

RESEARCH GROUP AND ACTIVITIES

POST DOCTORAL ASSOCIATES, VISITING SCHOLARS, COLLABORATORS

Postdoctoral Associates/Research Associates/Visiting Research Scholars:

1. Dr. Qiuqing Yang
March 1, 2006-February 28, 2008.
Project Title: "OXONE[®]-based Heterogeneous and Homogeneous Chemical Oxidation Systems."
First Position: Postdoctoral Scholar, The Energy Institute, Pennsylvania State University, University Park, Pennsylvania.

2. Yongjun Chen
December 10, 2007-February 28, 2008.
Project Title: "Environmental and Biomedical Applications of Sonogel Carbon Electrode Sensors Modified with Titania and Zirconia Films."
Job Placement: Evernu Technology LLC, 1616 Holly Hill Ln # 108, Ambler, Pennsylvania, 19002-3171, United States.

March 24, 2010- October 10, 2010
Project Title: "The Carbon Electrodes Modified by Porous Metal Oxide Films and Their Electrochemical Responses to Dopamine"
Employment: Associate Professor, Key Laboratories of Ocean Energy Utilization and Energy Conservation of Ministry of Education, Dalian University of Technology, China.

3. Dr. Key Sang Yoo
September 15, 2003-April 15, 2004.
Project Title: "Synthesis of Mesoporous Titania Films Using Ionic Liquids as Templates."
Job Placement: Assistant Professor
Department of Chemical Engineering
Seoul National University of Technology
Seoul, 139-743, South Korea.

4. Prof. Elias Stathatos
July 26, 2004-Aug. 26, 2004 and July 31, 2007-Aug. 17, 2007
Collaborative Project Title: "Research on the Preparation of Nanostructured TiO₂ Films using Novel Self Assembling Methods for Environmental Applications"
Current Position: Associate Professor, Electrical Engineering Department, Technological-Educational Institute of Patras, Greece, Patras, Greece.

(Professor Makram T. Suidan served as co-advisor)
Dissertation Title: “*Chemical Degradation of Methyl Tert-Butyl Ether (MTBE) by Fenton Reagent*”
Job Placement: Montgomery Watson Harza, Pasadena, California

2. George P. Anipsitakis Ph.D., Graduated December 11, 2005
Dissertation Title: “*Cobalt/Peroxymonosulfate and Related Oxidizing Reagents for Water Treatment*”
Job Placement: Senior Environmental Scientist
Chastain-Skillman, Inc., Lakeland, Florida
Current Job: Senior Engineer at Brown and Caldwell, Charlotte, North Carolina Area.
3. Hyeok Choi Ph.D., Graduated June 9, 2007.
Dissertation Title: “*Novel Preparation of Nanostructured Titanium Dioxide Photocatalytic Particles, Films, Membranes, and Devices for Environmental Applications*”
Job Placement: Oak Ridge Institute of Science and Education (ORISE) Research Fellow: August 1, 2007 Land Remediation and Pollution Control Division (LRPCD), National Risk Management Research Laboratory (NRMRL), US Environmental Protection Agency, Cincinnati, Ohio.
Current Job: Assistant Professor, University of Texas at Arlington.
4. Yongjun Chen Ph.D., Graduated December 8, 2007
Dissertation Title: “*The Role of Preparation Conditions in Sol-Gel Methods on the Synthesis of Nanostructured Photocatalytic Films for Water Treatment*”
Job Placement: Evernu Technology LLC, 1616 Holly Hill Ln # 108, Ambler, Pennsylvania, 19002-3171, United States. Current Employment: Associate Professor, Key Laboratories of Ocean Energy Utilization and Energy Conservation of Ministry of Education, Dalian University of Technology, Dalian 116024, Liaoning Province, P. R. China.
5. Shirish Agarwal Ph.D., Graduated March, 2009
Dissertation Title: “*Palladium/Magnesium Bimetallic Systems for Dechlorination of Polychlorinated Biphenyls*”
Job Placement: Engineer, CH2MHill, Cincinnati, Ohio.
6. Maria Antoniou Ph.D., Graduated March, 2010
Dissertation Title: “*Mechanistic Studies on the Degradation of Cyanobacterial Toxins and Other Nitrogen -containing Organic Contaminants with Hydroxyl Radical and Sulfate Radical -based Advanced Oxidation Technologies*”

Job Placement: Post doctoral position, Denmark Technical University.

