

BASIC INFORMATION – OVERVIEW



Full name, title: **Ioannis Tsanakas, Ph.D. / Dipl. Eng. (MSc/BSc)**
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- R&D Project Manager / Senior Researcher at CEA INES (France).
- In charge of coordination, management and implementation of (primarily) EU and National Projects.
- In charge of networking and matchmaking at international level, to establish contacts and collaborations in the fields of solar energy, PV and smart buildings/cities/grids.
- Main expertise in solar PV and BIPV systems: performance, O&M, reliability and diagnostics, digitalization, asset management and sustainability (circular economy, eco-design).
- Expert, actively involved in the EU ETIP PV in three Working Groups.
- Expert, actively involved in the PVPS program of the International Energy Agency (IEA), for Tasks 13 and 15.
- Awarded by the EU, being among Europe's 30 exemplary researchers (MSCA Event, Brussels, 2017).
- Previous positions in Belgium (IMEC/EnergyVille), Norway (IFE), France (CNRS) and Greece (DUTH).
- 2-year involvement in PV standardization (IEC/CENELEC).
- 2-year involvement in the European Commission's (DG GROW) preparatory study on Eco-design for PV.
- Active 13-year involvement in a total 21 national and international R&D projects (~28.5 M€).
- 1 international patent and over 40 publications, talks, plenary presentations, technical reports.

PROFESSIONAL EXPERIENCE

2020 – present R&D Project Manager / Senior Researcher



Commissariat à l'Énergie Atomique et aux Énergies Alternatives (CEA), Grenoble, France
 Département Technologies Solaires (DTS), Institut National de l'Énergie Solaire (INES)
 PV digitalization and advanced O&M / BIPV and energy-efficient buildings.

2018 – 2020 Research Scientist / Project Manager



Interuniversity Microelectronics Center (IMEC), Leuven, Belgium
 Photovoltaics Department, PV Modules and Systems Group / EnergyVille
 Project responsible for H2020 CIRCUSOL & H2020 MSCA PVMinds.

2016 – 2018 Research Scientist / Project Manager



Institute for Energy Technology (IFE), Kjeller, Norway
 Solar Energy Department, PV Systems Group
 Project proposal WP responsible: H2020 Be-smart

2015 – present National Scientific Expert



International Energy Agency (IEA), Paris, France
 Photovoltaic Power Systems Programme (PVPS)
 Task 13: Performance and Reliability of Photovoltaic Systems
 National expert for France (2015-2016, 2020-), Norway (2017-2018) and Belgium (2018-)

2014 – 2016 Research Fellow / R&D Engineer



Commissariat à l'Énergie Atomique et aux Énergies Alternatives (CEA), Grenoble, France
 Département Technologies Solaires (DTS), Institut National de l'Énergie Solaire (INES)
 PV diagnostics, data analysis and O&M.

2013 – 2014 Research Fellow / R&D Engineer

Centre National de la Recherche Scientifique (CNRS), Perpignan, France
Laboratoire Procédés, Matériaux et Énergie Solaire (PROMES)

2010 – 2012 Lecturer

Kavala Institute of Technology, International Hellenic University, Kavala, Greece
School of Technological Engineering, Department of Mechanical Engineering

2009 – 2012 Research and Teaching Assistant in Management & Production Engineering

Democritus University, Polytechnic (Engineering) School, Xanthi, Greece

EDUCATION - ACADEMIC BACKGROUND

2007 – 2013 PhD in Production Engineering and Management

Democritus University, Polytechnic (Engineering) School, Xanthi, Greece
Department of Production Engineering and Management
PhD grade: 10/10

2001 – 2006 Diploma (BSc/MSc) in Electrical and Computer Engineering

Democritus University, Polytechnic (Engineering) School, Xanthi, Greece
Department of Electrical and Computer Engineering
Diploma Grade: 7.88/10

INVOLVEMENT in RESEARCH PROJECTS / RECEIVED FUNDING

2020 – 2024 H2020 SERENDI-PV

Project Manager / Activity Leader for CEA. Innovation Action project funded by the European Commission (~9.8 million €) in collaboration with TecNALIA (coordinator), Akuo Energy, Solargis, Fraunhofer, CNR, et al.

