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EDUCATION

1998-2001: **Ph.D.**, Department of Chemistry, University of Patras, Title of Thesis: "*Synthesis and spectroscopic characterization of rigid polymers and their blends for use in fuel cells*", under the supervision of Prof. J. K. Kallitsis.

1993-1997: **B.Sc.** in Chemistry, Department of Chemistry, University of Patras

PROFESSIONAL EXPERIENCE

03/2016- to date: **Assistant Professor**, Department of Chemistry, University of Patras.

01/2012- 03/2016: **Lecturer**, Department of Chemistry, University of Patras.

03/2006-12/2011: **Researcher**, R&D Department, Advent Technologies S. A. (Patras Science Park, Patras, Greece), working on "the development of new polymeric electrolytes and optimization of their properties to be used in high temperature fuel cells (PEMFCs)".

05/2007-08/2007 & 02/2006-07/2006: **Adjunct Lecturer** (P.D.407), Department of Chemistry, University of Patras.

06/2004-02/2006: **Postdoctoral Researcher**, Section of Analytical, Environmental & Applied Chemistry, Department of Chemistry, University of Patras.

03/2004-08/2004: **Adjunct Lecturer** (P.D.407) Department of Material Science, University of Patras.

09/2003-09/2004: **Research Associate**, Laboratory of Organic Synthesis, Institute of Chemical Engineering Sciences (ICE-HT).

06/2002-07/2003: **Postdoctoral Researcher**, Max-Planck Institute for Polymer Research (Mainz, Germany): "*Morphological Study of substituted poly(p-phenylene)sulfonates using TEM microscopy*" , under the supervision of Prof. Dr. G. Wegner.

11/2001-06/2002: **Postdoctoral Researcher**, Section of Analytical, Environmental & Applied Chemistry, Department of Chemistry, University of Patras.

RESEARCH ACTIVITIES

- Synthesis and characterization of polymeric electrolytes for use in fuel cells (PEMFCs)
- Design and development of alkaline polymer electrolytes for alkaline fuel cell (APEFC) applications or alkaline water electrolysis
- Design and development of polymeric membranes that can be used as electrolytes and/or separators in lithium ion batteries
- Design, synthesis and characterization of novel Polymeric Ionic liquids (PILs) membranes for CO₂ gas separation
- Synthesis and properties study of cross-linked polymers targeting on the mechanical properties improvement

