

# Antti Kuronen

## Curriculum vitae

May 19, 2016

Full name: Antti Armas Kuronen

Born: Jan 21, 1962

Field of research:

Computational materials physics, computational medical physics.

Education:

Entered Department of Physics of University of Helsinki in 1980

M.Sc. degree in physics in Oct 30, 1986

Ph.D. degree in physics in May 30, 1991

Docent in physics (University of Helsinki) in Dec 28, 1995

Positions held:

|  |           |
|--|-----------|
| Research assistant (10 months)   | 1984-1985 |
| The Academy of Finland / Univ. of Helsinki, Dept. of Physics               |           |
| Assistant (10 months)  | 1984-1985 |
| Univ. of Helsinki, Dept. of Physics  |           |
| Research assistant (2 years and 5 months)                                  | 1985-1987 |
| The Academy of Finland / Univ. of Helsinki, Dept. of Physics               |           |
| Acting laboratory engineer (3 months)                                      | 1987      |
| Univ. of Helsinki, Dept. of Physics  |           |
| Assistant (5 year term)  | 1987-1992 |
| Univ. of Helsinki, Dept. of Physics  |           |
| Research assistant (3 months)  | 1988      |
| The Academy of Finland / Univ. of Helsinki, Dept. of Physics               |           |
| Research assistant (7 months)  | 1990      |
| The Academy of Finland / Univ. of Helsinki, Dept. of Physics               |           |
| Junior research associate (17 months)                                      | 1990-1991 |
| The Academy of Finland   |           |
| Assistant (1 month)  | 1992      |
| Univ. of Helsinki, Dept. of Physics  |           |
| Assistant (5 year term)  | 1992-1997 |
| Univ. of Helsinki, Dept. of Physics  |           |
| Researcher (5 months)  | 1992-1993 |
| Univ. of Helsinki, Research Institute for Theoretical Physics              |           |
| Acting senior assistant (18 months)  | 1996-1997 |
| Univ. of Helsinki, Dept. of Physics  |           |
| Researcher   | 1997-1999 |
| Helsinki University of Technology, Laboratory of Computational Engineering |           |
| Academy research fellow  | 1999-2004 |
| The Academy of Finland /   |           |
| Helsinki University of Technology, Laboratory of Computational Engineering |           |
| University lecturer  | 2004-2008 |
| University of Helsinki, Department of Physical Sciences                    |           |
| University researcher  | 2009      |
| University of Helsinki, Department of Physical Sciences                    |           |
| University lecturer  | 2010-     |
| University of Helsinki, Department of Physical Sciences                    |           |

## Supervision of theses

Activity as an instructor of M.Sc. theses:

Kai Nordlund:

*Undersökning av repulsiva interatomära potentialer med molekylodynamiska simulationer* (in Swedish)

University of Helsinki, 1993

Jura Pulkkinen

*A molecular dynamics simulation study of low energy ion beam induced point defects on the Si(100)-2×1 surface*

University of Helsinki, 1996

Matti Mäki-Jaskari

*Fracture and simulation of crystalline silicon* (in Finnish)

Helsinki University of Technology, 1997

Laura Nurminen

*Kinetic Monte Carlo Simulation of Epitaxial Growth*

Helsinki University of Technology, 2000

Petteri Välimäki

*Soluklusterimallit mikrodosimetriassa* (in Finnish)

University of Helsinki, 2000

Maria Huhtala

*Molecular Dynamics Simulations of Carbon Nanotubes*

Helsinki University of Technology, 2001

Sebastian von Alftan

*Computational Study of Amorphous Silicon and Silica*

Helsinki University of Technology, 2002

Eero Kesälä

*Nanorypään muodostuminen kaasukondensaatiossa* (in Finnish)

University of Helsinki, 2005

Antti Paajanen

*Värähtelyentropian vaikutus kupariryppään tasapainorakenteeseen* (in Finnish)

University of Helsinki, 2011

Wei Ren

*Atomistic simulations of ion irradiation of nanowires*

University of Helsinki, 2012

Activity as an instructor of Ph.D. theses:

Kai Nordlund

*Molecular dynamics simulations of atomic collisions for ion induced irradiation experiments*