Master's Students (with Thesis)

7. Evangelia Bekou M.S, Graduated March 18, 2003.
Thesis Title: "*Extraction of Organic Contaminants Using Room Temperature Water-Immiscible Ionic Liquids*"
Job Placement: Montgomery Watson, Soft, Pasadena, California.
8. Qianrui Wang M.S., Graduated December 2003
Thesis Title: "*Mercury Pollution in Natural Waters*"
Job Placement: ENSR (Guangzhou) Environmental Technology Consulting Co., Ltd, Guangzhou, China.
9. Qiaolin Yang M.S., Graduated March 18, 2004.
Thesis Title: "*Photolytic Degradation of Environmentally Important Organic Contaminants in Novel Room Temperature Ionic Liquids*"
Job Placement: SBR Technologies, Inc., Cincinnati, Ohio.
10. Rachel Copeland M.S., Graduated December 11, 2005.
Thesis Title: "*Dissolved Arsenic release from Drinking Water Distribution System Solids*"
Job Placement: Black and Veatch, Tampa, Florida.
11. Bhargavi Subramanian M.S., Graduated June 9, 2007.
Thesis Title: "*Exploring Neoteric Solvent Extractants: Applications in the Removal of Sorbates from Solid Surfaces and Regeneration of Automotive Catalytic Converters*"
Job Placement: Black and Veatch, Cincinnati, Ohio.
12. Aditya Rastogi M.S., Graduated March 22, 2008.
Thesis Title: "*Sulfate Radical-Based Environmental Friendly Chemical Oxidation Processes for Destruction of 2-Chlorobiphenyl (PCB) and Chlorophenols (CPs)*"
Job Placement: AT&T, Florham Park, New Jersey.
13. Verna Arnette M.S., Graduated December, 2009.
Thesis Title: "*Cyanotoxin Removal in Drinking Water Treatment Processes*"
Job Placement: Greater Cincinnati Water Works, Cincinnati, Ohio

Master's Students (non-Thesis)

14. Hengye Jing M.S., Graduated June, 2010.

Capstone Project Title: “*Overview of Laboratory Scale Monitoring and Rapid Detection of Cyanotoxins in Water*”

Job Placement: Continuing for Ph.D.

Current Graduate Students

Ph.D. Students

- | | |
|-------------------|---|
| 15. Debbie Metz | March 2004-pres. (Proposal Defense: Passed July 2011) |
| 16. Miguel Pelaez | Sep. 2006-pres. (Proposal Defense: Passed March 2011) |
| 17. Xuexiang He | Sep. 2007-pres. (Qualifying Exam: Passed March 2010) |
| 18. Changseok Han | Sep. 2008-pres. (Qualifying Exam: Passed March 2010) |
| 19. Geshan Zhang | Sep. 2009-pres. (Qualifying Exam: Passed March 2011) |
| 20. Xiaodi Duan | Sep. 2010-pres. |

Master's Students

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| 21. Lijuan Sang | Sep. 2010-pres. |
| 22. Alissa O'Donnell | Sep. 2011-pres. |

UNTERGRADUATE STUDENTS ADVISED (IN RESEARCH)

