

I. Publications in international journals with referee system

68: Sunde J. K., Marioara C. D., **van Helvoort** A. T.J., and Holmestad R., “The evolution of precipitate crystal structures during ageing of an Al-Mg-Si(-Cu) alloy – A study using a combined HAADF-STEM and SPED approach”, *Materials Characterization*, **143**, 458-469, 2018.

67: D. Ren, L. Ahtapodov, J. S. Nilsen, J. Yang, A. Gustafsson, J. Huh, D.-C. Kim, G. Conibeer, A.T.J. **van Helvoort**, B.-O. Fimland, and H. Weman, “Single-Mode Near-Infrared Lasing in a GaAsSb-Based Nanowire Superlattice at Room Temperature”, *Nano letters*, **18**, 2304–2310, 2018.

66: Ahtapodov L., Kauko H., Munshi A.M., Fimland B.O., **van Helvoort** A.T.J., and H. Weman, “Determination of GaAs zinc blende/wurtzite band offsets utilizing GaAs nanowires with an axial GaAsSb insert”, *Journal of Applied Physics*, **122**, 245102, 2017.

65: Liudi Mulyo A., Konno Y., Nilsen J. S., **van Helvoort** A. T. J., Fimland B.-O., Weman H., and Kishino K., “Growth Study of Self-Assembled GaN Nanocolumns on Silica Glass by Plasma Assisted Molecular Beam Epitaxy”, *Journal of Crystal Growth*, **480**, 67-73, 2017.

64: Mosberg A. B., Myklebost S., Ren D., Weman H., Fimland B.-O., and **van Helvoort** A. T. J., “Evaluating focused ion beam patterning for position-controlled nanowire growth using computer vision”, *Journal of Physics: Conference Series*, **902**, 012020, 2017.

63: Arivazhagan V., Schmitz F. D., Vullum P. E., **van Helvoort** A. T. J., and Holst B., “Atomic resolution imaging of beryl: an investigation of the nano-channel occupation”, *Journal of Microscopy*, **265**, 245–250, 2017.

62: Ahtapodov, L., Munshi, Nilsen, J.S., A.M., Reinertsen, J. F., Dheeraj D.L., Fimland, B.O., **van Helvoort** A.T.J., and Weman, H., “The effect of III-V ratio on the optical properties of GaAs/AlGaAs core-shell nanowires”, *Nanotechnology*, **27**, 445711, 2016.

61: 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.

60: 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.

59: Fauske V. T., Erlbeck M. B., Huh J., Kim D. C., Munshi A. M., Dheeraj D. L., Weman H., Fimland B. O., and **van Helvoort** A. T. J., “In-situ electronic probing of semiconducting nanowires in an electron microscope”, *Journal of Microscopy*, **262**, 182-188, 2016.

58: 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.

57: Nilsen J. S., Reinertsen J. F., Mosberg A. B., Fauske V. T., Munshi A. M., Dheeraj D. L., Fimland B. O., Weman H. and **van Helvoort** A. T. J., “Radial composition variations in the shells of GaAs/AlGaAs core-shell nanowires”, *Journal of Physics: conference series*, **644**, 012007, 2015.

