

Curriculum Vitae



Personal Data

Family Name: Kostas
First Name: Ioannis
Sex: Male
Date of Birth: 1964 (Karystos, Greece)
Marital status: Married, 2 children
Military service: Special Forces – Marine, 1991-1993
Sports: Taekwon Do (black belt, 4th DAN), Running, Swimming

Education

1986: Degree in Chemistry, Aristotle University of Thessaloniki, Greece
1991: PhD in Organometallic Chemistry, National and Kapodistrian University of Athens, Greece

Employment

1987-1991: Doctoral Fellow with Dr. C.G. Screttas/Director
National Hellenic Research Foundation, Institute of Organic and Pharmaceutical Chemistry, Athens, Greece
Scientific field: main group organometallic chemistry

1994-1995: Post-doctoral Fellow with Prof. Dr. F. Bickelhaupt/Director
Vrije Universiteit (Free University), Faculteit der Scheikunde, Amsterdam, The Netherlands
Scientific field: organometallic chemistry of crown ethers

1995-1996: Post-doctoral Fellow with Prof. Dr. M.T. Reetz/Director
Max-Planck-Institut für Kohlenforschung, Mülheim an der Ruhr, Germany
Scientific field: transition-metal complexes with functionalized-phosphines and homogeneous catalysis

1996-present: Researcher (Research Director since 2007), **National Hellenic Research Foundation**, Institute of Organic and Pharmaceutical Chemistry, Athens, Greece
Scientific fields: see below.

5-8/2007: Guest Researcher, **Max-Planck-Institut für Kohlenforschung** (Reetz's group), Mülheim an der Ruhr, Germany

Training

1. Post-graduate courses in organic chemistry and spectroscopic analysis
National Center for Scientific Research “Democritos”, Institute of Physical Chemistry, Athens 1989
2. Courses in transition-metal homogeneous catalysis
Max-Planck-Institut für Kohlenforschung, Mülheim an der Ruhr (Germany), November 1995
3. 1st International School of Organometallic Chemistry (ISOC '97), Camerino (Italy) September 9-13, 1997
4. 2nd Summer School on Green Chemistry, Venice (Italy) September 6-12, 1999
5. Courses in biocatalysis
Max-Planck-Institut für Kohlenforschung, Mülheim an der Ruhr (Germany), May-June 2007

Scientific fields of interest: organic chemistry, organometallic chemistry, coordination chemistry, supramolecular chemistry, homogeneous catalysis / catalysis by metal nanoparticles and applications to organic synthesis, pharmaceutical chemistry

Main scientific contribution

- Initiation of **non cyclic-amino bisphosphinites** as efficient ligands in the Rh-catalyzed hydroformylation (*J. Organomet. Chem.* **2001**, 626, 221).
- Involvement of a **hemilabile amino- and sulfur-containing phosphinite** as efficient ligand in the Pd-catalyzed Heck reaction (*Tetrahedron* **2003**, 59, 3467).
- **First use of thiosemicarbazones** as ligands in the Pd-catalyzed coupling reactions in air (*Tetrahedron Lett.* **2004**, 45, 2923; *Tetrahedron Lett.* **2005**, 46, 1967; *Tetrahedron Lett.* **2006**, 47, 4403).
- **Me-ANILAPHOS**: a highly versatile chiral ligand for the Rh-catalyzed asymmetric olefin hydrogenation (*Tetrahedron Lett.* **2006**, 47, 7947).
- **First use of porphyrins** as ligands in the Pd-catalyzed Suzuki reaction, and Rh- and Ru-catalyzed hydrogenation of *trans*-cinnamaldehyde – recyclable catalysts in aqueous media (*Tetrahedron Lett.* **2007**, 48, 6688; *Eur. J. Inorg. Chem.* **2011**, DOI: 10.1002/ejic.201100668).

Commercial products

Salicylaldehyde thiosemicarbazone palladium(II) chloride

Description: catalyst used for Suzuki reaction under aerobic conditions

ALDRICH (Product No.: 674125)

SANTA CRUZ (Product No.: sc-253529)

Reference: Kostas, I.D. et al. *Tetrahedron Lett.* 46 (2005) 1967

Teaching and Supervision Experience

- Coordinator of the training seminar “Contemporary Organic Chemistry and Applications” for high school teachers, consisting of lectures and practical exercises, funded by the Mobility Program of the Greek National Youth Foundation. National Hellenic Research Foundation, Institute of Organic and Pharmaceutical Chemistry, Athens, May 1998.
- Lectures and practical courses in the field “Transition-metal homogeneous catalysis. Applications to organic synthesis” within the European program Marie Curie Actions, Early Stage Training (EST) with the acronym “EURODESYS” (2006-2010).
- Supervisor of MSc, PhD students / Post-docs (Varvara Varda, Christina Stangel, Kalliopi A. Vallianatou / “Leonidas Zervas” Prize, Alia-Cristina Tenchiu (Deleanu), Dr. Fotini J. Andreadaki, Dr. Ioannis Liratzis, Dr. Evangelos Tolis) and participation in the supervision of several other young scientists within National and EU programs (e.g. Maria Kapsi / MSc student; Ioannis Stamatopoulos / PhD student).

