

# Publications 2015, TEM Gemini Centre

## Journal Publications

*People at TEM in Gemini Centre in bold*

1. Chauton, M.S., Skolem, L.M.B., Olsen, L.M., **Vullum**, P.E., **Walmsley**, J., Vadstein, O., "Titanium uptake and incorporation into silica nanostructures by the diatom *Pinnularia* sp. (*Bacillariophyceae*)", *Journal of Applied Phycology*, **27**, 777-786, 2015.
2. Cabrera E., Olibet S., Rudolph D., **Vullum** P. E., Kopecek R., Reinke D., Herzog C., Schwaderer D. and Schubert G., "Impact of excess phosphorus doping and Si crystalline defects on Ag crystallite nucleation and growth in silver screen-printed Si solar cells", *Progress in Photovoltaics*, **23**, 367-375, 2015.
3. **Christiansen** E., **Nord** M., Hallsteinsen I., **Vullum** P. E., Tybell T., and **Holmestad** R., "Structural investigation of epitaxial  $\text{LaFeO}_3$  thin films on (111) oriented  $\text{SrTiO}_3$  by transmission electron microscopy", *Journal of Physics: conference series*, **644**, 012002, 2015.
4. Dahl P.I., Thomassen M., Skinlo R., Rausseo Colmenares L. C., Barnet A., Lomas S., **Vullum** P.E., Hanetho S. M., Mokkelbost T., "Flame spray pyrolysis of electrode materials for energy applications", *Materials Research Society Symposium Proceedings*, **1747**, 25-30, 2015.
5. Fourmeau M., **Marioara** C. D., Børvik T., Benallal A., and Hopperstad O. S., "A study of the influence of precipitate-free zones on the strain localization and failure of the aluminium alloy AA7075-T651", *Philosophical Magazine*, **95**, 3278-3304, 2015.
6. He Z., He J. and Zhang Z., "Selective growth of metallic nanostructures on microstructured copper substrate in solution", *CrystEngComm*, **17**, 7262, 2015.
7. Hoang N. H., Hopperstad O. S., Myhr O. R., **Marioara** C. D., and Langseth M., "An improved nano-scale material model applied in axial-crushing analyses of square hollow section aluminium profiles", *Thin-Walled Structures*, **92**, 93-103, 2015.
8. Huh J., Yun H., Kim D.-C., Munshi A. M., Dheeraj D. L., **Kauko** H., **van Helvoort** A. T. J., Lee S., Fimland B.-O., and Weman H., "Rectifying Single GaAsSb Nanowire Devices Based on Self-Induced Compositional Gradients", *Nano letters*, **15**, 3709-3715, 2015.
9. Jin, S.B., Zhang, K., **Bjørge**, R., Tao, N.R., Marthinsen, K., Lu, K., **Li**, Y.J., "Formation of incoherent deformation twin boundaries in a coarse-grained Al-7Mg alloy", *Applied Physics Letters*, **107**, 091901, 2015.
10. Loland T. E., Sele J., Einarsrud M.-A., **Vullum** P. E., Johnsson M. and Wiik K., "Thermal Conductivity of A-Site Cation-Deficient La-Substituted  $\text{SrTiO}_3$  Produced by Spark Plasma Sintering", *Energy Harvesting and Systems*, **2**, 63-71, 2015.
11. McDonagh, B. H., Singh, G., Bandyopadhyay, S., Lystvet, S. M., Ryan, J. A., Volden, S., Kim, E., Sandvig, L., Sandvig, A., and Glomm, W., "Controlling the self-assembly and optical properties of gold nanoclusters and gold nanoparticles biomineralized with bovine serum albumin", *RSC Advances* 2015, **5**, 101101-101109, 2015.
12. McDonagh, B. H., Volden, S., Lystvet, S. M., Singh, G., Ese, M.-H., Ryan, J. A., Lindgren, M., Sandvig, A., Sandvig, L., and Glomm, W., "Self-assembly and characterization of transferrin-gold nanoconstructs and their interaction with bio-interfaces", *Nanoscale*, **7**, 8062-8070, 2015.
13. Molland N.-A., Ghadyani Z., Karhu E. A., Poggio S., Nematollahi M., Kildemo M., Reenaas T. W., BelBruno J. J. and Gibson U. J., "Band-edge modification and mid-infrared absorption of co-deposited  $\text{Fe}_x\text{Zn}_{1-x}\text{S}$  thin films", *Optical Materials Express*, **5**, 1613-1620, 2015.
14. **Muggerud** A. M. F., **Walmsley** J. C., **Holmestad** R. and **Li** Y., "Combining HAADF STEM tomography and electron diffraction for studies of  $\alpha\text{-Al}(\text{Fe,Mn})\text{Si}$  dispersoids in 3xxx aluminium alloys", *Philosophical Magazine*, **95**, 744-758, 2015.
15. **Mørtzell**, E.A., **Marioara**, C.D., **Andersen**, S.J., Røyset, J., Reiso, O., **Holmestad**, R., "Effects of Germanium, Copper, and Silver Substitutions on Hardness and Microstructure in Lean Al-Mg-Si Alloys", *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, **46**, 4369-4379, 2015.