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|---|---------------------------------|
| 1. Shannon J. Campell | Design Project, 2000 |
| 2. Joseph Stallard (CEE) | Jan. 2001 – June 2001 |
| 3. Brian Yates (CEE) | Sep. 1, 2003-August 10, 2005. |
| 4. Daniel Breetz (CEE) | Sep. 1, 2004-December 31, 2007. |
| 5. Elizabeth Myre | Sep. 1, 2004-May 31, 2005. |
| 6. Robert Herrick (CEE) | June 15, 2005-Sep. 15, 2005. |
| 7. Anna Sofranko (ChE)
(as an REU student from the University of Virginia) | Summer 2005 |
| 8. Amber Yeary (Chemistry)
(as an NSF REU student from Write State University) | June 2006-Spring 2008 |
| 9. Olga Kavvada (Civil Engineering)
(International student from the National Technical University of Athens, Greece) | July-August 2006 |
| 10. James Newton (Chemical Engineering) | Sep. 2007-Spring 2008 |
| 11. Matt Bosch (BioMed)
(as an REU student from the University of Texas at Austin) | Summer 2008 |
| 12. Kimberley Curell (Chemistry)
(as an REU student from Lake Superior State University, Michigan) | June-August, 2009 |
| 13. Joel M. Anderson (Chemistry)
(as an REU student from St. John's University, Minnesota) | June-August, 2009 |
| 14. Lisa Guay (Chemistry)
(as an REU student from University of Arizona) | June-August, 2010 |
| 15. Trevor Lynch (Chemistry)
(as an REU student from St. John's University, Minnesota) | January 2010-present |

16. Robin J. Holland (Science and Materials Engineering) June 2011-present

HIGH SCHOOL STUDENTS ADVISED (IN RESEARCH)

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|---|-------------|
| 1. Charles Clay (Mount Healthy/11 th) | Summer 2000 |
| 2. Alison Long | Summer 2002 |
| 3. Alex J. Semertzides (Indian Hill/12 th) | Summer 2002 |
| 4. Lauren Ford (Mt. Heathy/11 th) | Summer 2003 |
| 5. Carol Kao (Sycamore/11 th) | Summer 2004 |
| 6. Summer Training on Environmental Nanotechnology
for 24 High School Students | Summer 2010 |
| 7. Summer Training on Environmental Nanotechnology
for 16 High School Students | Summer 2011 |

CURRENT AND RECENT (Past 48 Months) COLLABORATORS

State and National

Souhail Al-Abed	U.S. EPA, Cincinnati, Ohio.
Prina Ari-Gur	Mechanical and Aeronautical Engineering, Western Michigan University, Kalamazoo, Michigan.
Paul Bishop	Department of Civil and Environmental Engineering, University of Cincinnati, Cincinnati, Ohio.
Bill Connick	Chemistry Department, University of Cincinnati.
Armah de la Cruz	U.S. EPA, Cincinnati, Ohio.
Don R. Deis	PBS&J, Jacksonville, Florida.
Hugo Destailats	Lawrence Berkeley National Laboratory Indoor Environment Department, Berkeley, California
Mike Gonzalez	U.S. EPA, Cincinnati, Ohio.
Vadim Guliants	Department of Chemical and Materials Engineering, University of Cincinnati, Cincinnati, Ohio.
Howard L. Hertzberg	Du Pont
Amid P. Khodadoust	Department of Civil and Materials Engineering, University of Illinois at Chicago, Chicago, Illinois.
Alexander Kravtsov	Alfa Technology LLC, Cincinnati, Ohio.
Gregory V. Lowry	Department of Civil and Materials Engineering, Carnegie Mellon University, Pittsburgh, Pennsylvania.
Suzanne Lunsford	Wright State University, Ohio.
Darren Lytle	U.S. EPA, Cincinnati, Ohio.
Cheryl L. Miller	PBS&J, Jacksonville, Florida.
Vasu Namboodiri	U.S. EPA, Cincinnati, Ohio.
Daniel B. Oerther	Department of Civil and Environmental Engineering, University of Cincinnati.
Ian Papautsky	Electrical and Computer Engineering, University of Cincinnati.

Kevin O'Shea	Chemistry Department, Florida International University, Miami, Florida.
Mike Schock	U.S. EPA, Cincinnati, Ohio.
Jody Shoemaker	U.S. EPA, Cincinnati, Ohio.
Tim Keener	Department of Civil and Environmental Engineering, University of Cincinnati.
Tom Speth	U.S. EPA, Cincinnati, Ohio.
George A. Sorial	Department of Civil and Environmental Engineering, University of Cincinnati.
Makram T. Suidan	Department of Civil and Environmental Engineering, University of Cincinnati.
Vladimir Tsibulsky	Department: Psychiatry, College of Medicine, University of Cincinnati.
Thomas P. Tufano	Du Pont.
Gary (Guixiang) Yang	Spectrum Magnetics, LLC, Newark, Delaware.
Rajender Varma	U.S. EPA, Cincinnati, Ohio.
Judy Westrick	Lake Superior State University