- 56: 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.
- 55: 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.
- 54: Kauko H., Munshi A. M., Grieb T., Muller K., Rosenauer A., Fimland B.-O., and **van Helvoort** A. T. J., “Antimonide surface depletion during the growth of GaAsSb and GaAs/GaAsSb nanowires”, *Journal of Applied Physics*, **116**, 144303, 2014.
- 53: Singh G., Kumar P. A., Lundgren C., **van Helvoort** A. T. J., Mathieu R., Wahlström E., Glomm W. R. , “Tunability in Crystallinity and Magnetic Properties of Core–Shell Fe Nanoparticles”, *Particle & Particle Systems Characterization*, **31**, 1054-1059, 2014.
- 52: Singh G., **van Helvoort** A. T. J., Bandyopadhyay S., Volden S, Andreassen J.-P., Glomm W. R., “Synthesis of Au nanowires with controlled morphological and structural characteristics”, *Applied Surface Science*, **311**, 780-788, 2014.
- 51: Fauske V.T., Kim D.C., Munshi A.M., Dheeraj D.L., Fimland B.-O., Weman H. and **van Helvoort** A.T.J., “ *In-situ* electrical and structural characterization of individual GaAs nanowires”, *Journal of Physics: Conference Series*, **522**, 012080, 2014.
- 50: 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.
- 49: Kauko H., Zheng C. L., Zhu Y., Glanvill S., Dwyer C., Munshi A. M., Fimland B.-O., **van Helvoort** A. T. J. and Etheridge J., “Compositional analysis of GaAs/AlGaAs heterostructures using quantitative scanning transmission electron microscopy”, *Applied Physics Letters*, **103**, 232111, 2013.
- 48: Todorovic J., Kauko H., Ahtapodov L., Moses A. F., Olk P., Dheeraj D. L., Fimland B.-O., Weman H. and **van Helvoort** A. T. J., “The effects of Sb concentration variation on the optical properties of GaAsSb/GaAs heterostructured nanowires”, *Semiconductor Science and Technology*, **28**, 115004, 2013.
- 47: Dheeraj D.L., Munshi A.M., Christoffersen O.M., Kim D.C., Signorello G., Riel H., **van Helvoort** A.T.J., Weman H. and Fimland B.-O., “Comparison of Be-doped GaAs nanowires grown by Au- and Ga-assisted molecular beam epitaxy”, *Journal of Crystal Growth*, **378**, 532-536, 2013.
- 46: Munshi A.M., Dheeraj D.L., Todorovic J., **van Helvoort** A.T.J., Weman H. and Fimland B.-O., “Crystal phase engineering in self-catalyzed GaAs and GaAs/GaAsSb nanowires grown on Si(111)”, *Journal of Crystal Growth*, **372**, 163-169, 2013.
- 45: Garskaite E., Svarstad Flø A., **van Helvoort** A. T. J., Kareiva A. and Olsen E., “Investigation of photoluminescence properties of TiO₂:Nd,Yb films and powders produced by the sol-gel method”, *Journal of Luminescence*, **140**, 57-64, 2013.

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- 43: Kauko H., Grieb T., Bjørge R., Schowalter M., Munshi A.M., Weman H., Rosenauer A. and **van Helvoort** A.T.J, "Composition analysis of heterostructured GaAs/GaAsSb nanowires with quantitative HAADF-STEM", *Micron*, 44, 254–260, 2013.
- 42: 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.
- 41: 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", *Nanoletters*, 12, 4570-4576, 2012.
- 40: Kauko H., Børge R., Holmestad R. and **van Helvoort** A.T.J., "Quantitative HAADF-STEM on heterostructured GaAs nanowires", *Journal of Physics: Conference Series*, 371, 012056, 2012.
- 39: Moses A. F., Hoang T. B., Ahtapodov L., Dheeraj D. L., **van Helvoort** A. T. J., Fimland B.-O., and Weman H., "Photoluminescence Polarization Anisotropy in a Single Heterostructured III-V Nanowire with Mixed Crystal Phases", *AIP Conference Proceedings*, 1399, 559, 2011.
- 38: Todorovic J., Moses A. F., Dheeraj D. L., Olk P., Fimland B.-O., Weman H. and **van Helvoort** A. T. J., "Correlated micro-photoluminescence and electron microscopy study of a heterostructured semiconductor nanowire", *Journal of Physics: Conference Series*, 326, 012043, 2011.
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- 36: Eberg E., **van Helvoort** A.T.J., Takahashi R., Gass M., Mendis B., Bleloch A., Holmestad R. and Tybell T., "EELS investigation of Pb and Ti hybridization with O at the PbTiO₃/SrTiO₃ interface", *Journal Applied Physics*, 109, 034104, 2011.
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- 34: Graver B, **van Helvoort** ATJ and Nisancioglu K, "Effect of Heat Treatment on Anodic Activation of Aluminium by Trace Element Indium", *Corrosion Science*, 52, 3774-3781, 2010.
- 33: Hoang TB, Moses AF, Ahtapodov L, Zhou H, Dheeraj DL, **van Helvoort** ATJ, Fimland B-O and Weman H, "Engineering Parallel and Perpendicularly Polarized Photoluminescence from a Single Semiconductor Nanowire by Crystal Phase Control", *Nano letters*, 10, 2927–2933, 2010.
- 32: **van Helvoort** ATJ, Dheeraj DL, Zhou H, Grønsberg S, Patriarche G, Fimland B-O and Weman H, "Dark field transmission electron microscopy techniques for structural characterization of semiconductor nanowire heterostructures", *Journal of Physics - Conference Series*, 241, 012084, 2010.