16. **Mørtzell**, E.A., **Marioara**, C.D., **Andersen**, S.J., Røyset, J., Reiso, O., **Holmestad**, R., "The Effect of Cu and Ge Additions on Strength and Precipitation in a lean 6xxx Aluminium Alloy", *Journal of Physics: conference series*, 644, 012028, 2015.
17. **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.
18. M. **Nord**, P. E. **Vullum**, M. Moreau, J. E. Boschker, S. M. Selbach, R. **Holmestad** and T. Tybell, "Structural phases driven by oxygen vacancies at the  $\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_3/\text{SrTiO}_3$  hetero-interface", *Applied Physics Letters*, **106**, 041604, 2015.
19. Nishimura K., Matsuda K., Komaki R., Nunomra N., **Wenner** S., **Holmestad** R., "Solute-Vacancy Clustering In Al-Mg-Si Alloys Studied By Muon Spin Relaxation Technique", *Archives of Metallurgy and Materials*, **60**, 925-929, 2015.
20. Pedersen L.-E. R., McLoughlin N., **Vullum** P. E., and Thorseth I. H., "Abiotic and candidate biotic micro-alteration textures in subseafloor basaltic glass: A high-resolution in-situ textural and geochemical investigation", *Chemical Geology*, 410, 124-137, 2015.
21. Sultana, K.S., Tran, D.T., **Walmsley**, J.C., Rønning, M., Chen, D., "CaO Nanoparticles Coated by  $\text{ZrO}_2$  Layers for Enhanced  $\text{CO}_2$  Capture Stability", *Industrial and Engineering Chemistry Research*, 54, 8929-8939, 2015.
22. **Wenner**, S., J., **Marioara**, C.D., **Andersen**, S.J., **Ervik** M. and **Holmestad** R., "A hybrid aluminium alloy and its zoo of interacting nano-precipitates", *Materials Characterization*, 106, 226-231, 2015.
23. **Wenner**, S., **Friis**, J., **Marioara**, C.D., **Andersen**, S.J., **Holmestad**, R., "Structural modifications and electron beam damage in aluminium alloy precipitate  $\theta'$ - $\text{Al}_2$ ", *Philosophical Magazine*, 95, 3524-3534, 2015.
24. Varambhia A. M., Jones L., Nellist P. D., Lozano-Perez S., Ozkaya D., "Quantification of a Heterogeneous Ruthenium Catalyst on Carbon-black using ADF Imaging", *Journal of Physics: conference series*, 644, 012002, 2015.
25. Van Der Wijst, C., Duan, X., Skeie Liland, I., **Walmsley**, J.C., Zhu, J., Wang, A., Zhang, T., Chen, D., "ZnO-Carbon-Nanotube Composite Supported Nickel Catalysts for Selective Conversion of Cellulose into Vicinal Diols", *ChemCatChem*, **7**, 2991-2999, 2015.
26. Zavorotynska, O., Deledda, S., Vitillo, J.G., Saldan, I., Guzik, M.N., Baricco, M., **Walmsley**, J.C., Muller, J., Hauback, B.C., "Combined X-ray and Raman studies on the effect of cobalt additives on the decomposition of magnesium borohydride", *Energies*, 8, 9173-9190, 2015.
27. Zha M., Li Y., Mathiesen R. H., **Bjørge** R., and Roven H. J., "High ductility bulk nanostructured Al-Mg binary alloy processed by equal channel angular pressing and inter-pass annealing", *Scripta Materialia*, 105, 22-25, 2015.
28. Zha M., Li Y. J., Mathiesen R. H., **Bjørge** R. and Roven H. J., "Microstructure evolution and mechanical behavior of a binary Al-7Mg alloy processed by equal-channel angular pressing", *Acta Materialia*, 84, 42-54, 2015.
29. Zhu J., Yang M.-L., **Yu**, Y., Zhu Y.-A., Sui Z.-J., Zhou X.-G., Holmen A., Chen, D., "Size-Dependent Reaction Mechanism and Kinetics for Propane Dehydrogenation over Pt Catalysts", *ACS Catalysis*, 5, 6310-6319, 2015.

