

Emmanuel Stamatakis, Chemical Engineer, PhD, MBA

PERSONAL INFORMATION


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 Find me on [LinkedIn](#) | [ResearchGate](#)

Sex Male | Date of birth 05/06/1974 | Nationality Greek

Military services Fulfilled (2/2000)

WORK EXPERIENCE

01/2021 onwards

Researcher

Institute of Petroleum Research (IPR), Foundation for Research and Technology - Hellas (FORTH), Chania, Greece

- Environment & Alternative fuels

[Research Centre](#)

04//2019 onwards

Founder/Partner

CYRUS P.C., 15341 Aghia Paraskevi, Greece

- Start-up company, spin-off of NCSR DEMOKRITOS
- Development & commercialization of Hydrogen compressors based on metal hydrides.

[Enterprise](#)

06/2017 – 12/2020

Adjunct Researcher

Institute of Nuclear & Radiological Sciences & Technology, Energy & Safety, National Centre for Scientific Research Demokritos (NCSR), 15310 Aghia Paraskevi, Greece

- Smart Hybrid Energy Storage & Management under the Niarchos Industrial fellowship program
- Assistance in Project Management of the Demo4Grid project of FCH2 JU.

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11/2017 – 11/2020

Civil Servant

Department of Environment and Spatial Planning of the Region of Epirus of the Decentralized Administration of Epirus - Western Macedonia, Ioannina, Greece

Chemical Engineer

[Public Body](#)

03/1999 – 06/2017

Freelance Researcher & Consultant

- Energy & Environmental Research Services; Project Proposal Generation, Project Management & Coordination

[Freelancer](#)

06/2016 – 05/2017

Energy Expert / Marie Curie Fellow

DIADIKASIA Business Consulting S.A., 296 Kifisias Ave. & 40 Navarinou str., Halandri, Greece

- Marie Curie fellow; Research & development of an up-scaled metal hydride hydrogen compressor for energy storage applications and performance of a strategic market analysis.

[Enterprise](#)

12/2004 – 6/2016

Research Scientist

Institute of Nuclear & Radiological Sciences & Technology, Energy & Safety, National Centre for Scientific Research Demokritos (NCSR), 15310 Aghia Paraskevi, Greece

- Actively involved in various National & International projects in the fields of Energy and Environment, such as: BOR4STORE (Fast, reliable and cost effective boron hydride based high capacity solid state hydrogen storage materials), ATLAS-H2 (Advanced Metal Hydride Tanks for Integrated Hydrogen Applications), NREL-USA (Further development of spillover based nanostructured materials for hydrogen storage), PERL (Enhancing the research potential of the NCSR Environmental Research Laboratory in the fields of RES & hydrogen technologies), ENGINE (Enhanced Geothermal Innovative Network for Europe), etc

[Research Centre](#)

- 08/2007 – 12/2014 **External Research Collaborator**
RES & Hydrogen Technologies Section, Centre for Renewable Energy Sources & Saving, 19th km. Marathonos Ave. 19009, Pikermi, Greece
- Actively involved in the projects: STORIES (Addressing barriers to storage technologies for increasing the penetration of intermittent energy sources; hydrogen, pumped hydro, batteries; water storage); H2SusBuild (Development of a clean and energy self-sustained building in the vision of integrating H2 economy with renewable energy sources); ETRERA2020 Project (Empowering Trans-Mediterranean Renewable Energy Research Alliance for Europe); “Green Island – Ai Stratis” (hybrid power system comprising Renewable Energy Technologies and Energy Storage Devices)
- [Research Centre](#)
- 03/2016 & 02/2017 **Invited Lecturer**
Technological Research Center of Piraeus and Islands, Technological Educational Institute of Piraeus (Piraeus, Greece)
- Modern Hydrogen technologies
- [University](#)
- 03/2014 **Invited Lecturer**
M.Sc. in Energy; Technological Educational Institute of Piraeus (TEI), Department of Mechanical Engineering – Energy Section & Heriot-Watt University (Piraeus, Greece)
- Demand Management of Energy Storage
- [University](#)
- 7/2013 **Invited Lecturer**
University of Western Macedonia (Kozani, Greece), Summer School
- Renewable Energy Sources: Research, Innovation & Entrepreneurship
 - Hydrogen Exploitation in Transport & Stationary applications
- [University](#)
- 09/2006 – 06/2010 **Adjunct Professor**
Technological Educational Institute of Piraeus (TEI), Department of Mechanical Engineering – Energy Section (Piraeus, Greece)
- Project Management & Feasibility Analysis, Mechanical Installations for Waste Treatment, Environmental Measurement Technology, Seminar for Graduate Students.
- [University](#)
- 12/2003 – 12/2007 **Postdoc Researcher**
Institute for Energy Technology (IFE), NO-2027 Kjeller, Norway
- Work in the Norwegian project KMBSCALE as instrumental in development for the study of calcite scale formation in production wells using nuclear techniques & in the EU project HDR-geo for the study of scaling problematics in heat pipes.
- [Research Centre](#)
- 01/2001 – 12/2003 **PhD Researcher**
NCSR & IFE (Athens Greece & Kjeller, Norway)
- Work in the EU project ARISSTON for the experimental investigation of scaling in core samples using radioactive tracers & in the EU project HDR-geo for scaling problematics in heat exchangers during exploitation of geothermal energy in Europe.
- [Research Centres](#)
- 02/2000 – 12/2000 **Sales Engineer**
TEMAK S.A., Athens, Greece
- Research & promotion of water treatment systems & flow control equipment
- [Enterprise](#)

