Sánchez, M. and Blanco, M. The shadow factor of the MAN-East and MAN-West Fields, IEA/SSPS Report. Doc. No. R-62/85MSMB. Almería, November 1985. pp. 1-10.

[13] Blanco, M. and Gómez, C. Statistical characterization of direct normal irradiance data on site. Preliminary results, IEA/SSPS Internal Report. Doc. No. R 61/85MBCGC. Almería, November 1985. pp. 1-13.

[14] Carmona, R. and Blanco, M. Proposed Operating Points for the ASR High Flux Experiment. IEA/SSPS Internal Report. Doc. No. R-25/85RC. Almería, July 1985. pp. 1-15.

[15] Blanco, M. A User's Guide to THERESA (A Thermal Analysis Code for Billboard Receivers), IEA/SSPS Internal Report. Doc. No. R-8/85MB. Almería, May 1985. pp. 1-7.

[16] Blanco, M. and Carmona, R. Operating Conditions for the Advanced Sodium Receiver Campaign, IEA/SSPS Internal Report. Doc. No. R-5/85MBRC. Almería, April 1985. pp. 1-38.

[17] Blanco, M. Improvements of HELIOS Facilities on Site, IEA/SSPS Internal Report, Doc. No. R-1/82MB. Almería, March 1985. pp. 1-17.

[18] Blanco, M. HELIOS Calculations to Determine the Heliostat Field Capability with the Addition of the MBB and ASINEL Heliostats, IEA/SSPS Internal Report. Doc. No. R-56/85MB. Almería, March 1985. pp. 1-29.

[19] Benedetti, A. de and Blanco, M. HELIOS Modification for Trough Mirrors, IEA/SSPS Internal Report. Doc. No. R-39/83ADBMD, Almería, August 1984. pp. 1-8.

[20] Blanco, M. Simulation of Tracking Errors, IEA/SSPS Internal Report. Doc. No. R-12/84MB. Almería, April 1984. pp. 1-16.

Professional articles and instructional materials

[1] Blanco, M. “Las tecnologías termosolares en la actualidad.” Cartuja Innova, no. 1, April/June 1999, pp. 40-41.

[2] Blanco, M. “La Plataforma Solar de Almería.” Revista InfoPOWER, July – August 1998, pp. 26.

[3] Blanco, M. “La Plataforma Solar de Almería, Mayor Centro de Ensayos Europeo, Revista Mundo Empresarial, July 1998. pp. 17.

[4] Blanco, M. “El Proyecto Colón Solar.” Revista InfoPOWER, January 1998, pp. 85.

[5] Blanco, M. “Reflexiones sobre el papel de la Plataforma Solar de Almería en la I+DD solar.” Revista Tecno Ambiente, No. 76, October 1997, pp. 19.

[6] Blanco, M. and Valle, A. “Cartuja’93. Situación y Perspectivas, Boletín Económico de Andalucía.“ Departament of Economy and Internal Revenue. Government of Andalucía. Seville, 1992. pp. 63-72.

[7] Blanco, M., Martín, J.G. and Ruiz, V. “Innovative Energy Applications at the Universal Exposition Seville 1992.” Expo'92 Publication, Seville, February 3, 1989. pp. 1-57.

[8] Martín, J.G. and Blanco, M. “Solar Concentrators.” In Course on High Temperature Solar Thermal Exploitation, Plataforma Solar de Almería, Tabernas (Almería) July 7 to 11, 1986. pp. 1-38.

[9] Blanco, M. “Programas de Simulación.” In Curso sobre el Aprovechamiento Solar Térmico en Alta Temperatura. Instituto de Estudios de Energía y del Medio Ambiente, Institute of Renewable Energies, Institute for Diversification and Energy Saving, Plataforma Solar de Almería, Tabernas (Almería), September 23 – 27, 1985. pp. 1-37.

Patents

[1] Villuendas Yuste, F., Heras Vila, C.D., Alonso Esteban, R., Blanco Muriel, M., Sanchez Gonzalez, M., Mateu Serrats, E., and Perez Garcia, D., "System for Testing Characterization of Solar Concentrator and Solar Receivers to Measure Light Transmittance and Reflectance in Receiving Tubes, Has Transparent Glass Tube and Metal Tube Respectively Provided on inside and Outside." Fundación CENER-CIEMAT. Patent Number(s): ES2396836-A1 ; ES2396836-B1. 07 Jun 2010.

[2] Mendoza Rosado, S., L. E. Diez Vallejo, A. Lara Cruz, V. Ruiz Hernandez and M. J. Blanco. "Operation of Combined Cycle Power Stations with Steam from Solar Energy - Using Increased Pressure during Solar Steam Input and Post-Combustion Burners during Solar Steam Deficiency." Compañía Sevillana de Electricidad (SEVILLANA) and Sociedad para el Desarrollo Energético de Andalucía (SODEAN).

Honours

[1] Co-recipient of the City of Seville's Energy Research Prize 2003, for outstanding contributions to the field of renewable energies.

[3] Finalist of the René Descartes Prizes 2000 -the highest-level scientific distinctions awarded by the EC for collaborative research across scientific disciplines.

[4] Recipient of the Energy Engineering Program Graduate Award 1993 as the best Graduate Student of the Department of Chemical and Nuclear Engineering of the University of Massachusetts at Lowell that year.

[5] Recipient of a Post-Doctoral Fulbright Scholarship from 1986 to 1988. The US-Spain Fulbright Commission awarded this scholarship, even though Dr. Blanco did not hold a doctoral degree at the time, in consideration of the exceptional merits of its research proposal and research record.