## Published online/accepted

1. Du, Q., Holmedal, B., **Friis**, J., **Marioara**, C.D., "Precipitation of Non-spherical Particles in Aluminum Alloys Part II: Numerical Simulation and Experimental Characterization During Aging Treatment of an Al-Mg-Si Alloy", *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*. DOI: 10.1007/s11661-015-3196-6
2. **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*. DOI: 10.1111/jmi.12328
3. Fu Q., Colmenares Rausseo L. C., Martinez U., Dahl P. I., Garcia-Lastra J. M., **Vullum** P. E., Svenum I.-H., and Vegge T., Effect of Sb Segregation on Conductance and Catalytic Activity at Pt/Sb-doped  $\text{SnO}_2$  Interface: a Synergetic Computational and Experimental Study, *ACS Applied Material Interfaces*. DOI: 10.1021/acsami.5b08966

4. McDonagh B. Singh H., Singh G., Hak S., Bandyopadhyay S., Augestad I. L., Peddis D., Sandvig L., Sandvig A., and Glomm W., "L-DOPA-Coated Manganese Oxide Nanoparticles as Dual MRI Contrast Agents and Drug-Delivery Vehicles", *Small*, 2015. DOI: 10.1002/smll.201502545
5. Lou F., Melandsø Buan M. E., Muthuswamy N., **Walmsley** J. C., Rønning M., and De Chen, "One-step electrochemical synthesis of tunable nitrogen-doped graphene", *Journal of Materials Chemistry A*. DOI: 10.1039/C5TA08038J
6. 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 B.O., "New Insights into the Origins of Sb-Induced Effects on Self-Catalyzed GaAsSb Nanowire Arrays", *Nano Letters*, accepted. DOI: 10.1021/acs.nanolett.5b04503
7. **Saito**, T., **Ehlers**, F.J.H., Lefebvre, W., Hernandez-Maldonado, D., **Bjørge**, R., **Marioara**, C.D., **Andersen**, S.J., **Mørtsell**, E.A., **Holmestad**, R., "Cu atoms suppress misfit dislocations at the  $\beta$ /Al interface in Al-Mg-Si alloys", *Scripta Materialia*, 110, 6-9, 2016. DOI:10.1016/j.scriptamat.2015.07.033
8. Wang X., Zhou H., Sheridan E., **Walmsley** J.C., Ren D., Chen D., "Geometrically confined favourable ion packing for high gravimetric capacitance in carbon-ionic liquid supercapacitors", *Energy & Environmental Science*. DOI: 10.1039/C5EE02702K
9. Wesmann J.A.R., and Espallargas N., "Elucidating the complex role of surface oxides formed during sliding of self-mated warm sprayed WC-CoCr in different environments", *Tribology International*, 94, 360–372, 2016. DOI:10.1016/j.triboint.2015.09.043

