



COST ACTION GREENERING – DATA COLLECTION

First name, Family Name: George Skevis

Type (Academic or Industrial): Academic (Research)

Country: Greece

Leadership position in the COST: MC Member on on CA18224, Vice-Chair on CM1404 SMARTCATS

Working Group in which you are involved: WG1

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Laboratory/Company: Chemical Process & Energy Resources Institute (CPERI)/Centre for Research and Technology Hellas (CERTH)

Laboratory/Company info:

The Centre for Research & Technology Hellas (CERTH) is the leading research organization in Greece and among the 20 leading EU Research Organizations. CERTH employs more than 900 research scientists and engineers and has participated in numerous research projects, with a total budget >423 M€. The Chemical Process & Energy Resources Institute (CPERI) conducts basic and applied research and technological development in key advanced areas of Chemical Engineering, including Energy, Environment, Materials and Process Technologies.

Link to the home page of the Laboratory/Company: www.cperi.certh.gr

Fields of expertise:

- 1. Assessment of smart alternative and renewable energy carriers and advanced technologies for sustainable power generation
- 2. CO₂ capture and utilization: Development of novel membrane technologies for carbon capture and mineralization
- 3. Energy systems modelling and simulation: Development of dynamic numerical tools for the simulation and optimization of industrial engineering processes.
- 4. Bio- and thermo-catalytic conversion
- 5. Emissions mitigation and control

5 Main publications or patents:

- G. Vourliotakis, Z. Malliotakis, Ch. Keramiotis, G. Skevis & M. A. Founti (2019) Allene and Propyne Combustion in Premixed Flames: A Detailed Kinetic Modeling Study, Combustion Science and Technology, 188:776-792.
- N. Fokas, F. Perdikaris, D. Kazangas, G. Skevis, L. Kaiktsis (2018) Development of an Optimized Skeletal Chemical Kinetic Mechanism for Methane Combustion for Marine Engine Applications. Energy & Fuels, 32:10272–10284.
- Z. Malliotakis, C. Banyon, H.J. Curran, M. Founti, C. Keramiotis, G. Vourliotakis, P. Koutmos, G. Paterakis, K. Souflas, F. Mauss, J.J Rodriguez, G. Skevis (2017) A Comparative Study on the Oxidation of Gaseous and Liquid fuels in a Swirl Stabilized Flame via Chemiluminescence Measurements. Fuel, 216:826-834.



- Pantoleonatos, G., Skevis, G., Karagiannakis, G., Konstandopoulos, A.G. (2016), A Heterogeneous Multiscale Dynamic Model for Simulation of Catalytic Reforming Reactors. *International Journal of Chemical Kinetics*, 48:239-252.
- Vourliotakis, G., Skevis, G., Founti, M.A. (2015) Some Aspects of Combustion Chemistry of C1-C2 Oxygenated Fuels in Low Pressure Premixed Flames. *Proceedings of the Combustion Institute*, 35:437-445.

Collaborations: Numerous collaborations with leading academic, research and industrial partners across the EU and worldwide. The list includes CNR (Italy), CNRS (France), CEA (France), Fraunhofer (Germany), DLR (Germany), Imperial College London (UK), KIT (Germany), BTU Cottbus (Germany), TU Eindhoven (Netherlands), Twente University (Netherlands), ULB (Belgium), VUB (Belgium), Politecnico di Torino (Italy), Politecnico di Milano (Italy), Lund University (Sweden), NTNU (Norway), IST (Portugal), University of Zaragoza (Spain), Galway University (Ireland), DTU (Denmark), NETL/DoE (US), Shell (UK), Wartsila (Switzerland), DNV GL (Norway), Continental (Germany), Ricardo (UK/Germany), LOGE (Germany), CMCL (UK), Tec4Fuels (Germany), PTB (Germany), DVGW (Germany), Avantium (Netherlands), HyGear (Netherlands), ERIC (Belgium), CSIC (China), TITAN (Greece), HELPE (Greece)

Facilities:

- Modern laboratory equipment for the detailed physical, chemical and morphological characterization of inorganic materials, catalysts, polymers, membranes and molecular sieves
- Synthesis, characterization and application of ceramic and polymeric membranes
- Membrane pilot units for gas separation, filtration and waste processing
- Design, application and testing of anti-polluting technologies
- Advanced commercial and in-house developed software tools for the design, optimization and control of industrial processes.