VOLUNTEER ACTIVITIES

- 2020 onwards **Member**
HYDROGEN STRATEGY COMMITTEE - HELLENIC MINISTRY OF ENVIRONMENT & ENERGY
Participation in the Development of National competitiveness & Pilot investment program WGs
- 2009-2014 **Secretariat**
GREEK TECHNOLOGICAL PLATFORM FOR HYDROGEN & FUEL CELLS
 - Leader of the Socio-economic Working Group
- 2010-2011 **Deputy President**
MINISTRY FOR DEVELOPMENT – GENERAL SECRETARIAT OF COMMERCE, Greece
 - Evaluation of Technical Offers for the 1st Committee of Experts of the General Directorate of Public Procurement

EDUCATION AND TRAINING

- 2002-2005 **PhD**
National Technical University of Athens (NTUA), School of Chemical Engineering, Greece
 - Flow Mechanics, Chemical processes, radiotracer technology
- 1999-2001 **Master in Production Management**
National Technical University of Athens – University of Athens – University of Piraeus, Greece
 - Production Management, Decision making
- 1993-1999 **Diploma in Chemical Engineering**
National Technical University of Athens (NTUA), School of Chemical Engineering, Greece
 - Chemical Engineering

PERSONAL SKILLS

Mother tongue Greek

| | UNDERSTANDING | | SPEAKING | | WRITING |
|-----------|---------------|---------|--------------------|-------------------|---------|
| | Listening | Reading | Spoken interaction | Spoken production | |
| English | C2 | C2 | C2 | C2 | C2 |
| Norwegian | A1 | A1 | A1 | A1 | A1 |

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

Communication skills ▪ Team spirit gained throughout the working experience in European Research Centres (CRES, NCSR D & IFE); ability to work at a multinational environment gained through the active participation in international projects; good communication skills gained through the teaching experience as Adjunct Professor.

Organisational / managerial skills ▪ Experience in project management, Master in Production Management, Adjunct Professor in Project Management & Feasibility Analysis, Reserved Officer and deputy director of the Greek Military Specifications Office, Ability to Multi-task. Experience in proposal preparation & proposal evaluation

Computer skills ▪ Excellent command of Microsoft Office™ tools
▪ MATLAB
▪ gPROMS
▪ HOMER Simulation tool

Other skills ▪ Volleyball, tennis

Driving licence ▪ Categories: B, AM

ADDITIONAL INFORMATION

Honours and awards

- Thomaidio Award for best PhD thesis in Greece (2006);
- Thomaidio Award for Advancement in Science (2005);
- Marie Curie Fellowship 5th Framework (ENK6 – CT 2001 – 50027 – 01) (2002);
- Financial scholarship for the Master in Production Management (1999);

Memberships

- Member of the N.ERGHY (JU Researchers' Grouping) Working Group on Hydrogen and Fuel Cells Cross Cutting Issues (2014 onwards).
- Member of the Technical Chamber of Greece (since 1999)
- Member of the Hellenic Association of Chemical Engineers (since 1999)

Journal Reviewer

- RENEWABLE ENERGY (2017 onwards)

Proposal Evaluator

- Investment and Development Agency of Latvia (2020)
- Greek General Secretariat for Research and Innovation (2020)
- ERASMUS+/KA2 (2017)
- Cypriot Research Promotion Foundation (2008)

Key Participation in writing/submission/execution of industrial research proposals (approved projects only)

