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- Public Lecture -
Quantum Dots: Tinkering with Artificial Atoms for Future Semiconductor Devices

Professor Axel Lorke
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University of Duisburg-Essen, Germany

Monday, 10 August 2015 @ 6 PM

Cost: Free, but RSVP is essential
Book online: www.ias.uwa.edu.au/lectures/lorke
Venue: **Venue: Murdoch Lecture Theatre, University of Western Australia, Crawley**
http://www.uwa.edu.au/contact/map?id=2185

Abstract:

In 1959, Richard Feynman, one of the most influential physicists of the 20th century, delivered a lecture, titled "There's plenty of room at the bottom". In it, he envisioned a technology that is based on the ability to see, manipulate and build objects on the smallest scale - down to the atomic level. In a society that was preoccupied with "larger-higher-further" and was reaching out to the stars, Feynman's ideas were considered little more than Science Fiction from an unconventional mind – brilliant, but unrealistic.

Now, more than 60 years later, Feynman's speech has become a widely quoted manifesto of modern nanoscience. The quest for ever-smaller functional devices is driving today's information technology and "nano" has become a household name that promises improved everyday products as well as high-tech solutions to the challenges our society is facing.

In this public lecture, Richard Feynman's talk will be taken as a "wish list from the past" to discuss which of his visionary ideas modern nanotechnology has been able to realize. How has the "Room at the Bottom" transformed science, technology, and our society as a whole? What has been discovered that Feynman might not have thought of? And what future technologies may emerge from present-day nanoscience research?

Biography:

Professor Axel Lorke is the Chair of the Faculty of Physics and CENIDE, University of Duisburg-Essen, Germany. In 2000 he was appointed Full Professor (C4) of Experimental Physics at the University of Duisburg-Essen. His work focuses on the electronic and optical properties nano-structures and low-dimensional semiconductors. From 2004–2012 he was coordinator of the Collaborative Research Centre 'Nanoparticles from the Gas Phase', funded by the German Research Foundation. He was the founding Director of the 'Center for NanoIntegration Duisburg-Essen' (CENIDE), which represents about 60 research groups working in the nanosciences with a total of about 300 scientists. He presently serves as scientific director of the Interdisciplinary Center for Analytics on the Nanoscale and board member of the Nanoenergy Technology Center. Professor Lorke is a 2015 UWA Gledden Visiting Fellow.