- 31: Dheeraj DL, Zhou HL, Moses AF, Hoang TB, **van Helvoort** ATJ, Fimland B-O and Weman H, "Growth of heterostructured III-V nanowires by molecular beam epitaxy for photonic applications", *Proceedings of SPIE*, the International Society for Optical Engineering, 7608, 76081C-1-76081C-6, 2010.
- 30: Moses AF, Hoang TB, Dheeraj DL, Zhou HL, **van Helvoort** ATJ, Fimland B-O and Weman H, "Micro-photoluminescence study of single GaAsSb/GaAs radial and axial heterostructured core-shell nanowires", *Journal of Physics -Conference Series: Materials Science and Engineering*, 6, 012001, 2009.
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- 25: Eberg E, Monsen AF, Tybell T, **van Helvoort** ATJ and Holmestad R, "Comparison of TEM specimen preparation of perovskite thin films by tripod polishing and conventional ion milling", *Journal of Electron Microscopy*, 57, 175-179, 2008.
- 24: Sæterli R, **van Helvoort** ATJ, Wang G, Rørvik P-M, Tanem BS, Grande T, Einarsrud M-A and Holmestad R, "Detailed TEM characterisation of PbTiO₃ nanorods", *Journal of Physics: Conference Series*, 126, 012010, 2008.
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- 21: Rørvik P-M, Lyngdal T, Sæterli R, **van Helvoort** ATJ, Holmestad R, Grande T and Einarsrud M-A, "Influence of volatile chlorides on the molten salt synthesis of ternary oxide nanorods and nanoparticles", *Inorganic Chemistry*, 47, 3173-3181, 2008.
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- 12: Tanem BS, Kvien I, **van Helvoort** ATJ and Oksman K, "Cellulose Nanocomposites: Structural Characterisation of Cellulose and its Nanocomposites", In *ACS Symposium Series on Cellulose Nanocomposites, Processing Characterisation and Properties*, ACS Symposium Series, 938, 48-62, 2006.
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- 8: **van Helvoort** ATJ, Knowles KM, Fernie JA, "Joining mechanisms in electrostatic bonding", *Key Engineering Materials* 264–268, 649–654, 2004.
- 7: **van Helvoort** ATJ, Knowles KM, Holmestad R, Fernie JA, "Anodic oxidation during electrostatic bonding". *Philosophical Magazine* 84(6), 505–519, 2004.
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- 5: **van Helvoort** ATJ, Knowles KM and Fernie JA, "Nanostructures at electrostatic bond interfaces", *Journal of the American Ceramic Society* 86(10), 1773–1776, 2003.
- 4: **van Helvoort** ATJ, Knowles KM, Fernie JA, "Characterization of cation depletion in pyrex during electrostatic bonding", *Journal of the Electrochemical Society*, 150(10), G624–G629, 2003.
- 3: **van Helvoort** ATJ, Knowles KM, Fernie JA, "Interfacial microstructures of silicon-pyrex and aluminium-pyrex electrostatic bonds", *Journal of ceramic processing research* 4(1), 25–29, 2003.

2: Vegter RH, **van Helvoort** ATJ and den Ouden G, "Diffusion bonding of zirconia to stainless steel AISI 316", Journal of Advanced Materials, Vol. 35, 17–24, 2003.

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II. Accepted/Submitted manuscripts:

Accepted:

- A1:

Submitted:

- S1:

III. Other written work:

TEM Gemini Center annual reports 2008-2017, editorial work. Reports can be found on <https://www.ntnu.edu/physics/temgemini/about>.

Broekmans, M.A.T.M, Korneliussen, A., Muller, A., Roaldset, E., Selbekk, R.S; van der Eijk, C. and **van Helvoort**, A.J.T., Proceedings of the 10th International Congress for Applied Mineralogy (ICAM). Trondheim: International Congress for Applied Mineralogy (ICAM) 2011. (ISBN 978-82-7385-141-3)

Chapter in book "Nanowires", D.L. Dheeraj, H.L. Zhou, A.F. Moses, T.B. Hoang, A.T.J. **van Helvoort**, B.O. Fimland and H. Weman, "Heterostructured III-V Nanowires with Mixed Crystal Phases Grown by Au-assisted Molecular Beam Epitaxy", "Nanowires", edited by: Paola Prete, ISBN 978-953-7619-79-4

A. T. J. **van Helvoort**, "Microstructural Characterization of Electrostatic Bonding", PhD Thesis, Cambridge University, 2002.