- H2CYRUS - New materials for Hydrogen compression, GSRT; Successful evaluated in February 2020 (Total budget 549.850,00 €). Coordinator
- H2TRANS - Development of an Autonomous RES driven HRS system – 2022, Coordinator contact; GSRT; Successful evaluated in May 2019 (Total budget 939.420,00 €).
- SHIP FC - Piloting Multi MW Ammonia Ship Fuel Cells, FCH JU, Successful evaluated in September 2019 (budget for NCSR DEMOKRITOS 455.875,00 €).
- INNOVATIVE HYDROGEN COMPRESSION CONCEPTS, TOYOTA MOTOR EUROPE NV/SA (E12214). (Total budget 15.000,00 €). Coordinator
- Integrated solar heating and cooling unit based on a novel zeolite chiller and heat pump”, FTI/HORIZON2020; Successful evaluated in January 2017 (Total budget 2.167.437,50 €).
- Demonstration of 4MW Pressurized Alkaline Electrolyser for Grid Balancing Services”, FCH2JU/HORIZON2020; Successful evaluated in September 2016 (Total budget 7,736,682.50€).
- ADVANCED METAL HYDRIDE HYDROGEN COMPRESSORS: PILOT DEVELOPMENT & MARKET PENETRATION (ATLAS-MHC), Marie Curie Industry-Academia Partnerships and Pathways, Call: FP7-PEOPLE-2013-IAPP, Successful evaluated in August 2013 (Total budget 2.645.621 €).
- Advances Metal Hydride Tanks for Integrated Hydrogen Applications (ATLAS-H2), Marie Curie Industry-Academia Partnerships and Pathways, Call: FP7-PEOPLE-2009-IAPP, Successful evaluated in February 2010. (Total budget 2.268.340 €).
- Experimental investigation and theoretical modeling of CaCO₃ deposition during oil recovery (KMBSCALE), Norwegian Research Council (NFR Successful evaluated in January 2005 (Total budget ~2.000.000 €).

Publications

In peer-reviewed journals

- Evangelos I. Gkanas, Emmanuel **Stamatakis**, Christodoulos Christodoulou, George Tzamalidis, George Karagiorgis, Alexander Chronos, Navaratnarajah Kuganathan, Martin Khzouz, Athanasios Stubos, “Study on the Operation and Energy Demand of Dual-Stage Metal Hydride Hydrogen Compressors under Effective Thermal Management”, *Hydrogen Energy*, Special Issue, under review.
- Evangelos Gkanas, Ahmad El-kharouf, Emmanuel **Stamatakis**, Athanasios Stubos, Martin Khzouz, Calvin D’Souza, Michael Apicella, “Thermal Characteristics of an Air-Cooled Open-Cathode PEM FC Stack via Numerical Investigation”, *International Journal of Energy Research*, accepted for publication (Article reference: ER-20-15828).
- Evangelos I. Gkanas, Christodoulos Christodoulou, George Tzamalidis, **Emmanuel Stamatakis**, Konstantinos Deligiannis, George Karagiorgis, Athanasios K. Stubos, “Numerical Investigation of a Seven-Stage Metal Hydride Hydrogen Compression System”, *Renewable Energy*, 147-1, 164-178 (2020).
- **E. Stamatakis**, A. Yiotis, S. Giannissi, I. Toliadis, A. Stubos, “Modeling and simulation supporting the application of fuel cell & hydrogen technologies”, *Journal of Computational Science*, Volume 27, p.10-20 (2018).
- **Emmanuel Stamatakis**, Emmanuel Zoulias, George Tzamalidis, Zoe Massina, Vassilis Analytis, Christodoulos Christodoulou, Athanasios Stubos, “Metal hydride hydrogen compressors: Current developments & early markets”, *Renewable Energy* 127, 850 – 862 (2018).
- G. Tzamalidis, E.I. Zoulias, E. **Stamatakis**, O.-S. Parissis, A. Stubos, E. Lois, “Techno-economic analysis of RES & Hydrogen technologies integration in remote island power system”, *International Journal of Hydrogen Energy*, **38**, 11646 – 11654 (2013).

