
NAME: Don Gervasio
EXPERIENCE

POSITION TITLE: Associate Professor Research

Appointments

2002 - Associate Professor Research, Arizona State University
1997 - 2002 Principal Research Scientist, Motorola Inc., Tempe AZ
1993 - 1997 Member Technical Staff, Red Bank Research, Red Bank, NJ
1987 - 1993 Senior Research Associate, Case Western Reserve University, Cleveland, OH
1986 - 1987 Lecturer, Cleveland State University, Cleveland, OH
1985 - 1986 Research Associate, Case Western Reserve University, Cleveland, OH
1984 - 1985 Instructor, Case Western Reserve University, Cleveland, OH

EDUCATION

Pennsylvania State University	Chemistry	B.S., 1975
Case Western Reserve University	Inorganic Chemistry	M.S., 1981
Case Western Reserve University	Inorganic Chemistry	Ph.D., 1984

SUMMARY OF SCIENTIFIC PUBLICATIONS AND RESEARCH ACTIVITIES:

9 Patents, ~30 Refereed Journal Papers; ~30 Conference Proceeding Papers
~ 50 presentations, 16 Invited lectures, 1 co-edited journal
~ \$500,000 research funding per year (DoE, NSF, ARO, KITECH, NASA, Nu Element)

TEACHING AREAS

Electrochemistry (Electrode kinetics, Charge Transfer Kinetics, Proton Conduction), Power Sources, Chemical Reactors and Heterogeneous Catalysis, Corrosion, Instrumental Analysis, Transport Phenomena (Mass, Heat and Moment Transfers), Material Processing Techniques (Sol-Gel, Polymer Membrane, Nanotechnology, Self-Assembly)

RESEARCH AREAS/INTEREST

- Hydrogen Storage and Generation
(Sodium borohydride for storing hydrogen catalytically liberated at room temperature; membrane to separate hydrogen gas and storage solution for orientation independent device)
(hydrocarbon reforming and integration to fuel cells)
- Ionic Conducting Membranes for Polymer electrolyte Membrane (PEM) Fuel Cells
(High-temperature (140 to 200°C) proton-conducting polymers and ionic liquids for high temperature PEM fuel cells)
- Fuel Cells
(Elevated temperature PEM fuel cells stacks for portable power applications)
(Room temperature fuel cells for hand carried applications)
(Regenerative fuel cells for space and aerospace applications)
- Corrosion
(Cathodic stifling for corrosion protection)
- Non-Platinum Catalysts
(Self-assembled Monolayer, SAM, of Pt alternative catalysts for air cathodes)

HONORS/RECOGNITION

- Chairman of the Arizona Chapter of the Electrochemical Society 2002 to present; 2006 Chairman and 2005 Vice Chairman of ECS National Council of Sections.
- Elected to the Elsevier Editorial Board beginning January 2007 for Journal of Power-sources, referee for J. Electrochemical Society, J. Catalysis, Acta Materialia, Lagmuir.
- Chair, ECS Combinatorial Chemistry Symposium, Salt Lake City, Utah, 10/2002.
- Chair, "Integration of BioFuel-cells in Devices" DARPA Workshop, June 30 - July 2, 2002, Washington, DC.
- Chair, Connection One NSF Semi Annual Meeting, Scottsdale AZ, Feb 3 (2004).
- Silver Quill Awards for excellence in publication from Motorola (1997-2003).
- Editorial Journal of Power-sources Special Edition on the 2004 Fuel-cell Seminar.
- 1980 Graduate Alumni Award of Case Western Reserve University.

A. Selected Patents/ Publications:

1. "Multilayered Ceramic Reactor for the Steam Reforming Methanol into Hydrogen Enriched Gas", Don Gervasio, Stephen Rogers, Sonja Tasic, Daniel Zindel, Rajnish Changrani, Chris Dyer, Jerry Hallmark and Dave Wilcox,