2020 – 2024 H2020 TRUST-PV

Concept/proposal co-responsible as WP Leader (imec) recently granted funding. Research & Innovation project funded by the European Commission (~9.9 million €) in collaboration with EURAC, BayWa r.e., SolarCentury, 3E, Huawei, Inaccess, et al.

2020 – 2021 NVO/TKI - EXTENSIBLE

Technology innovation project, bilateral collaboration between DSM and imec, funded by Dutch/Flemish TKI scheme (~1.1 million €).

2019 – 2021 ANALYST-PV

Technology innovation project, collaboration between imec, Engie, 3E, Sitemark and AllThingsTalk, funded by Flemish (VLAIO) scheme imec.icon (~1.4 million €).

2018 – 2022 H2020 CIRCUSOL

Innovation project in collaboration with VITO, CEA, PVCycle et al. funded by the European Commission (~8.2 million €).

2018 – 2022 H2020 Be-Smart

Concept/proposal co-responsible as WP Leader (IFE); Project Manager/Responsible on behalf of CEA. Research & Innovation project funded by the European Commission (~9.9 million €) in collaboration with CSEM, ISSOL, Saint-Gobain, CEA, EPFL et al.

2018 – 2021 O&M solutions and strategies for utility-scale solar power plants

Project/Proposal leader. Innovation project in collaboration with Scatec Solar, Equinor (former Statoil) and Prediktor, funded by the Norwegian Research Council (~1.4 million €) under ENERGIX.

2018 – 2020 H2020 PVMinds

MSCA IF “Bottom-up PV module energy yield and integrated reliability model for site-specific design optimization”. Project ID: 752117, EU contribution: ~0.2 million €.

2017 - 2019 Ecodesign and Energy Label for Solar Photovoltaic modules, inverters and systems

Preparatory Study for the EU JRC, in accordance with the Methodology for the Ecodesign of Energy-related Products (MEErP) developed by the European Commission.

2017 BIPVNO

“BIPV for Norway” project on developing BIPV for Norway and providing insight into new BIPV components tailored for the Norwegian climate and solar irradiation conditions.

2017 SANCOOP

Project in the context of South Africa-Norway Research Co-operation on Climate Change, the Environment and Clean Energy, on "Performance of PV modules in arid areas – effect of soiling and module technology on yearly yield".

2016 H2020 CPVMatch

European project on bringing practical performance of high concentrating photovoltaics closer to theoretical limits. (<https://cpvmatch.eu>)

2014 – 2016 AO CRE SYS3

R&D in cooperation with 5 industrial partners.

2013 – 2014 HCPV 1024 Soleils

National Project supported by the French Agency for Environment and Energy Management (ADEME) and the French government program “Investissements d’Avenir”; R&D in cooperation with 1 industrial partner.

2013 SEAP – Covenant of Mayors for Climate & Energy

“Sustainable Energy Action Plan for the Municipality of Alexandroupolis, Greece”.

2012 SEAP – Covenant of Mayors for Climate & Energy

“Sustainable Energy Action Plan for the Municipality of Kavala, Greece”.

2011 – 2012 TSMEDE-2011(TEE-TCG)

Doctoral Research Fellow, supported by the Technical Chamber of Greece
Research Assistant in “Reliability and availability assessment of renewable energy systems, by applying advanced maintenance techniques”.

2009 – 2011 TSMEDE-2009(TEE-TCG)

Doctoral Research Fellow, supported by the Technical Chamber of Greece
Research Assistant in “Fault diagnosis in renewable energy systems with the use of IR thermography – case study: photovoltaic modules”.

2006 – 2009 TSMEDE-2006(TEE-TCG)

Doctoral Research Fellow, supported by the Technical Chamber of Greece
Research Assistant in “Fault diagnostic/prognostic models for CNC machines”.

INDUSTRIAL INNOVATION and TECHNOLOGY PLATFORMS

- Reliability on novel interconnection technology for PV modules, developed by IMEC and industry partners.
- Invented methodology/patent at CEA-INES, included within the R&D services of Durasol platform (www.durasol.fr), a French research network of 7 partners of excellence).
- Contributor / Reviewer, on behalf of CEA-INES, for the (future) IEC standards for outdoor IR inspections of operating PV modules/plants (IEC 60904-12/14 and IEC 62446-3 TS Ed.1).
- Novel methodology and set-up of accelerated ageing tests for HCPV receivers, developed in CNRS-PROMES.
- ETIP PV, Expert in Digital PV Systems and Grid Work Group (2019-), Integrated PV Work Group (2020-) and PV Quality and Reliability Work Group (2020-).
- Scientific expert in implementation of Sustainable Energy Action Plans of Greek Municipalities (2012-).

