
Curriculum Vitae

Department of Chemistry and Department of Physics and Astronomy,
Michigan State University, East Lansing, MI 48824-1322
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Personal Information

Born in Mexico, US-citizen

Education

Postdoc California Institute of Technology (1991-1993) Advisor: Ahmed H. Zewail

Development of an ultrafast electron diffraction technique for real-time structural studies of chemical reactions

Ph.D. Chemistry, California Institute of Technology (1991) Advisor: Ahmed H. Zewail

Femtosecond Transition-State Spectroscopy of Chemical Reactions” Cited in Chemistry Nobel Prize 1999

B.A. & M.A. Chemistry, Brandeis University (1985), Magna Cum Laude

Professional Experience

MSU Foundation Chair, Michigan State University (2015)

University Distinguished Professor, Michigan State University (2015)

Professor, Department of Chemistry, Michigan State University (2002 – present)

Adjunct Professor, Department of Physics and Astronomy, Michigan State University (2001 – present)

Associate Professor, Department of Chemistry, Michigan State University (1999 – 2002)

Assistant Professor, Department of Chemistry, Michigan State University (1993 – 1999)

Postdoctoral Research Fellow, California Institute of Technology (1991 – 1993)

Research and Teacher Assistant, California Institute of Technology (1985 – 1991)

Entrepreneurial Experience

Chairman of the Board and Chief Technology Officer, Biophotonic Solutions Inc. (2013 – 2016)

Founder, President and CEO, Biophotonic Solutions Inc. (2003 – 2013)

Director of Research and Development for Total Power Inc. (1998 – present)

Founder and member of the Board of Directors, KTM Industries Inc. (1998 – 2004)

Founder of MTBIsense LLC (2015-present)

Honors

2015 Named MSU Foundation Chair, Michigan State University

2015 Named University Distinguished Professor, Michigan State University

2014 Elected Fellow of the National Academy of Inventors

2014 Elected Fellow of the American Physical Society

2014 Elected Fellow of the Optical Society of America

2013 Inventor of the Year Award, Michigan State University

2012 CLEO/Laser Focus World Innovation Award Winner, for development of femtoAdaptiv

2009 PhAST/Laser Focus World Innovation Award Winner, for development of femtoFit

2008 University Distinguished Faculty Award, Michigan State University

2007 Laser Focus World Commendation for Excellence in Technical Communications

2007 PhAST/Laser Focus World Innovation Award Honorable Mention, for development of MIIPS

2006 College of Natural Sciences Distinguished Faculty Award, Michigan State University

1998 Camille Dreyfus Teacher-Scholar Award

1998 Alfred P. Sloan Research Fellow

1996 Eli Lilly Teaching Fellowship

1995 Packard Fellowship for Science and Engineering

1995 Beckman Young Investigator Award

1994 General Electric Foundation Faculty Award

1993 Camille and Henry Dreyfus New Faculty Award

1992 Nobel Laureate Signature Award for Graduate Education in Chemistry

1991 Milton and Francis Clauser Doctoral Prize, California Institute of Technology

1991 The Herbert Newby McCoy Award, California Institute of Technology

1985 Phi Beta Kappa, Brandeis University

Professional Affiliations

Fellow of the National Academy of Inventors (NAI), Fellow of the Optical Society of America (OSA); Fellow of the American Physical Society (APS); member of the American Chemical Society (ACS); Phi Beta Kappa

Professional Activities

International Advisory Committee and Organizer of the FEMTO Conferences 2015 - 2017

Invited presentation at the Spatially Precise Optogenetics at Depth Incubator Meeting, BRAIN initiative sponsored by OSA and NSF, Washington DC, December 2013

Invited presentation at the DARPA Workshop Program in Ultrafast Laser Science and Engineering (PULSE) 2012

Invited presentation Committee of Atomic Molecular and Optical Sciences, National Research Council 2012

Member of the Editorial Board of the Journal for Raman Spectroscopy, October 2010-present

Member of the Advisory Editorial Board of Chemical Physics Letters, September 2007-December 2013

Member of the Board of Advisors for the Journal of Physical Chemistry, January 2006-

NSF "broader impacts" in science, award showcased at the ACS National Meeting, Washington DC 2005