Grants and Fellowships

1. Prize for the excellent University students, State Scholarships Foundation, 1985
2. Doctoral Fellowship, National Hellenic Research Foundation, 1987-1991
3. Post-doctoral Fellowships, Human Capital and Mobility Programme (E.U.), Contr. No. ERB CHRXCT930821 1/10/1994 - 30/9/1995 and 1/10/1995 - 15/8/1996
4. Fellowship from TMR programme (E.U.) for participation on the “2nd Summer School on Green Chemistry”, Venice (Italy), September 6-12, 1999

Membership of Scientific Societies

Member of the Association of Greek Chemists

Member of the Association of Greek Researchers

Member of the American Chemical Society

Editorial Advisory Board “The Open Natural Products Journal” and “ISRN Organic Chemistry”

Member (Greek representative) of the COST action CM0802: European Phosphorus Sciences Network (PhoSciNet)

Lectures/Talks in Universities, Research Institutes, Conferences (including those as invited speaker)

- *University of Basel, Department of Chemistry, 25 August 2011*
- *43rd IUPAC World Chemistry Congress, San Juan, Puerto Rico, July 31 – August 5, 2011*
- *University of Athens, Department of Chemistry, 28 May 2010*
- *Budapest University of Technology and Economics, Department of Inorganic and Analytical Chemistry, meeting of the COST ACTION CM0802 “PHOSCINET”, 27 March 2010*
- *10th Hellenic Symposium Catalysis, Metsovo, 3-4 October 2008*
- *2nd Swedish–Hellenic Life Science Research Conference, Athens, 18-19 October 2007*
- *Heinrich-Heine-Universität Düsseldorf, Institut für Organische und Makromolekulare Chemie, 9 July 2007*
- *Max-Planck-Institut für Kohlenforschung (Seminars in Reetz’s group), Mülheim an der Ruhr, 4 June 2007*
- *2nd Hellenic Symposium “Green Chemistry and Sustainable Development”, Patras, 8-10 March 2007*
- *National Hellenic Research Foundation, Athens 21st November 2006*
- *9th Hellenic Symposium Catalysis, Leukada, 6-7 October 2006*
- *Universität Leipzig, Fakultät für Chemie und Mineralogie, Leipzig 5th April 2006*
- *Aristotle University of Thessaloniki, Department of Chemistry, Thessaloniki 14th March 2006*
- *8th FIGIPAS Meeting in Inorganic Chemistry, Athens, 6-9 July 2005*
- *1st Hellenic Symposium Organic Synthesis. From Chemistry to Biology, Medicine and Materials Science, Athens, November 4-6, 2004*
- *Concordia University, Department of Chemistry and Biochemistry, Montréal 22nd July 2004*
- *Université de Montréal, Département de Chimie, Montréal 21st July 2004*
- *Leibniz-Institut für Organische Katalyse an der Universität Rostock e.V., Rostock 2nd June 2003*
- *XVth Fechem Conference on Organometallic Chemistry, Zürich, Switzerland, August 10 - 15, 2003*
- *University of Athens – Department of Chemistry, Athens 14th April 2003*
- *19th Hellenic Chemistry Conference, Heraklion-Crete November 6-10, 2002*
- *National Center for Scientific Research “Democritus”, Institute of Physical Chemistry, Athens 9th November 2001*
- *University of Crete – Department of Chemistry, Heraklion 16th October 2001*
- *Russian Academy of Sciences – Siberian Branch, Favorsky Irkutsk Institute of Chemistry, Irkutsk 26th June 2001*
- *6th Chemistry Conference of Greece-Cyprus, Rhodes, September 2-5, 1999*
- *1st International Conference of the Chemical Societies of the South-East European Countries on Chemical Sciences and Industry, Halkidiki, Greece, June 1-4, 1998*
- *2nd Symposium of the Institute of Physical Chemistry “Chemical Research and Industry”, National Center for Scientific Research “Democritus”, Athens December 3-5, 1997*

- *National Hellenic Research Foundation*, Athens 6th February **1997**
- *17th Greek Chemistry Conference*, Athens December 1-5, **1996**
- *Max-Planck-Institut für Kohlenforschung* (Seminars in Reetz's group), Mülheim an der Ruhr 30 October **1995**
- *Vrije Universiteit, Department of Chemistry*, Amsterdam 26th January **1995**
- *University of Athens – Department of Chemistry*, Athens 21st October **1991**
- *Symposium of PhD students in Chemistry*, National Center for Scientific Research “Democritos”, Institute of Physical Chemistry, Athens October 16-18, **1989**

Further Information

- **Development** of the research in the field of transition metal homogeneous catalysis at the National Hellenic Research Foundation.
- **Reviewer of papers** submitted to chemical journals: *Advanced Synthesis & Catalysis*, *Australian Journal of Chemistry*, *Canadian Journal of Chemistry*, *Carbohydrate Research*, *Catalysis Communications*, *Catalysis Letters*, *Chirality*, *Coordination Chemistry Reviews*, *European Journal of Inorganic Chemistry*, *European Journal of Organic Chemistry*, *European Polymer Journal*, *Inorganic Chemistry Communications*, *Inorganica Chimica Acta*, *Journal of Molecular Catalysis A: Chemical*, *Letters in Organic Chemistry*, *Macromolecules*, *Scholarly Research Exchange*, *Synlett*, *Tetrahedron Letters*, *The Open Natural Products Journal*.
- **Reviewer of proposals** submitted for funding by European organizations (e.g. FP7/COFUND, ACTS – ASPECT).
- Member of the **organizing** committee and/or chair in **conferences and workshops**, such as: (a) “XXth International Conference on Organometallic Chemistry”, Corfu - Greece, July 7-12, 2002; (b) 11th Hellenic Symposium in Catalysis, Athens, 22-23 October 2010; (c) workshop “Supragene”, Athens, 7-8/10/2008; (d) Workshop “Asymmetric Synthesis and Non-Conventional Advanced Synthetic Techniques for Fine Chemicals and Pharmaceuticals”, Athens, 4-6/10/2010.
- **Member of committees** for MSc and PhD Theses (K.A. Vallianatou, I. Stamatopoulos, D. Gianitsos, M. Kapsi / Uni. Athens; A.-C. Deleanu, A. Pournata / Uni. Ioannina; , C. Stangel / Uni. Crete).