Project Title	Integrated management and exploitation of multi-dispersed agricultural residues – application to energy production		
Acronym	SYNAGRON	Project Coordinator	Prof. Vagelis G. Papadakis
Organization	UNIVERSITY OF WESTERN MACEDONIA Partner Leader: Professor MARIA A. GOULA	Department of Chemical Engineering, *Laboratory of Alternative Fuels and Environmental Catalysis*	

Maria A. Goula is **Professor of Catalysis** in the **Department of Chemical Engineering** and **Director** of the Laboratory of Alternative Fuels and Environmental Catalysis (LAFEC), of the **University of Western Macedonia (UOWM)**.

Prof. **M.A. Goula** obtained her diploma (Chemistry) in 1987 and her Ph.D. (Catalysis) in 1993, from the University of Patras (UOP). From 1992-1998 she worked as a **Senior Researcher** at the Chemical Process Engineering Research Institute (CPERI), and from 2000-2001 at the Institute for Solid Fuels Technology and Applications (ISFTA) - both of the Centre for Research and Technology Hellas (CERTH). From 2001-2004 she worked as an **Adjunct Assistant Professor** at the Departments of (i) Mechanical Engineering, (ii) Medicine, and (iii) Biochemistry and Biotechnology, of the University of Thessaly (UOT). In 2004 she was appointed as **Assistant Professor** at the Department of Environmental and Pollution Control Engineering (TEIWM); the position became a permanent one in 2007. She was elected an **Associate Professor** in 2012 and **full Professor** in 2017. She became an academic member of UOWM in 2019. She is also serving as **collaborating faculty member** in the Hellenic Open University (HOU) for the MSc program entitled "Catalysis and Protection of the Environment" since 2004. **Prof. M.A. Goula** has also enjoyed research stays as invited Researcher at several excellent research centers e.g., the University of Surrey (UK), the Khalifa University of Science and Technology (UAE), the University of Zaragoza (Spain), the University of Cyprus, the University of Castilla-La Mancha (Spain) and at Ruhr-University Bochum (Germany).

Prof. M.A. Goula is author of more than **60 research publications** in Peer Reviewed International Journals with a total Impact Factor= **270,939** and average IF/paper= **4,516**, which have received over **1920 citations** (Scopus), giving her a **Hirsch (h)-index = 21**. She also has a large number of publications in peer reviewed international (**>100**) and national (**>50**) conference proceedings. She is on the **Editorial Board** of several International Scientific Journals and acts as a **regular reviewer in over 50 Scientific Journals** (>250 reviews).

The **research interests** of **Prof. M.A. Goula** are focused in the fields of **Heterogeneous Catalysis** and, especially, in materials synthesis and characterization and catalyst evaluation. Of particular interest is the investigation of the surface chemistry and structure of dispersed metallic systems and of reducible metal oxides and their mixtures. Materials are characterized using a combination of physicochemical techniques, including selective chemisorption of probe molecules, TPD, TPR, TPH, TPO, XRD, FT-IR, Raman, XPS and SEM/TEM. In parallel to catalyst development and testing, fundamental studies are made to identify the surface parameters, which determine the catalytic performance. The primary goal of **Prof. M.A. Goula** is the development of novel catalysts for: (I) Hydrogen/syngas production via (a) **Glycerol Steam Reforming**, (b) **Biogas dry reforming**, and (c) **Ethanol steam reforming**, (II) The **selective reduction of NOx** present in the exhaust of lean-burn and diesel engines, (III) The production of "green diesel" via the **selective deoxygenation (SDO)** of natural triglycerides, and (IV) The **utilization of CO_2 for the production of methane** (Sabatier reaction).

Prof. M.A. Goula has acted as Coordinator or Team Leader at seven (9) National and four (4) international R&D projects. She has also been Coordinator at two (2) industrial R&D contracts (awarded by GEOHELLAS S.A. and PPC S.A.) and four (4) R&D projects awarded by TEIWM (internal funds). Prof. M.A. Goula has participated as Senior Researcher in six (6) European and six (6) National R&D projects. The total budget of the projects in which she has acted as Coordinator or Team Leader is >1.000.000€. Prof. M.A. Goula has co-supervised (member of the tripartite advisory committee) two (2) PhD students, while another five (5) are ongoing. She has also supervised >15 MSc (HOU) and >50 diploma dissertations.

Prof. M.A. Goula is actively seeking to develop and expand a network of collaborators in Greece and she has close cooperation with academic staff members from TUC, UP, UOT, UOWM, CPERI/CERTH and HOU. She also has a strong network of industrial partners including: GEOHELLAS S.A., HELBIO S. A., PPC S.A., and INTERGEO S.A. Prof. M.A. Goula is also striving to develop a solid collaboration network with leading Universities and Research Institutions abroad. Since 2016 she has enjoyed an ever closer collaboration with Prof. K. Polychronopoulou (Khalifa University of Science and Technology, UAE), Prof. M.A. Baker (University of Surrey, UK) and Prof. V.C. Sebastian (University of Zaragoza, Spain), as can be seen in her list of publications. She is also enjoying close collaboration with the Coordinator of this project, Prof. V.G. Papadakis, as evidenced by common publications and co-supervision of Ph.D candidates.