President of Phi Beta Kappa, Epsilon Chapter of Michigan, Michigan State University 2004

Member of the Ultrafast Dynamics Committee, IQEC-2004, San Francisco, CA 2004

Member of the Steering Committee, Ultrafast x-ray science 2004, San Diego, CA 2004

Invited Speaker at the DARPA Workshop on Arbitrary Waveform Generation, Washington DC, 2004

Vice-President of Phi Beta Kappa, Epsilon Chapter of Michigan, Michigan State University 2003

Invited Scientists for the Scientist Helping America Conference, by DARPA and USSOCOM, 2002

Plenary Speaker, 8th International Workshop on Femtosecond Technology, Tsukuba, Japan, 2001

Featured in the ACS 125th Anniversary Issue of Chemical and Engineering News, 2001

Funding

Past and current funding at various times from NSF, DOE, ACS, AFOSR, ARO, DHS, NIH, ONR, Michigan Economic Development Fund, Sloan Foundation, Dreyfus Foundation, Packard Foundation, Beckman Foundation.

Publication Summary

> 225 publications

> 8914 citations (Google Scholar)

Hirsch index 53 (50 publications with > 50 citations, Google Scholar)

i10-index 134 (131 publications with > 10 citations, Google Scholar)

Patent Summary

> 25 issued, > 10 pending US and international patents

> 50 invention disclosures

POSTDOCTORAL FELLOWS* AND GRADUATE STUDENTS:

*Pedro Cid-Aguero, Pao-Hua Liu, Peter Gross, Qingguo Zhang, Hanae Haouari, Bruna I. Grimberg, Vadim V. Lozovoy, Tissa Gunaratne, Don A. Harris, Peng Xi, Yair Andegeko, Dmitry Pestov, Yan Wan, Tapas Goswami, Sergey Arkhipov, Alexander van Rhijn, Richa Mittal, Rachel Glenn, Nagitha Ekanayake, Christopher Mancuso

Taeduck Yang, J. Greg Stanley, Lee Hoffman, Martha Gilchrist, Mark J. Waner, Una Marvet, Emily J. Brown, Igor Pastirk, Matthew Comstock, Evgeny Sudachenko, Vahan Senekerymian, Johanna Dela Cruz, Bingwei Xu, Michael Kangas, Jess Gunn, Yves Coello, Xin Zhu, Lindsay Weisel, Christine Kalcic, Paul Wrzesinski, Bai Nie, Jay Shah, Marshall Bremer, Orin Yue, Arkaprabha Konar, Ilyas Saytashev, Anton Ryabtsev, Gennady Rasskazov, Muath Nairat, Adam McKerlie, Gabrielle Murashova

UNDERGRADUATES & HIGH SCHOOL* STUDENTS:

Michael C. Machczynski, Glen Crowley, Lauren Heystek, Sandy Muscialowski, Melissa Rudzinski, Brent Kaufman, Katherine Walowicz, George Schoendorff, Robin Sloan, Matthew Penniman, Andrew Mackert, Victoria Sanocki, Phillip Grabowski, Joseph Schoendorff, Ross Eames, Tudor Simeonov, Matt Haflein, David Shibley, Nate Kaiser, Robert Darrow, Janelle Shane, Melinda Ewald, Mario Camhi, Leida J. Vanoss, Laura Schelhas, Rebekah M. Martin, Daniel Schlam, Thomas Lozanoski*, Scott H. High, Kyle Sprague, Nelson S. Winkler, Jacob P. Bell, Michael R. Mendoza, Mason Hale*, Marie Kaniecki, Dan Parker*, Travis Boersma, Sagar Rathod*, Greg Parker*, Stephanie V Higgins, William Zeng*, Kasey A Worst, Simone Merendi, Megan Rick, Cara Barber, Chris Juchem*, Taylor Merkel* Nathan Johnson, Elena Bongiovani, *Jason Getzler, *Ellise Mondragon, Alexius Lampkin, Morgan Webb, Lexi Langtri, Madi Corda, Peter Kramer, Patrick Pawlaczyk. Nicolas Weingartz, Peter Kramer, Benjamin Farris, Jake Canfield