International

Erick R. Bandala	Departamento de Ingeniería Civil y Ambiental, Universidad de Las Américas-Puebla, Puebla, México
Cesar Dopazo	Department of Materials Science and Technology, Universidad de Zaragoza, Zaragoza, Spain.
Patrick Dunlop	Nanotechnology and Integrated Bio-Engineering Centre, University of Ulster at Jordanstown, Northern Ireland.
Aggelos Efstathiou	Department of Chemistry, University of Cyprus, Nicosia, Cyprus.
Polycarpos Falaras	Institute of Physical Chemistry, NCSR Demokritos, Athens, Greece.
Valerie Hequet	Department of Energy and Environmental Systems, Ecole des Mines de Nantes, Nantes, France.
Anastasia Hiskia	Institute of Physical Chemistry, NCSR Demokritos, Athens, Greece.
Panagiotis Lianos	Engineering Science Department, University of Patras Patras, Greece.
Gianluca Li Puma	Chemical Engineering Department, The University of Nottingham, United Kingdom.
Cecile Raillard	Department of Energy and Environmental Systems, Ecole des Mines de Nantes, Nantes, France.
Juan Rodríguez	Faculty of Sciences, Universidad Nacional de Ingeniería, Lima, Peru.
Elias Stathatos	Department of Electrical Engineering, Technological-Educational Institute of Patras, Patras, Greece.
Mihaela Stefan	Trojan Technologies, London, Ontario, Canada.

Luis G. Torres Instituto de Ingeniería Universidad Nacional Autónoma de México,
Mexico.
M. Vijay Department of Physics, Bharathiar University, Coimbatore,
Tamilnadu, India.

CURRENT AND PREVIOUS TEACHING AND RESEARCH GRANTS AND CONTRACTS

National Science Foundation

1. Collaborative Research: Degradation Mechanism of Cyanotoxins Using Novel Visible Light-Activated Titania (TiO₂) Photocatalysts, (D. D. Dionysiou), National Science Foundation, \$ 250,000, 09/01/2010 to 08/31/2013. Effort: Summer 0.5. This is a collaborative proposal between University of Cincinnati, two institutions in Ireland and Florida International University. The overall requested budget is about \$ 1 M. Dr. Dionysiou serves as the PI of the whole consortium.
2. NUE: Integration of Nanoscale Devices and Environmental Aspects of Nanotechnology into Undergraduate Engineering and Science Curricula, National Science Foundation, 20% Effort, (J. Boerio, D. D. Dionysiou, A. Kukreti, V. Shanov, D. Shi) \$200,000.00, 4/1/2011-3/31/2013.
3. IGERT: Bioapplications of Membrane Science and Technology, (PI: D. Butler, Co-PIs: R. Millard, D. D. Dionysiou, S. Hoath, J. Fried), National Science Foundation, \$ 3,644,410, 10/1/2003 to 9/30/2011 (no cost extension from 9/30/2008). Dr. Dionysiou is serving as Co-PI on this project from 3/1/2011 to 9/30/2011 (with remaining amount of funding of \$ 550,000), 2% Effort (Academic: 0.18 months).
4. "CAREER: Hydroxyl Radical and Sulfate Radical-Based Advanced Oxidation Nanotechnologies for the Destruction of Biological Toxins in Water", National Science Foundation, \$400,000, July 1, 2005-June 30, 2010; No Cost extension, June 30, 2011.
5. Supplemental Funds to "CAREER: Hydroxyl Radical and Sulfate Radical-Based Advanced Oxidation Nanotechnologies for the Destruction of Biological Toxins in Water", National Science Foundation, \$30,000, July 1, 2005-June 30, 2010.; No-Cost extension, June 30, 2011.
6. Research Experience for Undergraduates (REU) as Supplement to "CAREER: Hydroxyl Radical and Sulfate Radical-Based Advanced Oxidation Nanotechnologies for the Destruction of Biological Toxins in Water", National Science Foundation, \$12,000, July 1, 2007-June 30, 2010; No-Cost extension, June 30, 2011.
7. Research Experience for Undergraduates (REU) as Supplement to "CAREER: Hydroxyl Radical and Sulfate Radical-Based Advanced Oxidation Nanotechnologies for the Destruction of Biological Toxins in Water", National Science Foundation, \$6,000, July 1, 2006-June 30, 2007.