## Conference talks, posters, meetings and seminars

*(Presenter underlined)*

1. S.J. **Andersen**, C. **Marioara**, R. **Holmestad**, J. Røyset, O. Reiso, U. Tundal, T. E. Nicolaisen and I. E. Opheim: "Advanced precipitate characterization and development of Al-Mg-Si alloys", 7<sup>th</sup> Light Metals Technology Conference, Port Elisabeth, South Africa, July 27-29, 2015. [Invited talk]
2. E. **Christiansen**, M. **Nord**, I. Hallsteinsen, P. E. **Vullum**, T. Tybell and R. **Holmestad**, "Structural investigation of epitaxial (111) LaFeO<sub>3</sub>/SrTiO<sub>3</sub> by transmission electron microscopy", MMC/EMAG2015, Manchester, UK., 29 June - 2 July 2015. [Poster]
3. Dahl, Paul Inge; Thomassen, Magnus Skinlo; Rausseo, Luis César Colmenares; Barnet, Alejandro; Vullum, Per Erik; Hanetho, Sidsel Meli; Tolchard, Julian R.; Mokkelbost, Tommy; Wagner, Nils Peter; Svensson, Ann Mari; Vullum-Bruer, Fride.
4. Tailoring of Electrode Materials by Flame Spray Pyrolysis. 5th national meeting on inorganic and materials chemistry; 2015-10-15 - 2015-10-16
5. S. Diplas, J. C. **Walmsley**, R. **Holmestad** and Ø. Prytz, "An introduction to NORTEM by the NORTEM management group", NORTEM opening seminar, Oslo, 10-11 September, 2015. [Talk]
6. V. T. **Fauske**, M. Erlbeck, D. C. Kim, A. M. Munshi, D. L. Dheeraj, H. Weman, B.-O. Fimland and A. T. J. **van Helvoort**, "In-situ electronic probing of semiconducting nanowires in an electron microscope", 19<sup>th</sup> Microscopy of Semiconducting Materials, Cambridge, UK, 29 March - 2 April 2015. [Talk]
7. J. **Friis**, S. **Wenner**, C. **Marioara**, W. Lefebvre, S.J. **Andersen** and R. **Holmestad**, "Detailed structure analysis of precipitates combining TEM and DFT", International conference on Solid-Solid Phase transformations in Inorganic Materials, (PTM-2015), Whistler, Canada, June 28 - July 3, 2015. [Invited talk]
8. Hallsteinsen, Ingrid; Moreau, Magnus; Folven, Erik; Grepstad, Jostein; Nord, Magnus Kristofer; Holmestad, Randi; Tybell, Per Thomas Martin.
9. Magnetic coupling in (111)-oriented LSMO and LFO epitaxial heterostructures. Towards oxide based electronics (To-Be); 2015-03-29 - 2015-04-02
10. Hallsteinsen, Ingrid; Olsen, Fredrik Kjemperud; Bolstad, Torstein; Moreau, Magnus; Nord, Magnus Kristofer; Holmestad, Randi; Grepstad, Jostein; Folven, Erik; Tybell, Per Thomas Martin.
11. Induced magnetism in (111)-oriented LSMO/LFO heterostructures. Nano Network; 2015-06-15 - 2015-06-17
12. Hallsteinsen, Ingrid; Olsen, Fredrik Kjemperud; Nord, Magnus Kristofer; Moreau, Magnus; Vullum, Per Erik; Holmestad, Randi; Grepstad, Jostein; Folven, Erik; Tybell, Per Thomas Martin.