- in "Materials for Electrochemical Energy Conversion and Storage", Ceramic Transactions, Vol. 127, pp. 157-163 (2002). S. Rogers, D. Gervasio, R. Koripella, S. Samms, S. Tasic Accepted in "Proceedings of the 40th Power-sources Conference", June 12, 2002, Cherry Hill, NJ, Paper No. 16.6 (2002).
2. "Catalytic Chemical Heater" D. Gervasio, S. Rogers, R. Koripella, S. Tasic, C. K. Dyer and D. Wilcox, Submitted 2002 to the USA Patent Office, pending.
 3. "Miniature Fuel-cell with Ceramic Fuel Processor" C. K. Dyer, C. R. Koripella, D. Gervasio, S. Rogers, D. Wilcox, W. Ooms, Submitted August 28, 2000 to the USA Patent office, pending.
 4. "Hydrogen Generator using Multi-layer Ceramics Technology" C. R. Koripella, C. K. Dyer, S. Roger, D. Gervasio, Submitted August 28, 2000 to the USA Patent Office, accepted.
 5. "Room Temperature Micro-Reactor Generating Hydrogen from Aqueous Sodium Borohydride Solution for Fuel-Cell-Powered Man-Portable Applications" Don Gervasio, Sonja Tasic, Fred Zenhausern, invited paper accepted in the Journal of Power Sources, Volume 143 (1-2) pp. 191-196 (2005).
 6. "Reactor Design and Analysis of a Miniature Methanol Steam Reformer", Rajnish Changrani, Stephen Samms, Stephen Rogers, Sonja Tasic, Don Gervasio, Ramesh Koripella, in "Proceedings of Fuel Chemistry", Am. Chem. Soc., Fall meeting 2001, Chicago IL. Accepted for a special edition of FUEL (ELSEVIER).
 7. "Microfluidic Fuel-cell System and Method for Portable Energy Applications", D. Gervasio and F. Zenhausern, Superceding provisional patent application serial no. 60/519,993 filed in the United States Patent and Trademark Office on 11, 14, 2003. Submitted to U. S. Patent Office 12, 2004.
 8. "Oxygen electro-reduction catalysts self-assembled on supports", Don Gervasio, Q. Cheng, J. Dougan, R. Panton, [Proc. SPIE Vol. 5592](#), p. 220-240, Nanofabrication: Technologies, Devices, and Applications; Warren Y. Lai, Stanley Pau, O. Daniel Lopez; Eds. (Jan 2005).

B. Collaborators:

Prof. C. Austen Angell (Arizona State University), Prof. Joe Payer (Case Western Reserve University), Prof. George Miley (University of Illinois, Urbana Champaign), Dr. Karen Fleckner (CEO Nu Element, Inc., Tacoma WA), Prof. Changming Li of Nanyang Technical University (NTU, Singapore), Dr. Ken Hahn of KITECH (Korean Institute of Technology, Seoul, Korea).

International collaborations

"Self Assembled Monolayer (SAM) Electrocatalysts on non-Precious Supports for Oxygen Electroreduction", D. Gervasio, ASU PI, in collaboration with Prof. Changming Li of Nanyang Technical University (NTU, Singapore) to develop Pt replacement catalysts for conventional and bio fuel cell cathodes. Army Research Office 1 year exploratory grant.

"Miniature Room Temperature Hydrogen-Generator Hand-Carried Fuel-cells", D. Gervasio, ASU PI with Dr. Ken Hahn, KITECH International Cooperative Industrial Technology Award.

C. Names of undergraduate, graduate and post graduate advisors and advisees.

My Undergraduate, Graduate and Postdoctoral Advisors: Undergraduate: G. Geoffroy (Penn State, now at Iowa State), Graduate: F. L. Urbach (Case Western Reserve University), Postdoctoral: E. Yeager, J. Payer, R. Marchant (Case Western Reserve University).

At Case Western Reserve University, Undergraduate Research Advisor for the Undergraduate Senior Capstone Research Project of David Stebnicki in 1991: "A 286 Computer Controlled Hart Calorimeter and Data Acquisition using a Keithley 195 DAQ Board and Lab Notebook Software".

At ASU, Involved in the supervision of 2 Ph. D. student, 1 research professional, 2 postdoctorals, 7 undergraduate researchers and 1 high school student at ASU. They are: Sonja Tasic - research professional; Jeffery Thomson - presently a Materials Science and Engineering Ph. D. student; Christopher Knobbe - presently a Chemistry Ph. D. student (Fall 2005); Jennifer Dougan - ASU Biochem Eng. Undergrad (WAESO scholar); Raquel Panton - Bio Chem Eng. Undergrad (WAESO scholar); Victoria Onyeabor - ASU Bio Chem Eng. Undergrad; Sogol Taghavi - Biochem undergrad; Michael Xu - Hamilton High school student (now undergrad at Cal Tech and Jet Propulsion Lab research assistant where is co-advised by me under a NASA project); Daniel Salgado - UA Chem. Eng. undergrad, 2005 summer intern at ASU (now back at U of A); Matthijs Smith - ASU Physics undergrad 2005 summer NMR project; Yuliya Ivanitskaya - ASU Physics undergrad 2005 summer NMR project; Qiling Cheng - postdoctoral, (Ph.D. Case Western Reserve University, 2003) 2003 – July 2005. Qiling has recently (July 2005) left ASU for a position at Nanyang Technical University (NTU) where he is co-advised by me. At NTU Qiling will lead the NTU part of an NTU-ASU collaborative ARO project on Pt replacement catalyst for fuel cell cathodes. Laura Palmer - post doctoral, (Ph.D. M.I.T., 1999): at ASU in 2003, now employed at Fuji Americas, Phoenix AZ.