8. Research Experience for Undergraduates (REU) as Supplement to “CAREER: Hydroxyl Radical and Sulfate Radical-Based Advanced Oxidation Nanotechnologies for the Destruction of Biological Toxins in Water”, National Science Foundation, \$6,000, July 1, 2005-June 30, 2006.
9. “NER (Nanotechnology Exploratory Research): Fabrication of TiO₂ Nanoparticles and Films for Environmental Applications Using Ionic Liquid-Based Self Assembling Sol-Gel Methods,” National Science Foundation, \$ 100,000, June 1, 2003-May 31, 2005.
10. “The Use of Ionic Liquids for the Remediation of Wastewater Contaminated by Halogenated Organics,” National Science Foundation (through Tufts University), \$150,000, Sep. 1, 2000-Aug. 31, 2002, (G. D. Botsaris, PI; D. D. Dionysiou and R.-Y. Qian, Co-PIs), (Ranked # 1 by the Reviewer Panel), Effort 33%. Note: Title of Subcontract from Tufts University: “Advanced Oxidation Technologies, \$50,000).

CURRENT GRANTS AND PROJECTS

1. Visible Light-Activated Mixed Anatase/Brookite Heterojunction Titania Photocatalysts For Treatment of Polluted Water, (PI: Adel A. Ismail; PI: Dionysios Dionysiou, 50%/50%), U.S. Department of Agriculture, U.S. - Egypt Joint Research Grants For Collaborative Research Grant, \$ 250,000, 6/1/2011-5/30/2013, Summer 5% Effort (Summer: 0.15 months).
2. “NIREAS International Water Research Center”, (PI. Fatta-Kassinis, Co-PIs, Dionysiou, Christodoulou, Kostarelou, Papanastasiou, Kassinis), The Research Promotion Foundation’s Framework Programme, Cyprus Development Foundation, The Republic of Cyprus, \$ 194,400 (out of 1.4 Million Euros total) 1/1/2011-12/31/2015. Summer 1.0 month.
3. “Collaborative Research: Degradation Mechanism of Cyanotoxins Using Novel Visible Light-Activated Titania (TiO₂) Photocatalysts”, (D. D. Dionysiou), National Science Foundation, \$ 250,000, 09/01/2010 to 08/31/2013. Effort: Summer 0.5. This is a collaborative proposal between University of Cincinnati, two institutions in Ireland and Florida International University. The overall requested budget is about \$ 1 M. Dr. Dionysiou serves as the PI of the whole consortium.
4. “NUE: Integration of Nanoscale Devices and Environmental Aspects of Nanotechnology into Undergraduate Engineering and Science Curricula”, National Science Foundation, 20% Effort, (PI: J. Boerio; Co-PIs: D. D. Dionysiou, A. Kukreti, V. Shanov, D. Shi) \$200,000.00, 4/1/2011-3/31/2013.
5. “Development of Carbon Nanotube-based Biosensor for Monitoring Microcystin-LR in Water”, Ohio State University Research Foundation, \$17,500, 3/1/2011-2/28/2012, 8% Effort (Academic: 0.72 months).
6. “IGERT: Bioapplications of Membrane Science and Technology”, (PI: D. Butler, Co-PIs: R. Millard, D. D. Dionysiou, S. Hoath, J. Fried), National Science Foundation, \$3,644,410, 10/1/2003 to 9/30/2011 (no cost extension from 9/30/2008). Dr. Dionysiou is serving as Co-PI on this project from 3/1/2011 to 9/30/2011 (with remaining amount of funding of \$ 550,000), 2% Effort (Academic: 0.18 months).