

Martin T. Zanni

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Biosketch:

Martin T. Zanni is the F. Fleming Crim WARF Professor and Meloche-Bascom Professor of Chemistry at the University of Wisconsin-Madison. He received his PhD from the University of California-Berkeley, working with Dan Neumark, and was an NIH Postdoctoral Fellow at the University of Pennsylvania with Robin Hochstrasser. He is one of the early pioneers of 2D IR spectroscopy and has made many technological innovations that have broadened the capabilities and scope of multidimensional spectroscopies and microscopies. He utilizes these new techniques to study topics in biophysics, chemical physics, photovoltaics, and surfaces. He has received many national and international accolades for his research. Notably, he is the only person to have received the ACS Nobel Laureate Signature Award as both a student and a mentor and the first person to receive the Craver, Coblentz, and Lippincott Awards. He founded PhaseTech Spectroscopy Inc., which is the first company to commercialize 2D IR and 2D Electronic spectroscopies. He was elected into the National Academy of Sciences in 2025.

Date of Birth: February 28, 1972; Portland, OR

Education: *B.S.*, Chemistry (highest honors), University of Rochester, 1994
B.A., Physics (highest honors), University of Rochester, 1994
Ph.D., Chemistry, University of California at Berkeley, 1999
Advisor: Daniel M. Neumark
Postdoctoral, Chemistry, University of Pennsylvania, 1/2000-6/2002
Advisor: Robin M. Hochstrasser

Appointments: *F. Fleming Crim WARF Professor of Chemistry* (7/2025 –)
Meloche-Bascom Professor (7/2010 –)
Department of Chemistry, University of Wisconsin, Madison, WI
Visiting Professor, EPFL, Switzerland (6/2024 – 7/2025) & (7/2017 – 8/2018)
Meloche-Bascom Associate Professor (7/2008 – 6/2010)
Department of Chemistry, University of Wisconsin, Madison, WI
Visiting Professor, LENS, Florence, Italy (7/2008 – 8/2009)
Meloche-Bascom Assistant Professor (10/2007 – 6/2008)
Department of Chemistry, University of Wisconsin, Madison, WI
Assistant Professor (7/2002 – 9/2007)
Department of Chemistry, University of Wisconsin, Madison, WI
NIH Postdoctoral Fellow (1/2000 - 6/2002)
Department of Chemistry, University of Pennsylvania, Philadelphia, PA

Awards: National Academy of Sciences, 2025
F. Fleming Crim WARF Professor of Chemistry, 2025
Fellow of the American Chemical Society, 2024
Ellis R. Lippincott Award, 2022
Earle K. Plyler Prize for Molecular Spectroscopy & Dynamics, APS, 2021
American Academy of Arts and Sciences, 2020
UPenn Chemistry Distinguished Alumni Award, 2019
Fellow of the Optical Society of America, 2018
Craver Award, 2017
Vilas Associate Award, UW-Madison, 2015

Raymond and Beverly Sackler International Prize in the Physical Sciences, 2011
Research Initiatives Award, National Academy of Sciences 2011
H.I. Romnes Faculty Fellowship, UW-Madison, 2011
Fellow of the American Physical Society, 2010
NIH/NIDDK 60th Anniversary Early Career Investigator/Scholar Award, 2010
American Chemical Society Nobel Laureate Signature Award for
Graduate Education in Chemistry, 2010 (as mentor)
Presidential Early Career Award for Scientists and Engineers, 2009
Kavli Frontiers of Science, 2007
Coblentz Award, 2006
Alfred P. Sloan Research Fellow, 2006
Packard Foundation Science and Engineering Fellowship, 2005
Benjamin Smith Reynolds Award for Excellence in Teaching Engineers, 2005
Beckman Young Investigators Award, 2004
UW-Madison Honored Instructor, 2003/04/05
National Science Foundation CAREER Award, 2003
Research Corporation Innovation Award, 2002
Camille and Henry Dreyfus New Faculty Award, 2002
American Chemical Society Nobel Laureate Signature Award for
Graduate Education in Chemistry, 2001 (as student)
National Institute of Health Postdoctoral Fellow (NRSA), 2000
American Chemical Society Regional Award, Rochester, NY, 1994
Bausch and Lomb Scholar, University of Rochester, 1990