INTERNATIONAL COLLABORATIONS and ESTABLISHED CONTACTS

- **France:** CEA-INES, CNRS, EDF, Engie Group, Bosch France, Voltalia, Groupe VALECO, VSB énergies nouvelles, Akuo Energy, Urbasolar, Heliotrop, Saint Gobain, IMS Bordeaux
- **Germany:** Fraunhofer ISE, ZAE Bayern, ISFH, AzurSpace Solar Power, TÜV Rheinland Energy
- **Norway:** Institutt for Energiteknikk, Scatec Solar, FFI, SINTEF, NTNU, Equinor, Prediktor
- **Italy:** EURAC, Ricerca Sul Sistema Energetico – RSE, ASSE srl, Enel Green Power, BayWa r.e. Italia, Schneider Electric Italia, RINA

- **Greece:** National Technical University of Athens, Democritus University of Thrace
- **Spain:** Fundacion Tecnalia Research & Innovations, Universidad Politécnica de Madrid (UPM)
- **Canada:** Université de Sherbrooke – 3IT, CanmetENERGY, Heliolytics
- **Austria:** Austrian Institute of Technology (AIT), Polymer Competence Center Leoben (PCCL), Borealis
- **Switzerland:** CSEM, EPFL, SUPSI
- **Belgium:** IMEC, SolarPower Europe, 3E, Engie Laborelec, Tractebel, VITO, Ecopower, PVCycle, Futech, Sitemark, Becquerel Institute, Borealis, Becquerel Institute,
- **Netherlands:** Eternal Sun / Spire Solar, Utrecht University, RCN, TU Delft, DSM Advanced Solar
- **United Kingdom:** Above Surveying, SolarCentury, Integrated Environmental Solutions (IES)
- **USA:** NREL, Sandia Laboratories, SDLE-Case Western Reserve University
- **Australia:** Murdoch University
- **Japan:** AIST

MEMBERSHIPS and CERTIFICATIONS

- Certified Electrical and Mechanical Engineer and Member of the Technical Chamber of Greece (2007-).
- European Commission accredited expert/evaluator (ID: EX2018D322707) for H2020 and COSME programmes.
- Member of the IEEE (2004-).
- Certified Engineer/Trainer for energy efficiency and bioclimatic design in the Greek buildings sector (2012-).
- Board Member of “Environment, Energy, Industry”, “Technical Education and Liaison”, “Publications and Communication” technical committees of the Technical Chamber of Greece (2011-).
- Member of the National Association of Electrical and Mechanical Engineers, Greece (2006-).
- Session Chair or Reviewer in PVSEC (2016-), WCPEC (2018-) and IEEE PVSC (2020-).

PRIZES and AWARDS

- Among the 30 highest ranked / exemplary Researchers, with research projects funded in the context of EU MSCA 2016, Proposal scored 99.4% (top 0.3%). Project ID: 752117, EU contribution: 0.2 million €.
- 2nd and 3rd place poster awards in The 2017 NREL PV Reliability Workshop, Denver (CO), USA.
- 2nd place paper award in SiliconPV 2019, Leuven, Belgium.
- Top-20 Ranked abstract/paper submitted in the 36th EUPVSEC, Marseille, France.
- Award of Academic Excellence in undergraduate studies in Engineering School, granted by the *Technical Chamber of Greece* for scoring over 90% in annual grades (2005-2006).

PATENTS

1. D.L. Ha, **J.A. Tsanakas**, International Patent File No: WO2016/189052A1. Also published as: FR3036900 (A1) (in French). Patent validated in the field. Technology Readiness Level (TRL): 6

SCIENTIFIC PRODUCTION - PUBLICATIONS

* Indicative list available on [Scholar](#) (disclosable, publicly available conference/journal articles). Complete list, including reports and talks, available upon request. Available metrics: h-Index=12 ; i10-Index=13.

LANGUAGE PROFICIENCY

- **Greek:** Native Language
- **English:** Fluent – Bilingual/Full Professional Proficiency
- **French:** Intermediate
- **Norwegian:** Elementary Proficiency