

Curriculum vitae with track record
(January 2018)
Professor dr. ir. A. T. J. van Helvoort



PERSONAL INFORMATION

Family name, First name: van Helvoort, Antonius Theodorus Johannes

Date of birth: *15.06.1973*

Sex: male

Nationality: Dutch

Researcher unique identifiers: ORCID [0000-0001-6437-1474](https://orcid.org/0000-0001-6437-1474), ResearcherID: [A-1400-2013](https://www.researcherid.com/rid/A-1400-2013)

URL for personal web site: <http://www.ntnu.edu/employees/a.helvoort>

EDUCATION

- 2002* PhD: Disputation date: *06.12.2002*.
Materials Science & Metallurgy, Cambridge University (Corpus Christi College),
UK
- 1999* Master
Natural Sciences/Materials Science, Delft technical University, the Netherlands

CURRENT AND PREVIOUS POSITIONS

- 2014-....* Current Position: Professor
Norwegian University of Science and Technology (NTNU)/ Faculty of Natural
Sciences/Department of Physics, Trondheim, Norway.
- 2007-2014....* Previous position held: associate professor
Norwegian University of Science and Technology (NTNU)/ Faculty of Natural
Sciences/Department of Physics, Trondheim, Norway.
- 2005-2007* Previous position held: Researcher
SINTEF Materials and Chemistry (Materials Physics), Trondheim, Norway.

FELLOWSHIPS

- 2014-2015* Byfellow Churchill College Cambridge, UK

MOBILITY

- 2014-2015* Department of Materials Science and Metallurgy/Electron Microscopy Croup,
University of Cambridge/UK
The sabbatical leave was award and financed by the faculty of Natural Sciences &
Technology, Norwegian University of Science and Technology (NTNU).

SUPERVISION OF GRADUATE STUDENTS AND RESEARCH FELLOWS

- 2007-.... 5 PhDs as main supervisor of which 3 finished.
2007-.... 7 PhDs as co-supervisor of which 2 finished
2003-.... 38 project/diploma(MSc)/exchange students.
Norwegian University of Science and Technology (NTNU)/ Faculty of Natural Sciences/Department of Physics, Trondheim, Norway.

TEACHING ACTIVITIES (NTNU, Department of Physics)

- 2015 General Physic lab non-physic students (lab coordination). (BSc level)
2008-2014 Nanotools – Characterization Nanomaterials. (BSc & MSc level)
2009-2013 Functional Materials – Applied solid state physics. (MSc level)
2015-.... Materials Physics – Scattering & diffraction physics. (MSc level)
2017 Experts in Team (Nanotechnology) – Cross-disciplinary collaboration (MSc level)
2013-.... FIB module in PhD course Nanostructuring. (PhD level)
2008-.... Electron diffraction and advanced TEM. (PhD level)

ORGANISATION OF INTERNATIONAL SCIENTIFIC MEETINGS

- 2018 Co-chair FIB session Microscopy & Microanalysis meeting, Baltimore, USA
2017 Advanced electron diffraction workshop: planning & organization, Trondheim
2016 Scandem2016: planning, chair of session, organizer workshop data processing, coordinator lab tours. International, 200 participants, Trondheim
2014 Scandem2014: session chair, 150 participants, Linköping, Sweden
2011 MC2011: session chair, 600 participants, Kiel, Germany.
2011 ICAM (10th): scientific program, session chair, 150 participants, Trondheim.

INSTITUTIONAL RESPONSIBILITIES

- 2007-.... Daily running and management TEM Gemini Centre
NTNU/Physics/Norway (www.ntnu.edu/geminicentre/tem)
2013 Administrator PhD exam NTNU
2013 Vice-section head Condensed Matter Section
2017 Member interview committee position at IFY

COMMISSIONS OF TRUST

- 2008&2016 Member evaluation committee purchase SEM and FIB NTNU NanoLab
2017 Examination Committee PhD University of Antwerpen, Antwerpen, Belgium
2017 Rapporteur sur le travail de these, Université Grenoble Alpes, France
2017 Examination Committee PhD Chalmers University, Gothenborg, Sweden
2016 Examination Committee PhD Lund University, Sweden
2016 Examination Committee PhD Linkjeping University, Sweden
2014 Opponent PhD exam Vestfold College, Norway
2012 Opponent PhD exam DTU, Copenhagen, Denmark
2011 Opponent PhD exam UiO, Oslo, Norway

MEMBERSHIPS OF SCIENTIFIC SOCIETIES

2001-.... Member Institute of Physics (IoP)

MAJOR COLLABORATIONS

Prof. Randi Holmestad, transmission electron microscopy and organization research group & facility, Faculty of Natural Sciences, Department of Physics (IFY), Norwegian University of Science and Technology (NTNU), Norway.

Prof. Helge Weman, semiconductor optoelectrical properties & devices, Faculty of Information Technology and Electrical Engineering, Department of Electronic Systems (IES), Norwegian University of Science and Technology (NTNU), Norway.

Prof. Bjørn-Ove Fimland, Nanowire synthesis and molecular beam epitaxy, Faculty of Information Technology and Electrical Engineering, Department of Electronic Systems (IES), Norwegian University of Science and Technology (NTNU), Norway.