Savvas Douvartzides is **Associate Professor** in the **Department of Mechanical Engineering** of the University of Western Macedonia (UOWM). He obtained his diploma (Mechanical Engineering) in (1997) and his Ph.D. (Electrochemistry/Fuel Cells) in 2004, from the University of Thessaly (UOT). He also worked as a post doc in UOT between 2005-2006. Between 2005-2011 he worked as an Adjunct Assistant Professor in the Mechanical Engineering Department of TEIWM where he was elected as an Assistant Professor in 2014. He became an academic member of UOWM in 2019 and was elected as **Associate Professor** in the same year. **Dr S. Douvartzides** is author of more than **31 research publications** in Peer Reviewed International Journals, which have received over **894 citations** (Scopus), giving him an **h-index = 11.** He also has over 30 publications in peer reviewed international and national conference proceedings.

Dr **Nikolaos D. Charisiou** is a Senior Researcher at the Laboratory of Alternative Fuels and Environmental Catalysis (LAFEC) of the **Department of Chemical Engineering (UOWM)**. He obtained his Diploma (Environmental Management) in 2000 from the Manchester Metropolitan University and his MSc (Environmental Engineering) in 2002 from the University of Manchester, UK. He obtained his Ph.D. (Biomass utilization) in 2017 from the University of Patras (UP). He has been a visiting researcher to the University of Surrey (UK), University of Zaragoza (Spain) and Beijing University of Chemical Technology (China). He is the author of **44 publications** in Peer Reviewed International Journals (with a total Impact Factor = **165.772** and average IF/paper= **3.855)**, which have received over **950 citations**, giving him an **h-index = 16 (Scopus)**. He also has a large number of publications in peer reviewed international (>90) and national (>30) conference proceedings. Dr **N.D. Charisiou** is a regular reviewer in over 15 international journals and acts as Guest Editor for the Journals: Catalysts, Energies and Materials (all MDPI). The research interests of Dr **N.D. Charisiou** focus in the field of **Heterogeneous Catalysis** and, especially, in materials synthesis and characterization and catalyst evaluation.

Mr **Amvrosios Georgiadis** is a Chemical Engineer (AUTH, 2010) and a PhD candidate at LAFEC/UOWM (start date: Sept 2019). Prior to commencing his Pd.D Mr **Amvrosios Georgiadis** worked for a number of years in the private sector. He is the author of **three (3) publications** in Peer Reviewed International Journals and five (5) publications in peer reviewed international conference proceedings.

SELECTED PUBLICATIONS:

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3. Charisiou N.D., Italiano C., Pino L., Sebastian V., Vita A., Goula M.A., Hydrogen production via steam reforming of glycerol over Rh/γ-Al_2O_3 catalysts modified with CeO_2, MgO or La_2O_3. ***Renewable Energy*** 162 (**2020**) 908-925.
4. Papageridis K.N., Charisiou N.D., Douvartzides S.L., Sebastian V., Hinder S.J., Baker M.A., Polychronopoulou K., Goula M.A., Effect of operating parameters on the selective catalytic deoxygenation of palm oil to produce renewable diesel over Ni supported on Al_2O_3, ZrO_2 and SiO_2 catalysts. ***Fuel Processing Technology*** 209 (**2020**) 1065447.
5. Mitran G., Saab R., Charisiou N.D., Polychronopoulou K., Goula M.A., Ketonization of n-butanol over molybdenum supported on carbon covered alumina (CCA). ***Molecular Catalysis*** 495 (**2020**) 111159.
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7. Georgiadis A.G., Charisiou N.D., Goula M.A., Removal of Hydrogen Sulfide From Various Industrial Gases: A Review of The Most Promising Adsorbing Materials. ***Catalysts*** 10 (**2020**) 521.
8. Charisiou N.D., Siakavelas G., Tzounis L., Dou B., Sebastian V., Hinder S.J., Baker M.A, Polychronopoulou K., Goula M.A., Ni/Y_2O_3–ZrO_2 catalyst for hydrogen production through the glycerol steam reforming reaction. ***International Journal of Hydrogen Energy*** 45 (**2020**) 10442-10460.
9. Jin W., Pastor-Pérez L., Villora-Pico J.J., Pastor-Blas M.M., Sepúlveda-Escribano A., Gu S., Charisiou N.D., Papageridis K., Goula M.A., Reina T.R., Catalytic Conversion of Palm Oil to Bio-Hydrogenated Diesel over Novel N-Doped Activated Carbon Supported Pt Nanoparticles. ***Energies*** 13 (**2020**) 132. \
10. Polychronopoulou K., Charisiou N.D., Siakavelas G., AlKhoori A.A., Sebastian V., Hinder S.J., Baker M.A., Goula M.A., Ce-Sm-xCu cost efficient catalysts for H_2 production through the glycerol steam reforming reaction. ***Sustainable Energy & Fuels*** 3 (**2019**) 673-691.