13. The effect of oxygen octahedral coupling in (111)-oriented LSMO and LFO epitaxial heterostructures on STO(111). European Materials Research Society (E-MRS) spring meeting; 2015-05-11 - 2015-05-15
14. T. J. **van Helvoort**, "Compositional Analysis of III-V Nanowires by Quantitative HAADF-STEM", EM seminar HREM group Cambridge, Cambridge, UK, 2 February 2015. [Talk]
15. T. J. **van Helvoort**, "III-V Nanowire-graphene hybrids", Hofmann Group meeting, Cambridge, UK, 15 April 2015. [Talk]
16. T. J. **van Helvoort**, "The study of III-V Nanowires by Quantitative HAADF-STEM" Seminar Department Materials Science Oxford, Oxford, UK, 7 April 2015. [Talk]
17. R. **Holmestad**, S. **Wenner**, T. **Saito**, E.A. **Mørtsell**, C. **Marioara** and S.J. **Andersen**, " TEM studies of precipitation in age hardenable aluminium alloys", Progress of Light Metals for the future - Retirement seminar for Prof. T. Sato, Tokyo Institute of Technology, Tokyo, Japan, 13 March 2015. [Invited talk]
18. R. **Holmestad**, A. T. J. **Van Helvoort**, P. E. **Vullum**, R. **Sæterli**, B. G. **Soleim** and J. C. **Walmsley**, "NorTEM - the national infrastructure for Transmission Electron Microscopy ", Nano-MatchMaking Seminar -NTNU NanoLab , Trondheim, Norway, 2 June, 2015. [Talk]
19. R. **Holmestad**, A. T. J. **Van Helvoort**, C. **Marioara**, P. E. **Vullum**, R. **Bjørge**, S. **Wenner**, M. **Nord**, V. T. **Fauske**, R. **Sæterli**, B. G. **Soleim** and J. C. **Walmsley**, "Results from the first double corrected coldFEG TEM/STEM in Scandinavia", Scandem2015, Jyväskylä, Finland, 9-11 June 2015. [Talk]
20. R. **Holmestad**, S. **Wenner**, M. **Nord**, E.A. **Mørtsell**, P. E. **Vullum** and C. **Marioara**, "Materials development aided by atomic-resolution electron microscopy", Microscopy & Microanalysis 2015 Meeting, Portland, OR, USA, 2-6 August 2015. [Invited talk]
21. R. **Holmestad**, A. T. J. **Van Helvoort**, P. E. **Vullum**, S. **Wenner**, M. **Nord**, V. T. **Fauske**, E.A. **Mørtsell**, M. **Vatanparast**, JS. **Nilsen**, A. **Mosberg**, E. **Christiansen** R. **Sæterli**, B. G. **Soleim**, C. **Marioara**, R. **Bjørge**, and J. C. **Walmsley**, " Instrumentation and activity at the Trondheim NORTEM –node (NTNU)", NORTEM opening seminar, Oslo, Norway, 10.-11.. September 2015. [Talk]
22. R. **Holmestad**, S. **Wenner**, E.A. **Mørtsell**, C. **Marioara** and S.J. **Andersen**, " (S)TEM studies of precipitation in age hardenable aluminium alloys", Talk given at Department of Materials Science and Engineering, Chongqing University, China, 19 November 2015. [Invited talk]
23. R. **Holmestad**, S. **Wenner**, E.A. **Mørtsell**, C. **Marioara** and S.J. **Andersen**, " Precipitates in aluminium alloys – studied by HAADF-STEM", Workshop on Advanced Electron Microscopy and Characterisation, Inauguration of EM Centre at Chongqing University, Chongqing, China, 19-20 November 2015. [Invited talk]
24. R. **Holmestad** " Precipitation in 6xxx Aluminum Alloys", Guest lecture at Department of Materials Science and Engineering, Toyama University, Japan, 24 November 2015. [Lecture]
25. D. Johnstone, A. S. Eggeman, A. T. J. **van Helvoort** and P. A. Midgley, "Twinning & Polymorphism in GaAs Nanowires: A Scanning Precession Electron Diffraction Study", 19<sup>th</sup> Microscopy of Semiconducting Materials, Cambridge, UK, 29 March - 2 April 2015. [Talk]
26. D. Johnstone, A. S. Eggeman, A. T. J. **van Helvoort** and P. A. Midgley, "Mapping the structure of nanowires by scanning precession electron diffraction", Scandem2015, Jyväskylä, Finland, 9-11 June 2015. [Talk]
27. D. Johnstone, A. S. Eggeman, A. T. J. **van Helvoort** and P. A. Midgley, "Strain Mapping in III-V Semiconductor Nanowires by Scanning Precession Electron Diffraction (SPED)", Armourers and Brasiers' Cambridge Forum, Cambridge, UK, 16 June 2015. [Poster]
28. D. Johnstone, A. S. Eggeman, A. T. J. **van Helvoort** and P. A. Midgley, "Cartography by scanning precession electron diffraction", MMC/EMAG2015, Manchester, UK, 29 June - 2 July 2015. [Talk]
29. D. Johnstone, A. Eggeman, P. M. Midgley and A. T. J. van Helvoort, "Crystal phase mapping on the nanoscale", Nano@NTNU, Trondheim, 11 September 2015. [Talk]
30. Hjelmeland McDonagh, G. Singh, S. Hak, S. Bandyopadhyay, I. L. Augestad, L. Sandvig, A. Sandvig, , and W. Glomm, "L-DOPA-coated manganese oxide nanoparticles as dual MRI contrast agents and potential drug delivery vehicles", Nordic Neuroscience, Trondheim, Norway 10-12 June 2015. [Talk]
31. Mokkalbost, Tommy; Fossdal, Anita; Jayasayee, Kaushik; Tolchard, Julian R; Vullum, Per Erik; Wagner, Nils Peter; Vullum-Bruer, Fride.