PARTICIPATION IN RESEARCH PROJECTS

1. JOULE III, JOE3CT970045. *“Advanced Solid Polymer Fuel Cells for Operation at Temperatures up to 200°C”*, funded by EU. Budget: 192.000 €, Partners: CLC s.r.l., Denmark's Technische Universitet, Department of Chemistry (DK), FORTH/ICE-HT, Scientific Coordinator: Prof. G. Papatheodorou, FORTH/ICE-HT (1998–2001).
2. GROWTH, G5RD-CT-2001-00568. *“Specialty Antimicrobial Polymeric Materials”*, funded by EU. Budget: 185.000 €, Partners: ARGO SA, FORTH/ICE-HT, University of Liege, GAIKER, NAFC, Polysilk, University of Erlangen, Romnac, Scientific Coordinator: Prof. J. K. Kallitsis, FORTH-ICE/HT (2001-2004)
3. EPAN. *“Development of Flexible photovoltaics”*, funded by General Secretariat of Research and Technology (GSRT). Budget: 128000 €, Partners: KARAMOUZIS ELLINIKI OPTIKI S.A., FORTH/ICE-HT, MORNOS S. A., Centre for Renewable Energy Sources and Saving (CRES), Scientific Coordinator: Dr. V. Gregoriou, FORTH-ICE/HT (2003-2006).
4. **PYTHAGORAS I, EPEAEK II.** *“Synthesis and Characterization of polymeric membranes for use in fuel cell (PEMFCs) at low and intermediate temperatures”*, funded by Ministry of Education, **after reviewing the research proposal and the CV of the postdoctoral researcher: V. Deimede.** Budget: 85.000 €, Scientific Coordinator: Prof. J. K. Kallitsis, University of Patras, Department of Chemistry (2004-2006).
5. IRAFC, FCH-JU 245202. *“Development of an Internal Reforming Alcohol High Temperature PEM Fuel Cell Stack”*, funded by EU (Fuel Cells and Hydrogen Joint Undertaking, JTI-FCH-JU-2008-1.) Budget: 110.000 €, Partners: Advent Technologies S. A., IMM, CNRS, Nedstack, University of Maria Curie-Sklodowska, FORTH-ICE/HT. Scientific Coordinator: Prof. J. K. Kallitsis, (2009-2012).
6. DENANES (SYNERGASIA, 09SYN-42-420). *“Development of nanomaterials for lithium batteries”*, funded by General Secretariat of Research and Technology (GSRT). Budget: 110.000 €, Partners: FORTH-ICE/HT, SYSTEMS SUNLIGHT S. A., Department of Chemistry/University of Patras, Scientific Coordinator: Prof. J. K. Kallitsis (2010-2013).
7. THALIS (F.K.: D.544). *“Development of Photo Fuel Cell for hydrogen and electricity cogeneration by photooxidation of organic pollutants”*, funded by Ministry of Education. Budget: 159.700 €, Partners: FORTH-ICE/HT, Department of Chemical Engineering/University of Patras, Department of Engineering Sciences/University of Patras, Scientific Coordinator: Dr. S. Noephytides, FORTH/ICE-HT (2011-2015).
8. SMARTPRO (SEC 607295). *“Lightweight, flexible and smart protective clothing for law enforcement personnel”*, funded by EU (FP7-SEC-2013-1). Budget: 80.000 €, Partners: FORTH, MIRTEC S. A., LEITAT, NTT, SIAMIDIS S. A., RWTH, BCB International Ltd, SOLIANI EMC, INT, CIMA S.A., Scientific coordinator: Dr. G. Voyiatzis, FORTH/ICE-HT (2014-2017).
9. **PROJECT KARATHEODORI 2013 (F.K. E052).** *“Development of alkaline polymer electrolytes bearing phosphonium groups”*, funded by: Research Committee, University of Patras. Budget: 33.000 €, **COORDINATOR: V. Deimede** (2014-2016).
10. PROJECT AENAO. *“Materials and Processes for energy and environmental applications”* Host Institution: FORTH/ICE-HT (Greece). (2018-2020)

PUBLICATION RECORD

- Publications in Refereed Journals: **31**
- Citation Index (Google Scholar June 2019): **~1300**

- h-index = 15
- Patents: 5 (3 international, 2 Greek)