IV. Presentations (presenter underlined):

a. Conference contributions - talks:

D. Ren, L. Ahtapodov, J. S. Nilsen, J. Yang, A. Gustafsson, J. Huh, D.-C. Kim, G. Conibeer, A.T.J. **van Helvoort**, B.-O. Fimland, and H. Weman, "Single Nanowire Laser with GaAsSb-based Multiple-Superlatticed Gain Structure", 60th electronic materials conference at UCSB, Santa Barbara, USA, 27-29 June, 2018.

A.T.J. van Helvoort, S. Wenner, J. Sunde, V. Fauske, P. E. Vullum and, R. Holmestad, "Value of multidimensional data analysis", 5th ARM user meeting, Trondheim, Norway, 14-15 June 2018.

A.T.J. van Helvoort, "Phase mapping by scanning precession electron diffraction and machine learning", Mini-symposium, Uppsala, Sweden, 11 June, 2018.

D. Ren, L. Ahtapodov, J. S. Nilsen, J. Yang, A. Gustafsson, J. Huh, D.-C. Kim, G. Conibeer, A.T.J. **van Helvoort**, B.-O. Fimland, and H. Weman, "Single Nanowire Laser with GaAsSb-

based Multiple-Superlatticed Gain Structure”, Compound Semiconductor week 2018, Boston, USA, 29 May-1 June, 2018.

A.T.J. **van Helvoort**, S. Wenner, J. Sunde, V. Fauske, P. E. Vullum and, R. Holmestad “Low-dimensional nanomaterials and transmission electron microscopy (TEM): How low can we go?”, NNSP meeting Low-dimensional structures, Kjeller, 14-15 May 2018.

J. K. Sunde, C. D. Marioara, A. T. J. **van Helvoort**, Antonius, R. Holmestad, “Studying the effect of low Cu additions in 6082 alloys”, Third INTPART Workshop between NTNU, University of Toyama and Tokyo Tech, Japan 7-8 May, 2018.

H.A. Wiik, A.T.J. **van Helvoort**, and K. Marthinsen, “Controlling Recrystallization and Texture in Aluminium Alloys”, Physical Metallurgy Seminar, Trondheim, 4-5 January, 2018.

A. Lervik, J. K. Sunde, H. W. Ånes, S. Wenner, A. T. J. **van Helvoort**, and R. Holmestad, “Characterization using scanning precession electron diffraction”, NORTEM-Oslo Christmas Seminar, Oslo, 13 December 2017.

D. Ren, L. Ahtapodov, J. S. Nilsen, J. Yang, A. Gustafsson, J. Huh, G. Conibeer, A. T.J. **van Helvoort**, B.-O. Fimland, and H. Weman, “Ternary GaAsSb Nanowire for Optoelectronic Applications”, Nano@NTNU Symposium 2017, Trondheim, 6-7 December 2017. [Best presentation price]

H. W. Ånes, J. K. Sunde, Randi Holmestad, and A.T.J. **van Helvoort**, “Crystal phase and orientation mapping of nanomaterials”, Nano@NTNU Symposium 2017, Trondheim, 6-7 December 2017.

A.T.J. **van Helvoort**, “Possibilities of scanning precession electron diffraction (SPED)”, JEOL Advanced Electron Diffraction Workshop, Freising, Germany, 7-8 November 2017. [Invited]

A.T.J. **van Helvoort**, P. E. Vullum, S. Wenner, J. Sunde, V. Fauske, and R. Holmestad, “Transmission electron microscopy (TEM): What more to see?”, Fysikermøtet, Tromsø, Norway, 7-9 August 2017. [Invited]

D.N. Johnstone, A.T.J. **van Helvoort**, P.A. Midgley, “Nanoscale Strain Tomography by Scanning Precession Electron Diffraction”, Microscopy & Microanalysis, St. Louis, USA, 7-10 August 2017.

J.K. Sunde, D.N. Johnstone, S. Wenner, C.D. Marioara, A.T.J **van Helvoort**, P.A. Midgley, R Holmestad, “Scanning Precession Electron Diffraction Study of Hybrid Precipitates in a 6xxx Series Aluminium Alloy”, Microscopy & Microanalysis, St. Louis, USA, 7-10 August 2017.

J.K. Sunde, D.N. Johnstone, C.D. Marioara, A.T.J **van Helvoort**, P.A. Midgley, R Holmestad, “Crystallographic evolution of 6xxx series aluminium precipitates studied by scanning precession electron diffraction”, EMAG/MMC, Manchester, UK, 3-6 July, 2017.