Named Lectures, Plenary Talks, and Special Invitations

Keynote Speaker, When Ultrafast Spectroscopy Meets AI, HKUST, Hong Kong, December 2025
Gomberg Lecturer, University of Michigan, November 2025
Keynote Speaker, Fall 2025 Joint SERMACS/SWRM, October 2025
Student Invited Seminar, Notre Dame, April 2024.
UPenn Chemistry Distinguished Alumni, March 2023.
Plenary Talk, IRMMW-THz, Buffalo, NY Sept. 2020
Ohio State Frontiers Lecturer, Jan 2020
Peter Debye Lecture Series, Cornell, April 2019
Student Invited Seminar, UCSD, Feb. 2019.
Keynote Talk, European Conference of Spectroscopy of Biological Molecules (ECSBM),
Amsterdam, Sept. 2017
Plenary Talk, SciX, Reno, NV, Oct. 2017
Distinguished Physical Chemistry Lecturer, Univ of Nevada, Reno, Oct. 2016
Noyes Lecturer, University of Texas, Austin, March 2016.
Student Invited Seminar, University of Minnesota, 2016.
Plenary Talk, Dutch Biophysics Meeting, De Koningshof, The Netherlands, Sept 2015
Keynote Talk, IUPAC, Korea, August 2015 (declined)
Plenary Talk, 8th International Conference on Advanced Vibrational Spectroscopy (ICAVS-8), July 2015
Student Invited Lecturer, Carleton College, April 2015
Special Invited Talk, 60th Anniversary of Coblentz Society, Pittcon, New Orleans, March 2015
Plenary Talk, Advances in Structure and Dynamics, Bangalore, India, January 2015
Harry Kroto Lecture in Chemical Physics, Florida State University, 2014
Plenary Talk, European Conference of Spectroscopy of Biological Molecules (ECSBM), Oxford, Aug. 2013
Plenary Talk, Nanoscience Days, University of Jyväskylä, Finland, Oct. 2012.
Plenary Talk and Student Invited Seminar, Biophysical Symposium, University of Michigan, April 2012.
Plenary Talk, Australian Society of Biophysics and Physical Chemical Division of the Royal Australian
Chemical Institute, Wollongong, Australia, Dec. 2011.
Student Invited Seminar, Modern Optics and Spectroscopy, MIT, Oct. 2011.
Plenary Talk, EPL Celebratory Meeting, Munich, May 2011.
Plenary Talk, Spectroscopic Society of Japan, Kyoto, Nov. 2010.

Plenary Talk, EUCMOS, Florence, Italy, Aug. 2010.
Plenary Talk, Ultrafast Phenomena, Italy, June 2008.
Special Lecturer, NSF/NIH Workshop on Instrument Development, D.C., June 2008.
Plenary Talk, US North Africa Regional Workshop on Nanostructured Materials and Nanotechnology, Tunis, Tunisia, March. 2008.
Special Lecturer, Summer Lecture Series, University of Wyoming, Laramie, Wyoming, July 2005.
Student Invited Seminar, Joint Theoretical Chemistry Lecture Series, Harvard/MIT/Boston U., Boston, MA, April 2005.

Invited Presentations and Seminars: >200 invited talks (roughly 10-14 a year) in addition to the plenary talks above.

Publications: (>18,000 citations, H-index=71, >1100 citations in 2025)

Please see my google scholar page: <https://scholar.google.com/citations?user=y pz5jZ0AAAAJ&hl=en>

- Patents:**
1. US Patent 7,771,938 Nonlinear spectroscopic methods for identifying and characterizing molecular interactions.
 2. US Patent 7,760,342. Multidimensional Spectrometer. (Licensed)
 3. US Patent 9,568,366. Multidimensional Spectrometer. (Licensed)
 4. US Patent 9,638,634. Multidimensional White Light Spectrometer. (Licensed)
 5. Improved Electrode Design for Surface Enhanced Two-dimensional Infrared Spectroscopy (Filed 06/05/2023) (Licensed)
 6. Pulse Shaper (Filed 02/23/2024)
 7. Vertical Support Arrangement for an Optical System (Filed 01/2024)
 8. Collinear Polarization Interferometer (Filed 06/24/2024)

Book

Peter Hamm and Martin Zanni, "Concepts and Methods in 2D IR spectroscopy," Cambridge University Press, Cambridge, 2011. >900 citations. Sold 600 copies in first 2 years. Pirated version now available online.

Service and Leadership

Associate Editor, Chemical Reviews, January 2025-
Deputy Editor, Journal of Physical Chemistry B, 2020-2023
Senior Editor, Journal of Physical Chemistry, 2011-2019

Chair, Executive Committee, Physical Chemistry Division, American Chemical Society,
(2018 – 4 year rotation. Vice-Chair-Elect, Vice-Chair, Chair-Elect, Past-Chair)

Packard Foundation, Packard Fellows Selection Committee, 2024 -

Additional Federal Agency Workshops and Study Sections

DOE Workshop. Carbon Capture: Beyond 2020, March 2010
NSF/NIH Instrumentation Workshop, 2008.
NSF Review Panels (confidential dates)
NIH Ad Hoc Study Section, MSFA, 2010; MSFB 2015, 2016. BBM 2016.
NIDDK 2017; MBBC 2023; MIRA 2026
NHLBI BSC Site Visit, 2021; NIDDK Site Visit, 2015.
NIH MSFB, Standing Member, Oct. 2018. 4-year rotation.

