

MICHELE PAVANELLO – SHORT CV

RUTGERS UNIVERSITY-NEWARK

PROFESSOR OF PHYSICS & PROFESSOR OF CHEMISTRY

EDUCATION AND TRAINING

University of Pisa	Chemistry (Benedetta Mennucci, advisor)	BSc/MSc	2004
University of Arizona	Chemistry (Ludwik Adamowicz, advisor)	PhD	2010
Leiden University	Chemistry (Johannes Neugebauer, advisor)	Postdoc	2010—2012

PROFESSIONAL APPOINTMENTS

Undergraduate Research Assistant	University of Pisa	2004
Teaching Assistant	University of Arizona	2005—2010
Research Assistant	University of Arizona	2010
Postdoctoral Fellow	Leiden University, Netherlands	2010—2012
Assistant Professor	Rutgers University-Newark	2012—2018
Associate Professor	Rutgers University-Newark	2018—2022
Chair, Department of Physics	Rutgers University-Newark	2018—2021
Professor	Rutgers University-Newark	2022-present
Chair, Department of Physics	Rutgers University-Newark	2024-present

SELECTED HONORS AND AWARDS

- ACS OpenEye Outstanding Junior Faculty Award, 2016
- NSF CAREER award, 2016
- The Rutgers Board of Trustees Research Fellowship for Scholarly Excellence, 2018
- The Rutgers Board of Trustees Award for Excellence in Research, 2020
- ACS Early Career Award in Theoretical Chemistry, 2022
- S. H. Yu Lectureship and Global Lecture, Jilin University, 2024
- Rutgers Presidential Spirit Award, 2025

SELECTED PEER-REVIEWED PUBLICATIONS

Full publications (100 articles) accessible through Google Scholar at <https://bit.ly/3ulqfNV>

- Jiang, K. and Pavanello, M; “*Time-dependent Orbital-free Density Functional Theory: Background and Pauli kernel approximations*”, Phys. Rev. B, 103, 245102 , **2021**

- X Shao, ME Tuckerman, M Pavanello, “*Machine Learning Electronic Structure Methods Based On The One-Electron Reduced Density Matrix*”, *Nature Commun.*, 14, 6281, **2023**
- W Mi, K Luo, SB Trickey, M Pavanello, “*Orbital-Free Density Functional Theory: An Attractive Electronic Structure Method for Large-Scale First-Principles Simulations*”, *Chem. Rev.*, 123, 12039, **2023**
- D Koch, M Pavanello, X Shao, M Ihara, PW Ayers, CF Matta, S Jenkins, S Manzhos, “*The Analysis of Electron Densities: from Basics to Emergent Applications*”, *Chem. Rev.*, 124 (22), 12661-12737, **2024**
- Chen, X., Shao, X., Riera, M., Andreussi, A., Paesani, F. and Pavanello, M., “*Density Functionalized QM/MM Delivers Chemical Accuracy for Solvated Systems*”, *J. Chem. Theory Comput.* 21, 10340, **2025**

RESEARCH SUPPORT (PAST & CURRENT)

Since 2012, funds directly to the Pavanello group:

- \$5M from federal funding agencies
- \$900k from non-federal (private foundations and state of NJ)

SELECTED SCIENTIFIC LEADERSHIP

- Vice Chair and Chair, ACS Physical Chemistry division, Theory subdivision (2023-2025)
- Physics Department Chair, Rutgers University-Newark, 2018—2021 then 2024-present
- Board member of *Int. J. Quantum Chem.* and *J. Phys.: Condens. Matter*
- Organized 9 hackathons, 14 conferences and symposia, and 4 summer schools

RUTGERS ADVISEES AND FORMER STUDENTS

Advisor role (current and past):

- 13 Postdoctoral scholars
- 6 PhD students, 4 MSc students
- 18 undergraduate students
- 7 African students collaborators through the ASESMA network

INVITED TALKS AND LECTURES

108 invited lectures and colloquia

TEACHING ACTIVITY

- Undergraduate: Quantum Mechanics for Physics, Physical Chemistry for Chemists, General Chemistry
- Graduate: Computational Materials Science, Statistical Thermodynamics, Molecular Quantum Mechanics