Publications

- E. **Stamatakis**, A. Stubos, T. Bjørnstad and J. Muller “Calcite scale prediction at the near-well region: A radiotracer approach”, *EPJ Web of Conferences* **50**, 03004 (2013).
- G. Tzamalis, E.I. Zoulias, E. **Stamatakis**, E. Varkaraki, E. Lois, “Techno-economic analysis of an Autonomous Power System integrating hydrogen technology as energy storage medium”, *Renewable Energy*, **36**, 118-124 (2011).
- **Stamatakis** E., Stubos A., Muller J., “Scale prediction in liquid flow through porous media: A geochemical model for the simulation of CaCO₃ precipitation at the near-well region”, *Journal of Geochemical Exploration*, **108**, 115–125 (2011).
- Parissis O., Zoulias E., Stamatakis E., Sioulas K., Alves L., Martins R., Tsikalakis A., Hatzigiorgiou, Caralis G., Zervos A., “Integration of wind and hydrogen technologies in the power system of Corvo island, Azores: A cost-benefit analysis”, *International Journal of Hydrogen Energy*, 36/13, 8143-8151 (2011).
- Varkaraki, E., Zoulias, E., **Stamatakis**, E., “Operational experience from the res2h2 wind-hydrogen plant in Greece”, 17th World Hydrogen Energy Conference 2008, WHEC 2008, Volume 1, 2008, Pages 218-221
- Bjørnstad T., **Stamatakis** E., “Mechanisms of mineral scaling in oil and geothermal wells studied in laboratory experiments by nuclear techniques”, *Czechoslovak Journal of Physics*, Czech Republic, **56/4**, 405-416 (2006).
- **Stamatakis** E., Chatzichristos C., Stubos A., Palyvos I., Muller J., Stokkan J.-A., “An integrated radiotracer approach for the laboratory evaluation of scale inhibitors performance in geological environments”, *Chemical Engineering Science*, **61**, 7057-7067 (2006).
- **Stamatakis** E., Haugan A., Chatzichristos C., Stubos A., Muller J., Dugstad Ø., Palyvos I., “Study of calcium carbonate precipitation in the near-well region, using ⁴⁷Ca as tracer”, *SPE Production & Operations*, **21/1**, 33-39 (2006).
- **Stamatakis** E., Stubos A., Palyvos I., Chatzichristos C., Muller J., “An improved predictive correlation for the induction time of CaCO₃ scale formation during flow in porous media”, *Journal of Colloid and Interface Science*, **286/1**, 7-13 (2005).
- **Stamatakis** E., Haugan A., Dugstad Ø., Muller J., Chatzichristos C., Bjørnstad T., Palyvos I., “Validation of Radiotracer Technology in Dynamic Scaling Experiments in Porous Media”, *Chemical Engineering Science*, **60/5**, 1363-1370 (2005).
- K. Papadopoulos, J. Lignos, M. **Stamatakis**, D. Dimotikali, J. Nikokavouras, “Radiochemi-luminescence of Acridones and Alkyl Acridans”, *J. Photochemistry and Photobiology A: Chemistry*, **115**, 137-142 (1998).

In Conferences

- E. **Stamatakis**, “BENCHMARK ANALYSIS & PRE-FEASIBILITY STUDY FOR THE MARKET PENETRATION OF METAL HYDRIDE HYDROGEN COMPRESSORS”, oral presentation during the Workshop on Integrated, Innovative Renewable Energy – Hydrogen Systems and Applications, 5th Hellenic Forum, NCSR Demokritos, Athens, Greece, 5th July 2017.
- Hydrogen Technologies”, invited presentation, Second International Computational Science and Engineering Conference, Doha, October 23-24, 2017.
- G. Tzamalis, A. Stubos, E. **Stamatakis**, C. Christodoulou, G. Karagiorgis, K. Deligiannis, D. Hadjipetrou, H von Storch, “ Hydrogen compression and storage with the use of AB₂ and AB₅ type metal hydrides”, 11th National Scientific Conference of Chemical Engineering, 25 – 27 May 2017, Thessaloniki, Greece.
- A. Houaijia, E. **Stamatakis**, T. Stubos, “Solar Electrolysis for Hydrogen Production coupled to a Metal Hydride Hydrogen Compressor”, conference paper, the European Fuel Cell forum EFCF, 4-7 July 2017, Lucerne, Switzerland.
- E. **Stamatakis**, Zoe Massina, Christos Agrafiotis & Dimitris Hatzipetrou, “Metal Hydride Hydrogen Compressors: A modularly scalable, intrinsically silent and low cost hydrogen compression system”, poster presentation during the 2016 Researchers’ Night, September 2016.
- A.K. Stubos, E. **Stamatakis**, “Modeling and Simulations Supporting the Application of
- E. **Stamatakis**, A.K. Stubos, I. Tzagkaroulaki, “A Techno-economic Analysis for the Integration of Metal Hydride Hydrogen Compressors in Real Power Systems”, oral presentation during the Integration of Sustainable Energy Conference, Nuremberg, Germany, 11 - 12 July 2016.
- Daniel FRUCHART, E. Kouloukakis, P. de Rango, N. Skryabina, M. Jehan, M. Odysseos, T. Papapanagiotou, Ch. Cristodoulou, G. Karagiorgis, G. Charambopoulou, T. Steriotis, S. Makridis, M. **Stamatakis**, V. Psycharis, T. Stubos, “Energy efficient hydrogen compression for refueling station”, oral presentation during the 5th New Energy Forum-2015, Xi’An, China, 24-26 October 2015.