Prof. Paul Midgley, method development transmission electron microscopy, Department of Materials Science and Metallurgy, University of Cambridge, UK.

PUBLICATION TRACK RECORD

Total number of international peer reviewed journal papers: 66. Conference contributions: ca. 190. *h*-factor: 18 (ISI Web of Science), 18 (ResearchID), 18 (Scopus) & 22 (Google Scholar). Entries in Cristin (Current Research Information System In Norway): 305

Example recent and high-profile publications (*Citations as listed by ISI Web of Science, excluding self-citations*)

- Heilmann, M.; Munshi, A. M., Sarau, G., Göbelt, M.; Tessarek, C., Fauske, V. T., **van Helvoort**, A. T.J., Yang, J., Latzel, M., Hoffmann, B., Conibeer, G., Weman, H., Christiansen, S., "Vertically Oriented Growth of GaN Nanorods on Si using Graphene as Atomically Thin Buffer Layer", *Nano Letters*, 16, 3524–3532, 2016. (Citations: 8)

- Fauske, V. T., Huh, J., Divitini, G. Dheeraj, D. L., Munshi, A. M. , Ducati, C. Weman, H., Fimland, B.-O., **van Helvoort**, A. T. J. , "In situ heat-induced replacement of GaAs Nanowires with Au", *Nano Letters*, 16, 3051-3057, 2016. (Citations: 8)

- Ren D., Dheeraj D. L., Jin C., Nilsen J. S., Huh J., Reinertsen J. F., Munshi A. M., Gustafsson A., **van Helvoort** A. T. J., Weman H., and Fimland, "New Insights into the Origins of Sb-Induced Effects on Self-Catalyzed GaAsSb Nanowire Arrays", *Nano Letters*, 16, 1201-1209, 2016. (Citations: 13)

- Huh J., Kim D.-C., Yun H., Munshi A. M., Dheeraj D. L., Kauko H., **van Helvoort** A. T. J., Lee S. W., Fimland B. O., Weman H., “Rectifying Single GaAsSb Nanowire Devices Based on Self-Induced Compositional Gradients”, *Nano Letters*, 15, 3709-3715, 2015. (Citations: 16)
- Jones L., MacArthur K. E., Fauske V. T., **van Helvoort** A. T. J., and Nellist P. D., “Rapid Estimation of Catalyst Nanoparticle Morphology and Atomic-coordination by High-resolution Z-contrast Electron Microscopy”, *Nano Letters*, 14, 6336-6341, 2014. (Citations: 33)
- Munshi A. M., Dheeraj D. L., Fauske V. T., Reinertsen J. F., Ahtapodov L., Lee K. D., Heidari B., **van Helvoort** A. T. J., Fimland B. O., and Weman H., “Position Controlled Self-Catalyzed GaAs Nanowire Arrays on Silicon by Nanoimprint Lithography and Molecular Beam Epitaxy”, *Nano Letters*, 14, 960-966, 2014. (Citations: 60)
- Ahtapodov L., Todorovic J., Olk P., Mjaaland T.S., Slaattnes P.R.T., Dheeraj D.L., **van Helvoort** A.T.J., Fimland B.O. and Weman H., “A Story Told by a Single Nanowire: Optical Properties of Wurtzite GaAs”, *Nano letters*, 12, 6090–6095, 2012. (Citations: 52)
- Munshi M. A., Dheeraj D. L., Fauske V. T., Kim D.-C., **van Helvoort** A. T. J., Fimland B.-O. and Weman H., "Vertically Aligned GaAs Nanowires on Graphite and Few-Layer Graphene: Generic Model and Epitaxial Growth", *Nano Letters*, 12, 4570-4576, 2012. (Citations: 76)
- Mumm F, **van Helvoort** ATJ and Sikorski P, “An Easy Route to Superhydrophobic Copper based Droplet Microfluidic Systems”, *ACS Nano*, 3, 2647–2652, 2009. (Citations: 86)
- Dheeraj DL, Patriarche G, Largeau L, Zhou HL, Hoang TB, Mosses AF, Grønsberg S, **van Helvoort** ATJ, Fimland B-O and Weman H, " Growth and characterization of GaAs nanowires with defect-free zinc blende GaAsSb inserts", *Nano Letters*, 8, 4459-4463, 2008. (Citations: 70)

Example invited talks:

van Helvoort ATJ, “Transmission electron microscopy: What more to see?”, Fysikermøtet, Tromsø, 7-9 August 2017

van Helvoort ATJ, “In-situ studying the heat-induced replacement of GaAs by Au”, DENS In-situ workshop, Grenoble, France, 16 March 2017

van Helvoort ATJ, "Practical use of energy filtered electron microscopy", Scandem 2006, Gothenborg, Sweden, 12-15 June 2006

Example extended review:

Knowles KM and **van Helvoort** ATJ, "Anodic bonding", *International Materials Reviews*, 51(5), 273-311, 2006. (Citations: 72)

Complete publication list on <http://folk.ntnu.no/helvoort/publications>, via Web of Science, Scopus, [Google Scholar](#), [ORCID](#) or [ResearchID](#).