

Timo Thonhauser

Associate Professor of Physics at Wake Forest University
Winston-Salem, NC, US

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Biography

Timo Thonhauser sees much potential for using hydrogen to power vehicles. Hydrogen is plentiful and every nation has access to it. It burns clean, so the only byproduct is water. And the world's fossil fuels are running out – so we need another option.

One of the reasons why we are not using hydrogen cars already, he said, is that hydrogen is difficult to store. Simply pumping pure hydrogen into pressurized tanks in your car is inefficient and potentially dangerous. So, Thonhauser has set about to find materials with which to combine hydrogen so it is easily used and safely stored. That research is part of a prestigious CAREER Award Thonhauser has received from the National Science Foundation.

Thonhauser, a condensed matter theorist, uses computers to conduct his research and works with other scientists who then perform experiments to confirm his findings. He has conducted research at MIT, Rutgers, and Penn State. His aim is to find out how a material behaves at the smallest possible level. His research focuses on using condensed matter theory to solve currently outstanding problems in physics, biophysics, chemistry and materials science, with applications to nano-, bio- and energy-related materials.

Areas of Expertise

Condensed Matter Physics, Carbon Capture, Physics, Quantum Physics, Hydrogen Storage, Metal Organic Frameworks

Education

Karl-Franzens-Universität
Ph.D. Physics

Karl-Franzens-Universität
M.S. Physics

Karl-Franzens-Universität
B.S. Physics

Accomplishments

National Science Foundation CAREER Award

A NSF CAREER award is the most prestigious award in support of junior faculty who exemplify the role of teacher-scholars through outstanding research, excellent education and the integration of education and research within the context of the mission of their organizations.

Reid-Doyle Prize for Excellence in Teaching

The Reid-Doyle Prize for Excellence in Teaching is awarded to outstanding faculty members who are still in the early part of their careers.

Award for Excellence in Research

Thonhauser was awarded the Award for Excellence in Research, presented to an outstanding scholar at an early stage in his or her career.

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