P. E. Vullum, S. Wenner, V. T. Fauske, A. T. J. **van Helvoort**, and R. Holmestad, “High performance imaging and spectroscopy without beam damage”, 4th ARM owner/user meeting, Rouen, France, 20-21 June, 2017.

A. T. J. **van Helvoort**, A. Garmannslund, J. Bogen, J. S. Nilsen, V. T. Fauske, D. Ren, H. Weman, B.-O. Fimland, “Improved compositional mapping of heterostructured nanowire (by STEM-EDX)”, Nanowire Week, Lund, Sweden, 29 May – 2 June 2017.

S. Wenner, J. Busam, A. M. F. Muggerud, and A. T. J. **van Helvoort**, “Lattice-resolved electron imaging of quartz for Si crystal growth crucibles”, Norwegian solar cell conference 2017, Son, Norway 9-10 May 2017.

V. T. Fauske, J. Huh, G. Divitini, A. M. Munshi, D. L. Dheeraj, C. Ducati, H. Weman, B.-O. Fimland, and A. T. J. **van Helvoort**, “In-situ studying the heat-induced replacement of GaAs by Au”, In-situ TEM sample-management solution workshop, Institut Neel, Grenoble, France, 16 March 2017. [Invited]

A. B. Mosberg, D. Ren, S. Myklebost, B.-O. Fimland and A. T. J. **van Helvoort**, “Tailoring nanowire growth through Focused Ion Beam patterning”, Nano@NTNU Symposium, Trondheim, 17-18 November 2016. [Best student presentation]

J. S. Nilsen, J. Huh, A. M. Munshi, D. L. Dheeraj, B.-O. Fimland, H. Weman and A. T. J. **van Helvoort**, “Pd/Ge/Au contacts on GaAs Nanowires”, Nano@NTNU Symposium, Trondheim, 17-18 November 2016.

V. T. Fauske, J. Huh, G. Divitini, D. L. Dheeraj, A. M. Munshi, C. Ducati, H. Weman, B.-O. Fimland, and A. T. J. **van Helvoort**, “Metallic contacts within semiconductor nanowires”, Nano@NTNU Symposium, Trondheim, 17-18 November 2016.

D. Ren, D. L. Dheeraj, J. S. Nilsen, J. Huh, A. Gustafsson, A. T. J. **van Helvoort**, H. Weman, and B. O. Fimland, “Effects of Sb on Crystal Phase, Morphology and Optical Emission of Self-catalyzed GaAsSb Nanowires on Si(111) and Graphitic Substrate”, MBE16, Montpellier, France, 4-9 September 2016

D. N. Johnstone, A. J. Knowles, R. Krakow, S. Wenner, A. T. J. **van Helvoort**, R. Holmestad, H. Stone, C. Rae, P. A. Midgley, “Crystallographic mapping in engineering alloys by scanning precession electron diffraction”, Lyon, France, 28 August - 2 September, 2016.

V. T. Fauske, J. Huh, G. Divitini, D. L. Dheeraj, A. M. Munshi, C. Ducati, H. Weman, B.-O. Fimland, and A. T. J. **van Helvoort**, “In situ tracking of the heat-induced replacement of GaAs by Au in nanowires, European Microscopy” Congress 2016 (EMC16), Lyon, France, 28 August - 2 September, 2016.

A. B. Mosberg, D. Ren, V. T. Fauske, J. Huh, B.-O. Fimland and A. T. J. **van Helvoort**. “Focused Ion Beam for substrate nanopatterning and characterization of position-controlled Nanowires”, 7th NanoNetwork workshop, Trondheim, 13-15 June 2016.

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van Helvoort ATJ, Tanem BS and Holmestad R, "Advanced transmission electron microscopy of nanostructured soft materials", NANOMAT - Birkeland conference 2005, Royal Garden Hotel, Trondheim, Norway, 2-3 June 2005.

van Helvoort ATJ, Soleim BG, Dahl Ø, Holmestad R, Tybell T, "Annular dark field study of lead titanate thin films", NANOMAT - Birkeland conference 2005, Royal Garden Hotel, Trondheim, Norway, 2-3 June 2005.

van Helvoort ATJ, Soleim BG, Dahl Ø, Friis J, Holmestad R, Tybell T, "Homogeneity in epitaxial lead titanate thin films on strontium titanate", The 13th European Microscopy Congress (EMC 2004), Antwerpen, Belgium, 22-27 August 2004.