PUBLICATIONS IN PEER-REVIEWED JOURNALS

1. "Molecular Orientation of Blue Luminescent Rigid-Flexible Polymers" ,**V. Deimede**, K. S. Andrikopoulos, G. A. Voyiatzis, F. Konstandakopoulou and J. K. Kallitsis, *Macromolecules* 32, 8848, **1999**.
2. "Miscibility Behavior of Polybenzimidazole/Sulfonated Polysulfone Blends for Use in Fuel Cell Applications" **V. Deimede**, G. A. Voyiatzis, J. K. Kallitsis, L. Qingfeng and N. J. Bjerrum, *Macromolecules* 33, 7609, **2000**.
3. "Miscibility Behavior of Polyamide 11/Sulfonated Polysulfone Blends Using Thermal and Spectroscopic Techniques" **V. A. Deimede**, K. V. Fragou, E. G. Koulouri, J. K. Kallitsis, G. A. Voyiatzis , *Polymer* 41, 9095, **2000**.
4. "Development and Characterization of Acid-Doped Polybenzimidazole/ Sulfonated Polysulfone Blend Polymer Electrolytes for Fuel Cells" C. Hasiotis, L. Qingfeng, **V. Deimede**, J. K. Kallitsis, C. G. Kontoyannis and N. J. Bjerrum, *J. Electrochem. Soc.* 148(5), A513, **2001**.
5. "Synthesis and Properties of Amorphous Blue-light-Emitting Polymers with High Glass-Transition Temperatures" **V. Deimede**, J. K. Kallitsis, T. Pakula *J. Polym. Sci. Part A: Polym. Chem.* 39, 3168, **2001**.
6. "New Polymer Electrolytes Based on Blends of Sulfonated Polysulfones with Polybenzimidazole" C. Hasiotis, **V. Deimede**, C. Kontoyannis, *Electrochim. Acta* 46, 2401, **2001**.
7. "Functionalization of Synthetic Polymers for Potential Use as Biomaterials: Selective Growth of Hydroxyapatite on Sulfonated Polysulfone" N. Spanos, **V. Deimede**, P. G. Koutsoukos, *Biomaterials* 23, 947, **2002**.
8. "Synthesis of Alternating Polystyrene/Poly (ethylene oxide) Branched Polymacromonomers" **V. Deimede** and J. K. Kallitsis, *Chem. Eur. J.* 8, 467, **2002**.
9. "Correlation of the Molecular Orientation and Photonic Properties of Rigid-Flexible Aromatic Polyethers Using FT-IR Linear Dichroism and Photoluminescence Spectroscopic Techniques" C. L. Chochos, G. Kandilioti, **V. A. Deimede**, V. G. Gregoriou, *J. Macromol. Sci. Pure Appl. Chem.* A39, 1317, **2002**.
10. "Novel Proton Conducting Polyelectrolyte Composed of an Aromatic Polyether Containing Main-Chain Pyridine Units for Fuel Cell Applications" N. Gourdoupi, A. K. Andreopoulou, **V. Deimede**, J. K. Kallitsis, *Chem. Mater.* 15, 5044, **2003**.
11. "Synthesis of End-Functionalized Polystyrenes Using ATRP and their Grafting onto Polyethylene Copolymers" V. Karavia, **V. Deimede**, J. K. Kallitsis, *J. Macromol. Sci. Pure Appl. Chem.* A41, 115, **2004**.
12. "Morphological Study of the Organization Behavior of Rod-Coil Copolymers and their Blends in Thin Solid Films" N. P. Tzanetos, V. Dracopoulos, J. K. Kallitsis and **V. A. Deimede*** *Langmuir* 21, 9339, **2005**
13. "Novel Polymer Electrolyte Membrane for Application in High Temperature Fuel Cells" E.K. Pefkianakis, **V. Deimede**, M. K. Daletou, N. Gourdoupi, and J. K. Kallitsis *Macromol. Rapid Commun.* 26, 1724, **2005**.
14. Synthesis of Poly(arylene ether) Copolymers Containing Pendant PEO Groups and Evaluation of Their Blends as Proton Conductive Membranes" **V. A. Deimede*** and J. K. Kallitsis, *Macromolecules* 38(23), 9594, **2005**.

