THE FRANKLIN INSTITUTE *Awards*

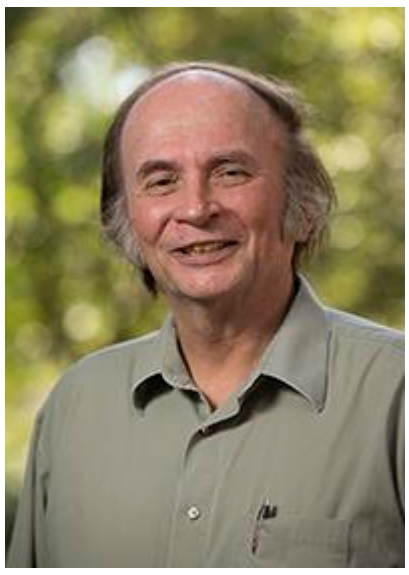
Temple University
College of Science and Technology

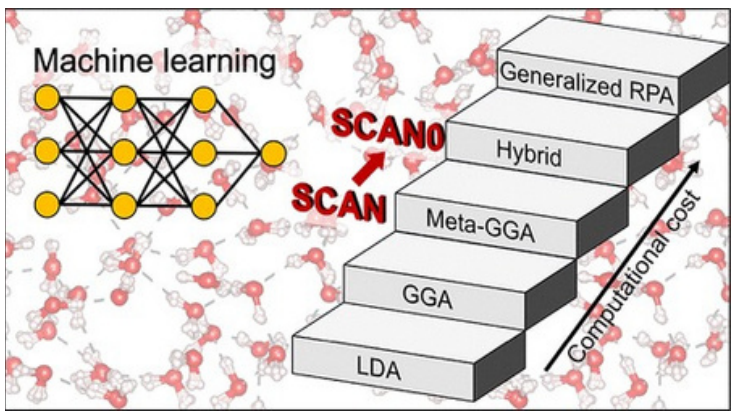
DENSITY FUNCTIONAL THEORY

honoring John Perdew

recipient of the 2025 Benjamin Franklin Medal in Physics

This symposium will gather experts to explore the latest advancements in density functional theory (DFT), a powerful computational tool in studying electronic structure, reactivity and material properties. Presentations will cover new theoretical developments and emerging applications in physics, chemistry and materials science, providing insights into the future directions of DFT.





MAY 1, 2025; 8:45 AM-1:00 PM

Temple University
Science, Education and Research Center, Room 116
1925 N. 12th Street, Philadelphia, PA 19122

SPEAKERS:

8:45 AM OPENING REMARKS: DEAN MIGUEL MOSTAFA and MICHAEL KLEIN
Temple University

9:15 AM KIERON BURKE *University of California, Irvine*
Potential Errors in Density Functional Calculations

9:45 AM WEITAO YANG *Duke University*
ΔSCF Excited-State Approach: Theoretical Foundation, Linear Conditions for Fractional Charges, and Physical Meaning of Orbital Energies

10:15 AM GUSTAVO SCUSERIA *Rice University*
Adventures in Density Functional Theory

10:45 AM COFFEE BREAK

11:15 AM ADRIENN RUZSINSZKY *Tulane University*
Time Dependent Density Functional Theory: From Model Systems to Quantum Materials

11:45 AM ROBERTO CAR *Princeton University*
From Quantum Mechanics to Machine Learning: a Consistent Bottom-up Framework for Molecular Modeling

12:15 AM JOHN PERDEW *Tulane University*
Self-Interaction and Strong Correlation in Density Functional Theory: Killing Two Birds with One Stone

Awards Week Sponsors
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PRICE: Free and open to the public, registration required:

REGISTER: https://forms.gle/gEUj88w7LpHwpQSz9

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THE FRANKLIN INSTITUTE AWARDS

For two centuries, The Franklin Institute has honored pioneering achievements in science, engineering, and industry. As the oldest comprehensive science awards program in the United States, The Franklin Institute Awards celebrates Benjamin Franklin's legacy by honoring the Franklins of today. Through their remarkable contributions, our laureates inspire the Franklins of tomorrow.