Walmsley J, Bjørgum A, Lapique F, **van Helvoort** ATJ, "Characterisation of the adhesive/AC anodised aluminium bond interface in the Transmission Electron Microscope", International Conference on Environmental friendly Pre-treatments for Aluminium and other Metals (ICEPAM 2004), Oslo, Norway, 16-18 June 2004.

Holmestad R, Walmsley J, **van Helvoort** ATJ, "Transmission electron microscopy: a key tool in nanotechnology", NANOMAT-konferansen, 3-4 June 2004.

Dahl Ø, **van Helvoort** ATJ, Nilsen E, Holmestad R, Grande T, Tybell T, "The influence of thickness in thin epitaxial PbTiO₃ thin films", 1st topical THIOX meeting, 17-19 March 2004.

V. Various:

Short interview NRK-P1, "Skaffet seg mikroskoper til 117 millioner", regarding opening NORTEM, R. Sæterli & A.T.J. **van Helvoort**, 9-9-2015 (<http://www.nrk.no/trondelag/mikroskoper-til-117-millioner-1.12547880>) [Radio]

Webinar Imina Technologies, contribution A. T. J. **van Helvoort**: "Probing electronic properties of nanowires", 24 September 2014. [Internet]

TEM Gemini Center homepage: <http://www.ntnu.edu/geminicentre/tem>, responsible since 2008. [Internet]

Appearance in Schrödingers katt (TV), "Tre blir råstoff for ny satsing på nanoteknologi", 17.04.2008. (<http://www1.nrk.no/nett-tv/indeks/129185>). [TV]

Holmestad R, **van Helvoort** ATJ, Nyheter - Nytt Elektronmikroskop ved Institutt for fysikk, NTNU. TV Trøndelag og TV Norge, 7 June 2004. [TV]

van Helvoort ATJ, Knowles KM, Fernie JA, " γ -Al₂O₃ Nanocrystalline Structures Formed During Electrostatic Bonding of Aluminium to PyrexTM", Poster for internal use Inorganic Microstructure Group, Materials Science Department, Cambridge University/TWI, 2002. [poster]

van Helvoort ATJ, Knowles KM, Fernie JA, "DC- Polarisation of Pyrex™ During Electrostatic Bonding", Poster for internal use Inorganic Microstructure Group, Materials Science Department, Cambridge University/TWI, 2001. [poster]

van Helvoort ATJ, First prize 2001 IoM Lecture Competition , Graduate Class, region East-Anglia, UK. [talk]

VI. Summarizing bibliometric indicators

h-factor: 18 (ISI Web of Science), 18 (Scopus) & 22 (Google Scholar).

Papers:

Norwegian classification: Nivå 1: 40/20 (Total/last 5 years)

Norwegian classification: Nivå 2: 26/10 (Total/last 5 years)

Total: 68/30 (Total/last 5 years)

Entries in the Current Research Information System In Norway (CRISTIN): 305

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)

VII. Supervision:

a. PhD students:

- Dr Jelena Todorovic, "Transmission electron microscopy study of III-V semiconductor nanowires for solar cell applications", September 2009 - December 2012.

- Dr Hanne Kauko, "Quantitative scanning transmission electron microscopy studies on heterostructured GaAs nanowires", September 2009 - December 2013.

- Dr Vidar Trond Fauske, "Electron Microscopy Based Characterization of Semiconductor Nanowires", June 2011 - June 2016.

- Julie Stene Nilsen, "Characterization of graphene- III/V semiconductors", starting date February 2015.

- Aleksander B. Mosberg, "Nanostructuring by focusing ion beam", starting date August 2015.

- Håkon Wiik Ånes, (Co-supervisor), "Controlling Recrystallization and Texture in Aluminium Alloys", starting date August 2017.

- Stephanie Brugmann, (Co-supervisor), "In-situ gas TEM holder", starting date April 2018

- Erik D. Roede (Co-supervisor), "Nanostructuring of BN", starting date August 2017.

- Theodor Secanell Holstad, (Co-supervisor), "Domain boundaries in multiferroics", starting date September 2016.

- Ida Marie Hoeiaas, (Co-supervisor), "Synthesis of graphene-III/V semiconductor heterostructures", Start date September 2014.