Founder and President of PhaseTech Spectroscopy, Inc.

Startup company devoted to commercializing multi-dimensional spectroscopies.

Journal Editorial Advisory Boards

Journal of Physical Chemistry (Jan. 2010 – Dec. 2012).

Journal of Chemical Physics (Jan. 2010 – Dec. 2012).
Chemical Reviews (Oct. 2015 – 2021).
Structural Dynamics (August 2019 – 2022).

Symposium/Conference organizer

Frontiers in Biophysical Methods, Amer. Chem. Soc., NY Sept. 2003.
Vibrational Dynamics of Biomolecular Systems, Amer. Chem. Soc., Chicago, IL March, 2007.
Gas and condensed phase spectroscopy of biomolecules, Amer. Chem. Soc., Spring 2011.
Transient Raman and Vibrational Spectroscopy (TRVS), Madison WI 2015.

Conference Program Committees:

Coherent Multidimensional Spectroscopy (CMDS), (2008-present).
Conference on Time-resolved Raman and Vibrational Spectroscopy (TRVS), (2008-present)
International Conference on Ultrafast Phenomena (2010-2012, 2014)
Chair of the Biophysical Subdivision of the American Chemical Society Physical
Chemistry Section (2007 – 2010)
Chair-Elect/Chair, ACS Wisconsin Section (2010-2014)
Alternate Counselor, ACS Wisconsin Section, (2014-2015)
ICAVS Program Committee (2019, 2020, 2021)

Co-chair, MRSEC Super-SEED, UW-Madison, “Active nanomembranes and their surfaces.”
Consultant for Imago Scientific Instruments, Madison, WI. (2003 – 2005).
Member of the McPherson Eye Research Institute, University of Wisconsin.

Faculty educator

Biology Interest Groups (BIGs), Center for Biology Education, a National Science
Foundation funded teaching consortium at the University of Wisconsin-Madison.
Volunteer at local elementary school Science Night by performing a series of chemistry
demonstrations and activities (Wingra School since 2012 to present).
Classroom lecturer at Whitehorse Middle School (2017) and Thoreau Elementary School (2017).
“Career Day” presenter at Thoreau Elementary School, 2017
WARF Discovery Challenge, Judge, 2015.

Graduate Students

Eric Fulmer, Ph.D. 2006 (Science consultant in DC)
Terry Ding, Ph.D. 2007
Amber Krummel, Ph.D. 2007 (Faculty at Colorado State)
Prabuddha Mukherjee, Ph.D. 2008 (Multimodal Optical Imaging Technologies, Sartorius
Stedim)(Awarded divisional prize for the top student from the pchem division upon graduation).
Sang-Hee Shim, Ph.D. 2008 (Faculty at Korean University) (Received Nobel Laureate Signature Award
from the ACS for the “top” Ph.D. dissertation in the USA in chemistry in 2008).
David Strasfeld, Ph.D. 2009 (Lumicell Diagnostics) (Received Casey Award for the top pchem
student)
Yun Ling, Ph.D. 2010
Ann Woys, Ph.D. 2012 (Genen Tech, SF)
Wei Xiong, Ph.D. 2011 (Faculty at UCSD)
Emily Blanco, 11/07–5/13 (Research Fellow at the NIH)
Sudipta Mukherjee, 11/07–6/13 (Postdoc at UIUC)
Jennifer Laaser, 11/08 –8/13 (Faculty at Univ. of Pittsburgh) (NSF Fellow. Received the Casey Award
for the top pchem student; Received the L’Oreal Postdoctoral Fellowship)
Lauren Buchanan, 11/08 –9/13 (NSF Fellow. Faculty at Vanderbilt)
Dong Gyun Ha, 11/08 – 5/14
David Skoff, 11/09 – 11/14 (Consultant in CA. Received the Reddy Award for the top pchem student).
Huong Tran, 11/10 – 10/16 (Faculty at University of North Carolina, Chapel Hill.)
Randy Mehlenbacher, 11/10 – 1/16 (Associate, Schox Patent Group. NSF Fellow. Received the Reddy

