

# Great honour for Professor Jeremy Richardson

by Editors



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Chemist Jeremy Richardson has been awarded this year's Rössler Prize in recognition of his outstanding fundamental research in the field of theoretical molecular quantum dynamics. ETH Zurich's most generous research prize was presented to him at the ETH Foundation's annual Thanks Giving event.

The Welsh-born Jeremy Richardson is interested in a fundamental question in chemistry: why do some reactions proceed quickly, and others slowly? This often depends on how much energy a reaction requires. However, sometimes it comes down to the transition between two quantum mechanical states of a molecule: the more difficult this transition is, the less likely it becomes.

Through his research at the interface of chemistry, physics, mathematics and computer science, Richardson has succeeded in demonstrating that even heavy atoms such as oxygen can take shortcuts in reactions. Instead of crossing a quantum mechanical barrier, they can tunnel beneath it. 'If we understand when and how molecules use tunneling pathways, we could exploit this in a targeted way, for example to speed up industrial processes in the future,' says Richardson.

In 2016, ETH Zurich succeeded in recruiting the promising young researcher, who was just 30 at the time, as a professor. His innovative methods, which combine existing theories with experiments and computer simulations, are significantly expanding our understanding of quantum-dynamic processes.

“With his pioneering work in basic research, his passion for teaching and his wide-ranging involvement in the scientific community, Jeremy Richardson is the sort of professor ETH could only wish for,” said ETH President Joël Mesot in his laudatory speech.

The award for outstanding young ETH professors in the expansion phase of their careers is made possible by a donation from ETH alumnus and ETH Honorary Councillor Dr Max Rössler. It was awarded for the 18th time this year.

## Highlights from Thanks Giving 2026













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