- Johannes F. Reinertsen, (Co-supervisor), “Optoelectric characterization of III-V Nanowires”, start date September 2012. Withdrawn July 2015.
- Dr Fredrik Martinsen (Co-supervisor), “Electrochemical purification of Si”, defended 10 September 2015.
- Dr Ragnhild Sæterli (Co-supervisor), “Advanced TEM of functional oxides”, defended September 2010.

b. Master students

- Knut Olav Helleseng, “Innvirking av preparering av TEM-prøver for høyoppløsningsstudier av perovskitt-tynnfilmer”, (diploma), submitted June 2003.
- Bjørn G. Soleim, “TEM-karakterisering av perovskitt-tynnfilmer” (project), submitted December 2003.
- Bjørn G. Soleim, “STEM-karakterisering av perovskitt-tynnfilmer” (diploma), submitted June 2004.
- Ragnhild Sæterli, “Complex alkali titanate structures studied with electron microscopy techniques” (project), submitted December 2005.
- Ragnhild Sæterli, “TEM characterization of lead titanate nanorods synthesized under hydrothermal conditions” (diploma), submitted June 2006.
- Christian Fink, “Characterization of Digital Cameras in TEM-laboratories at NTNU Trondheim” (Exchange student), submitted July 2005
- Lena Cecilie Wennberg, “Prøvepreparering for karakterisering av SRO-tynnfilm i TEM” (project), submitted February 2005.
- Lena Cecilie Wennberg, “Prøvepreparering med tripod for karakterisering av SRO-tynnfilm i TEM” (diploma), submitted July 2005.
- Åsmund Monsen, “Sample preparation and TEM studies of perovskite thin films”, (project), submitted Januari 2006.
- Åsmund Monsen, “TEM characterization of LaFeO₃ thin films”, (diploma), submitted June 2006.
- Espen Eberg, “Tripod polishing of ferroelectric thin films for transmission electron microscopy”, (project), submitted June 2006.
- Espen Eberg, “Fabrication by electron beam lithography and preliminary studies by high resolution electron microscopy techniques of perovskite nanostructures”(diploma), submitted July 2007.
- Åsmund Amlı, “Lead titanate nanostructures studied with transmissio electron microscopy”, (project), submitted January 2007.
- Åsmund Amlı, “Sample preparation and TEM characterization of ferroelectric lead titanate nanostructures”, (diploma), submitted June 2007.
- Nora Borghildur Kristjansdottir, “TEM characterization of nanometer scale KxNbyOz structures” (project), submitted December 2007.
- Arnhild Jacobsen, “Transmission electron microscopy charaterization of GaAs nanowires” (project), submitted m 2007.

- Sondre Grønsberg, “Transmission electron microscopy characterization of GaAs nanowires with GaAsSb insert”(diploma), submitted June 2008.
- Astrid-Sofie Vardøy, “Growth and characterization of ZnO thin films for utilization in organic/inorganic solar cells”, (diploma, external supervisor), submitted May 2009.
- Martha Scheffler, “TEM characterization of stacking faults in semiconductor nanowires”, (Exchange student), submitted May 2009.
- Maarten Maathuis, “Electron diffraction characterisation of twinned GaAsSb nanowires”, (Exchange student), submitted July 2009.
- Thomas Kahlberg, “Optical studies of single semiconductor nanowires by micro-photoluminescence spectroscopy”, (diploma IET, external co-supervisor), submitted Juni 2010.
- Vidar Trond Fauske, “Electron microscopy characterization of the interface between substrate and semiconductor nanowires”, (project), submitted December 2010.
- Vidar Trond Fauske, “Electron Microscopy characterization of the interface between a 111-Si Substrate and GaAs Nanowires grown by Self-Catalysis by MBE”, (diploma), submitted June 2011.
- Ingrid Snustad, “Correlated μ -PL and TEM characterization of self-catalyzed GaAs/AlGaAs core-shell nanowires”, (project), submitted December 2012.
- Ingrid Snustad, “Selective examination of optically and structurally separable parts within GaAs/AlGaAs core-shell nanowires by micro-photoluminescence and transmission electron microscopy”, (diploma), submitted June 2013.
- Sethulakshmy Jayakumary, “The effects of Be doping on the structure of Ga and Au-assisted GaAs-based heterostructured semiconductor nanowires”, (diploma), submitted May 2013.
- Andrea Klubicka, “TEM study of GaAs/GaAsSb core-shell Nanowires”, (diploma), submitted June 2013.
- Julie Stene Nilsen, “The effect of the V/III ratio on the structural and optical properties of self-catalyzed GaAs/AlGaAs core/shell nanowires”, (project), submitted December 2013.
- Julie Stene Nilsen, “Position controlled growth of GaAs/AlGaAs core-shell nanowires - more uniform structural and optical properties?”, (diploma), submitted June 2014.
- Maximilian Erlbeck, “Exploring FIB for NW circuit repair”, (project), submitted December 2013.
- Maximilian Erlbeck, “Probing the electronic properties of p-doped gallium arsenide nanowires”, (diploma), submitted June 2014.
- Hanne Grydeland, “Characterization of Bioaerosols using Electron Microscopy with Special Emphasis on Airborne Bacteria”, (external project at FFI), submitted December 2013.
- Hanne Grydeland, “Characterization of Bioaerosols using Electron Microscopy with Special Emphasis on Airborne Bacteria”, (external diploma at FFI), submitted June 2014.
- Trond R. Henninen, “Chemical Vapour Deposition and Electron Microscopy Analysis of Graphene”, (diploma), submitted June 2016.
- Aleksander B. Mosberg, “Examining the effect of shell growth temperature on structural and optical properties in self-catalyzed GaAs/AlGaAs core-shell nanowires using correlated PL-TEM”, (project), submitted December 2014.