University of Helsinki, 1995

Laura Juvonen

*Monte Carlo Simulations in the Study of Semiconductor Surfaces*

Helsinki University of Technology, 2004

Tommi Järvi (together with prof. Kai Nordlund)

*Molecular Dynamics Studies of Nanoclusters*

University of Helsinki, 2009

Eero Holmström (together with prof. Kai Nordlund)

*Atomistic Studies of Radiation Damage in Particle Accelerator Materials*

University of Helsinki, 2012

Mohammad Wali Ullah

*Radiation defects in GaN*

University of Helsinki, 2014

Andrey Ilinov (together with prof. Kai Nordlund)

*Computational modeling of nanowires*

University of Helsinki, 2015

## **Activity as an Opponent at the Ph.D. Examination**

Hannu Koskenvaara

*Photoluminescence spectroscopy and carrier dynamics of quantum dot structures*  
Helsinki University of Technology, 2008

## **Activity as an Opponent at the Licentiate Degree Examination**

Leili Gharaee

*Defect properties in dilute tungsten alloys from first-principles calculations*  
Chalmers University of Technology, 2015

## **Expert Opinion on a Docentship Application**

Teppo Hakkarainen

Field: *Nanotechnology*  
Helsinki University of Technology, 2007

## **Activity as a pre-examiner of Ph.D. thesis**

Jarkko Peltola

*Stopping Power for Ions and Clusters in Crystalline Solids*  
University of Helsinki, 2003

Jaakko Sormunen

*Growth and modification of planar and self-assembled semiconductor nanostructures*  
Helsinki University of Technology, 2005

Mika Jahma

*Rate Equation Modeling of Hyperthermal Surface Growth*  
Helsinki University of Technology, 2007

Ville Lehtola

*Dynamics of single biopolymer translocation and sedimentation*  
Aalto University School of Science and Technology, 2010

Jörg Buchwald

*Modeling nanomechanical properties at surfaces - A computational multiscale approach*  
University of Leipzig, 2015

## **Membership in the Ph.D. grading committee**

Jussi Polvi

*Low-energy radiation effects in polyethylene and cellulose*  
University of Helsinki, 2013

Aleksi Leino

*Atomistic Simulations of Swift Heavy Ion Irradiation Effects in Silica*  
University of Helsinki, 2015

Juha Koivisto

*The use of mosfet dosimeters and anthropomorphic phantoms in low dose dental cbct applications*  
University of Helsinki, 2015

## **Referee activity**

Nuclear instruments and methods B, Europhysics Letters, Journal of Applied Physics, Journal of Nuclear Materials, Physical Review Letters, Physical Review B, Physical Review E, Physica Scripta

## **Teaching activity**

Lecture courses on programming, simulation methods, numerical methods, high-performance computing, nanoscience and surface physics on graduate and post-graduate levels since 1996 at University of Helsinki and Helsinki University of Technology. Starting from 2008 responsibility of the teaching the basic information and communication technology (ICT) skills to physics students.

Chairman of the preparatory board of Master's Programme in Materials Research (MATRES) at University of Helsinki in 2016.

## **Administrative duties**

Responsibility for the procurement of the new computer cluster to the Kumpula campus in 2008-2009.

Scientific secretary of the REI-17 conference organized in Helsinki in July 2013.

Coordination of the 'Modeling Molecules and Nanosystems (MoMoNano)' master's degree program together with Theo Kürten since 2010.

Chairman of the committee for international master's students admission of the Department of Physics, University of Helsinki since 2014.

## **Research funding**

Academy of Finland: Computational research of semiconductor materials

project number 43304

585 000 FIM

1.1.2000 – 31.12.2002

Academy of Finland: Computational studies of semiconductor and amorphous materials

40 000 €

1.1.2003 – 31.12.2003

Academy of Finland: Computational studies of semiconductor and amorphous materials

40 000 €

1.1.2004 – 31.12.2004

Academy of Finland: Rotor materials for electrical motors

118 140 €

1.1.2007 – 31.12.2009

Academy of Finland: Computational modeling of mechanical properties of nanostructures

248 280 €

1.1.2011 – 31.12.2014