- Koulkoutis V, Patricia de Rango, Hlil E.K, Fruchart D., Odysseos M., Papapanagiotou T., Christodoulou C., Karagiorgis G., Charalambopoulou G., Steriotis T., **Stamatakis E.**, Psycharis V., Tzagkaroulaki I., Stubos A., “Composition changes of structural and hydrogenation properties of ZrM 2 type intermetallics for high pressure storage applications”, 14th International Symposium on Metal-Hydrogen Systems, Manchester, UK; 07/2014.
 - Emmanuel Zoulias, Emmanuel **Stamatakis**, Ioanna Tzagkaroulaki, Athanassios Stubos, George Karagiorgis, “A Techno-economic Analysis of the Integration of Metal Hydride Compressors in Real Power Systems”, poster presentation during the International Congress on Materials and Renewable Energy (MRE2013), Athens, Greece, 1-3 July 2013.
 - Emmanuel **Stamatakis**, Athanassios Stubos, Emmanuel Zoulias, Sofoklis Makridis, Ioanna Tzagkaroulaki, Georgia Charalampopoulou, Theodor Steriotis, Christodoulos Christodoulou, “Hydrogen Storage in Solid Materials: Research Priorities – Hydrogen Compression using metal hydride alloys”, poster presentation during the International Congress on Materials and Renewable Energy, Athens, Greece, 1-3 July 2013.
 - G. Tzamalīs, E.I. Zoulias, E. **Stamatakis**, O. – S. Parissis, A. Stubos, E. Lois, “Techno-economic analysis of RES & hydrogen technologies integration in remote island power systems”, EmHyTec 2012, Tunisia, 11 – 14 September, 2012.
 - Emmanuel **Stamatakis** & Athanassios Stubos, “ATLAS-H2: A success story”, EASTWEST 2012, Session 1.3: Bridges between higher education, research and business - Marie Curie Actions, Nicosia, Cyprus, 31/8 – 4/9/2012
 - A.G. Tsikalakis, N.D. Hatziargyriou, G. Caralis, A. Zervos, E. Zoulias, E. **Stamatakis**, G. Tzamalīs, O.-S. Parissis, S.S. Garcia, D.Henríquez Alamo, “Impact of different applications of Storage Systems in Island Power systems”, presented during the Conference on the promotion of Distributed Renewable Energy Sources in the Mediterranean region, Nicosia, Cyprus, 11-12 December 2009 (Paper ref No: 131).
 - O.-S. Parissis, E. Zoulias, E. **Stamatakis**, K. Sioulas, L. Alves, R. Martins, A. Tsikalakis, N. Hatziargyriou, G. Caralis, A. Zervos, “ Integration of Wind and Hydrogen Technologies in the Power System of Corvo Island, Azores:A Cost-Benefit Aanalysis”, presented during the HYSYDAYS – 3rd World Congress of Young Scientists on Hydrogen Energy Systems, Turin, Italy, 07-09 October 2009.
 - Varkaraki E., Zoulias E., **Stamatakis E.**, “Operational Experience from the RES2H2 Hydrogen Plant in Greece”, *17th World Hydrogen Energy Conference*, Brisbane, Australia, 15-19 June 2008
 - Varkaraki E., Tzamalīs G., Zoulias E., **Stamatakis E.**, “Performance of the RES2H2 Wind-Hydrogen Plant in Greece ”, *2nd Hydrogen & Energy Symposium*, Braunwald, Switzerland, 21-25 January 2008.
- **.Numerous publications in Greek Conferences (in greek).**

Other special publications

- **Emmanuel Stamatakis**, “Hydrogen – The energy carrier of the future”, Bulletin of the Hellenic Association of Mechanical Electrical Engineers, No 428, April 2010.
- E. **Stamatakis**, P. Coroyannakis, E. Giovannetti, R. Pagani, U. Fernandes, “SWOT analysis for the introduction of hybrid RES-energy storage power systems”, technical report, STORIES project (EIE/07/159), April 2009.
- Holleis, E. **Stamatakis**, M. Klell, N. Owen, M. Keenan, S. Vinot, M. Weeda, R. Bleischwitz, “Recommendations for the Fuel Cell and Hydrogen Research Agenda”, technical report R2H6035PU.1, FP6 Roads2HyCom project, February 2009.
- **Numerous technical reports to industrial partners in the framework of various confidential industrial R&D projects on Energy & Environment** (*not published in the open literature*).