Award for the top experimentalist in the pchem division.)
 Tianqi Zhang, 11/11 – 10/16 (Intel, Inc. Portland)
 Tracey Oudenhoven, 11/12 – 9/15 (Faculty Assistant, UW-Madison. NSF Fellow)
 Jia-Jung Ho, 11/12 – 12/18 (Postdoc in Lausanne, Switzerland)
 Tom McDonough, 11/12 – 6/17 (Intel, Inc. Portland)
 Kaarin Evens, M.S. 2017
 Nick Kearns, 11/13 – 9/19 (Coherent, Inc. Philadelphia)
 Kacie Rich, 11/13 – 4/19 (PPI, Inc. Pittsburgh)
 Josh Ostrander, 11/14 – 5/19 (Faculty at Indiana Wesleyan University, IN. Received Hartl Award for top pchem student and the GSFLC Mentorship Award.)(Now at Institute for Defense Analyses IDA) as a research staff member).
 Ariel Alperstein, 11/14 – 2/2020 (Faculty at University of Delaware, Received the 2019 John & Beverly Schrag Outstanding Peer Awards, the 2018 Roger J Carlson Award for Research Excellence, and the 2020 K.V. Reddy Award for Outstanding Physical Chemistry.)
 Jessi Flach, 11/15 – 6/20. (Lam Research, Boise, Idaho)
 Megan Petti, 11/16 – 6/20 (Received the Roger J. Carlson Award for Research Excellence.)(Technical Advisor at a McDonnell Boehnen Hulbert & Berghoff LLP.)
 Erin Birdsall, 11/17 – 4/22 (NIH Biophysics Trainee Fellow; Postdoc at Smithsonian)
 Miriam Bohlmann Kunz, 11/17 – 5/22 (NSF Fellow)(Postdoc, Univ. of Pittsburgh)
 Cat Fields (Yeh), 11/17 – 4/22 (Analytical Process Scientist, Partner Therapeutics, Seattle)
 Sid Dicke, 11/18 – 2/23 (Research Chemist, PPG Aerospace, San Diego)
 Ryan Allen, 11/18 – 11/22 (Minneapolis, R&D in a glass coating company)
 Kieran Farrell, 11/18 – 8/23 (NSF Fellow, Research Scientist at Lockheed Martin)
 Zachary Armstrong, 11/18 – 10/22 (Idaho)
 Yulia Podorova, 11/19 – 8/22.
 Matt Ryan, 11/20 – 2/25. (Process Development Engineer at Skywater Technology)
 Yuzhe Zhang, 11/21 – 8/22.
 Zac Faitz, 11/21 – (NSF Fellow)
 Harrison Esterly, 11/21 – 1/2025.
 Shivani Shivani, 11/2022 –
 Dasol Im, 11/2022 –
 Brynn LeMasters, 11/2022 – (NIH Biophysics Trainee Fellow)
 Dolimar Roland Valez, 11/2023 – (NIH Biophysics Trainee Fellow)
 J Jeong, 11/2023 – 11/2025.
 Stephen Argauer, 11/2025 –

Postdoctoral Researchers and Scientists

Scientist and Business Owner, Dr. Chris Middleton, Ph.D., 7/2008 (co-Founder of PhaseTech, Inc., the First company to commercialize 2D spectroscopy)
 Postdoc Dr. Sean Moran, Ph.D., 2/2009 – 12/2013 (Assistant Prof. Southern Illinois Univ.)
 Postdoc Dr. Maxim Grechko, Ph.D., 2/2011 – 3/2014 (Max Planck Institute, Mainz)
 Postdoc Dr. Arnaldo Serrano, Ph.D., 3/2013 – 1/2016 (Assistant Prof. Notre Dame)
 Postdoc Dr. Ayanjeet Ghosh, 1/2014 – 3/2016 (Assistant Prof. University of Alabama)
 Postdoc Dr. Andrew Jones, 1/2016 – 9/2019 (Staff Scientist, Los Alamos)
 Postdoc Dr. Michal Maj, 2/2016 – 10/2018 (Assistant Prof. Univ. of Gothenburg, Sweden)
 Postdoc Dr. Justin Lomont, 5/2016 – 5/2019 (Merck, Inc.; Senior Scientist in Analytical Chemistry Enabling Technology)
 Scientist Dr. Farzaneh Chalyavi, 12/2019 – 12/2021. (Thermo Fisher Scientific)
 Postdoc Dr. Minjung Son, 9/2019 – 7/2023 (Assistant Prof. Boston University)
 Postdoc Dr. Nan Yang, 3/2021 – 3/2023 (High frequency trader, NY)
 Postdoc Dr. Kiera Wilhelm, 1/2022 – 1/2025 (Labcorp)
 Postdoc Dr. Austin Gilbert, 1/2023 –.
 Postdoc Dr. Tommaso Bianconi, 1/2023 –.
 Postdoc Dr. Josée Maurais, 1/2025 –.
 Postdoc Dr. Xingyu Shen, 9/2025 –.