15. "Blends of Sulfonated Polysulfone and Poly (ethylene oxide) grafted-polyethersulfone as proton exchange membranes for fuel cell applications" **V. A. Deimede***, G. Kandilioti, J. K. Kallitsis, V. G. Gregoriou , *Macromolecular Symposia* 230, 33, **2005**.
16. "Equilibrium length and shape of rod-like polyelectrolyte micelles in dilute aqueous solution" A. Kroeger, **V. Deimede**, J. Belack, I. Lieberwirth, G. Fytas, G. Wegner, *Macromolecules* 40, 105, **2007**.
17. "Synthesis of a soluble n-Type Cyano Substituted Polythiophene Derivative: Potential electron Acceptor in Polymeric Solar Cells" C. Chochos, S. Economopoulos, **V. Deimede**, V. Gregoriou, M. Lloyd, G. Malliaras, J.K. Kallitsis, *J. Phys. Chem. C* 111, 10732, **2007**.
18. "Novel pyridine-based poly(ether sulfones) and their study in high temperature PEM fuel cells" M. Geormezi, **V. Deimede**, N. Gourdoupi, N. Triantafyllopoulos, S. Neophytides, J. Kallitsis, *Macromolecules*, 41, 9051, **2008**.
19. "Blends of aromatic polyethers bearing polar pyridine units and their evaluation as high temperature polymer electrolytes" E. Pefkianakis, C. Morfopoulou, **V. Deimede**, J. K. Kallitsis, *Macromolecular Symposia*, 279, 183, **2009**.
20. "Side Chain Cross-linking of Aromatic Polyethers for High Temperature Polymer Electrolyte Membrane Fuel Cells (PEMFCs)" A. Voege, **V. Deimede**, J. K. Kallitsis, *J. Polym. Sci. Part A: Polymer Chemistry* 50, 207, **2012**.
21. "Polymer Blends based on copolymers bearing both side and main chain pyridine units as proton exchange membranes for high temperature fuel cells" M. Geormezi, **V. Deimede***, J. K. Kallitsis, S. Neophytides, *J. Membr. Sci.* 396, 57, **2012**.
22. "Polymer Electrolyte Membranes based on Blends of Sulfonated Polysulfone and PEO grafted Polyethersulfone for Low Temperature Water Electrolysis" **V. Deimede***, D. Labou, S. Neophytides, *J. Appl. Polym. Sci.* 131 (4), 39922, **2014**.
23. "Synthesis and properties of aromatic polyethers containing poly(ethylene oxide) side chains as polymer electrolytes for lithium ion batteries" A. Voege*, **V. Deimede***, F. Paloukis, S. Neophytides, J. K. Kallitsis , *Mater. Chem. Phys.* 148, 57, **2014**.
24. "Large Scale Separators Based on Blends of Aromatic Polyethers with PEO for Lithium-Ion Batteries: Improving Thermal Shrinkage and Wettability Behavior" **V. Deimede***, A. Vöge, G. Lainioti, C. Elmasides, J. K. Kallitsis, *Energy Technol.* 2, 275, **2014**.
25. "Synthesis and properties of alkaline stable pyridinium containing anion exchange membranes" A. Vöge, V. Deimede, J. K. Kallitsis, *RSC Adv.* 4, 45040, **2014**.
26. "Study of polymer blend membranes composed of sulfonated polysulfone and PEO-grafted aromatic polyether with controllable morphology" **V. Deimede***, K. Nikitopoulou, A. Voege, J. K. Kallitsis, *Eur. Polym. J.* 63, 113, **2015**.
27. "Separators for Lithium Ion Batteries: A review on the production processes and recent developments" **V. Deimede*** and C. Elmasides, *Energy Technol.*: DOI: 10.1002/ente.201402215. (Invited review article)
28. "Self-cross-linked quaternary phosphonium based anion exchange membranes: assessing the influence of quaternary phosphonium groups on alkaline stability" Pileas Papanstantinou and **Valadoula Deimede***, *RSC Adv.* 6, 114329, **2016**.
29. "Morphological control of porous membranes based on aromatic polyether/water soluble polymers" D. Karamessini, G. Ch. Lainioti, **V. Deimede**, J. K. Kallitsis, *J. Appl. Polym. Sci.* 2016, DOI: 10.1002/APP.44539, 34(9), **2017**.

- 30.** “New Pyridinium Type Poly(Ionic Liquids) as Membranes for CO₂ Separation” A. Vollas, T. Chouliaras, **V. Deimede***, Th. Ioannides, J. K. Kallitsis, *Polymers*, 10(8), 912, **2018**.
- 31.** “Pyrrolidinium based PILs as absorbents for anionic dye removal” M. Makrigianni, A. Manousou, Z. Lada, C. Aggelopoulos*, **V. Deimede***, *Journal of Environmental Chemical Engineering*, ,7, 103163, **2019**.

PATENTS

1. “Acid Impregnated Polymeric Membranes for Use as Solid Electrolytes” G. Papatheodorou, C. Hasiotis, C. Kontogiannis, G. Voyiatzis, **V. Deimede**, J. Kallitsis, Hellenic Patent Application No: 990100451/ 30.12.1999, **Patent No: 1003647/30.8.01**.
2. “Aromatic polyether copolymers and polymer blends and fuel cells comprising same”, N. Gourdoupi, N. Triantafyllopoulos, **V. Deimede**, L. Pefkianakis, M. Daletou, S. Neophytides, J. Kallitsis, **US 2008/0063923**.
3. “Proton Conductors based on aromatic polyethers and their use as electrolytes in high temperature PEM fuel cells”, **V. Deimede**, N. Gourdoupi, **US 2008/0233455**.
4. “Novel poly (arylene ether) copolymers containing pyridine units as proton exchange membranes”, M. Geormezi, **V. Deimede**, N. Gourdoupi, J. Kallitsis, **US 7,842,734, 2010**.
5. “Development of porous separators based on blends of aromatic poluyethers with water soluble polymers for use in lithium ion batteries”, C. Elmasides, A. Voege, **V. Deimede**, G. Laionioti, J. K. Kallitsis. Hellenic Patent Application No: 20120100348/29.06.2012, **Patent No: 1008019/29.10.2013**.