- Aleksander B. Mosberg, “Characterization of AlGaAs shell structure in GaAs/AlGaAs Core-shell Nanowires”, (diploma), submitted June 2015.
- Andreas Garmannslund, “Processing multidimensional transmission electron microscopy data sets”, (project), submitted 211215.
- Andreas Garmannslund, “Refinement of the ζ -factor Method for Quantitative Energy-Dispersive X-ray Spectroscopy in Scanning Transmission Electron Microscopy”, (diploma), Submitted June 2016.
- Tina Berg, “TEM characterization of SiC nanoparticles”, (project), submitted 211215.
- Tina Berg, “Transmission Electron Microscopy Characterization of Sintered and Hot-Pressed Silicon Carbide”, (diploma), Submitted June 2016.
- Johannes Bogen, “Data processing of Multidimensional TEM data sets”, (project), submitted December 2016.
- Håkon Wiik, “Transmission Electron Microscopy Characterization of Hydride-based Smart Windows”, (project), submitted December 2016.
- Håkon Wiik, “Nm-scale texture analysis in YOH_x thin films for smart windows”, (diploma), Submitted June 2017.
- Steinar Mykklebos, “Quantitative image processing of electron microscopy data sets”, (project), submitted January 2017.
- Steinar Mykklebos, “Quantitative image processing of electron microscopy data sets”, (diploma), Submitted July 2017.
- Mia Anderssen, “TEM characterization of III-V nanowires”(diploma), Submitted June 2017.
- Jochen Busam, “TEM characterization of quartz” (diploma), Submitted June 2017.
- Inger-Emma Nylund, “Evaluation of energy-dispersive spectroscopy detector characteristics for improved compositional analysis”(project), Submitted June 2017.
- Inger-Emma Nylund, “Electron Microscopy Characterisation of GaN Nanowires grown on Graphene Glass”(diploma), Submitted January 2018
- Johanna Neumann, “Electron Microscopy Characterisation of GaAsSb Nanowires on Graphene Glass” (Project), Submitted December 2017.
- Johanna Neumann, “The interface between graphene glass and self-catalyzed GaAsSb Nanowires” (Diploma), Submitted June 2018.
- Daniel Martin Lundebj, Advanced processing of electron spectroscopy data (Project), Start August 2018.
- Simon Høgås, Phase mapping based on scanning precession electron diffraction and machine learning (Project), Start August 2018.
- Ingvild Hansen, Correlated SEM-TEM of GaN/AlGaN nanowires (Project), Start August 2018.
- Kasper Aas Hunnestad, TEM characterization of mechanically polished ErMnO₃ (Project), Start August 2018.

VI. Lecturing:

- TFY4330 Nanoverktøy (Nanotools), 2nd year Nanotechnology (altered to 4th years course from 2011/2012). (2008 - 2014)
- TFY3114/TFY14 Functional Materials, 4th years Physics (2008 - 2014)
- TFY4255/FY8905 Materials's Physics, 5th year Physics (From Autumn 2015)
- FY8102 Electron diffraction and advanced TEM, PhD course (From Autumn 2008)
- Introduction to TEM, 7 lectures introduction & overview of current applications
- FE8135 FIB module in PhD course nanostructuring (Spring 2013, 2014, 2016, 2018)
- TFY4106 and TFY4125 General Physics labs (Spring 2016)
- TFY4106 Ekspert i Team landsby "Nanoteknologi: Smått og godt?" (Spring 2017, 2018)