32. Study of Li<sub>2</sub>Fe<sub>1</sub>-XMn<sub>x</sub>SiO<sub>4</sub> Cathode Materials Synthesized Using Abundant Materials By Conventional Methods. 227th ECS Meeting; 2015-05-24 - 2015-05-28
33. B. **Mosberg**, V. T. **Fauske**, and A. T. J. **van Helvoort** "Construction of a prototype FIB heating stage", Nano@NTNU, Trondheim, 11 September 2015. [Poster]
34. M. Munshi, D. Ren, D. L. Dheeraj, V. T. **Fauske**, L. M. S. Aas, A. T. J. **van Helvoort**, H. Weman, and B.O. Fimland, "On the growth of self-catalyzed GaAs nanowires on Si substrates: Opportunities and limitations", NAMBE2015, Mayan Riviera, Mexico, 4-7 October 2015. [Poster]
35. E. A. **Mørtzell**, C. D. **Marioara**, S. J. **Andersen**, J. **Friis**, O. Reiso, J. Røyset and R. **Holmestad**, "The Effect of Cu and Ge Additions on Strength and Precipitation in a lean 6xxx Aluminium Alloy ", MMC/EMAG2015, Manchester, UK, 29 June - 2 July 2015. [Poster, first prize EMAG]
36. Nematollahi, Mohammadreza; Yang, Xiaodong; Seim, Eivind; Vullum, Per Erik; Holmestad, Randi; Gibson, Ursula; Reenaas, Turid Worren.
37. Highly Cr-doped ZnS for intermediate band solar cells. 17th International Conference on II-VI Compounds and Related Materials; 2015-09-13 - 2015-09-18
38. J. S. **Nilsen**, J. F. Reinertsen, A. B. **Mosberg**, V. T. **Fauske**, A. M. Munshi, D. L. Dheeraj, B. O. Fimland, H. Weman, and A. T. J. **van Helvoort**, "Radial composition variations in the shells of GaAs/AlGaAs core-shell nanowires", Nano@NTNU, Trondheim, 11 September 2015. [Poster]
39. J. S. **Nilsen**, J. F. Reinertsen, A. B. **Mosberg**, V. T. **Fauske**, A. M. Munshi, D. L. Dheeraj, B.-O. Fimland, H. Weman and A. T. J. **van Helvoort**, "Self-Induced Formation of Quantum Structures in the Shell of GaAs/AlGaAs Core-Shell Nanowires", Myfab/NorFab user meeting 2015, Lund, Sweden, 21-22 April 2015. [Poster]
40. J. S. **Nilsen**, J. F. Reinertsen, A. B. **Mosberg**, V. T. **Fauske**, A. M. Munshi, D. L. Dheeraj, B.-O. Fimland, H. Weman and A. T. J. **van Helvoort**, "Compositional variations in the shells of GaAs/AlGaAs core-shell nanowires", MMC/EMAG2015, Manchester, UK, 29 June -2 July 2015. [Talk]
41. M. **Nord**, I. Hallsteinsen, P. E. **Vullum**, P. T. M. Tybell and R. **Holmestad**, "Analysing the electronic structure of perovskite oxides using Transmission Electron Microscopy ", Nano Network Annual Workshop, Oslo, Norway, 15 June 2015. [Poster]
42. M. **Nord**, I. Hallsteinsen, P. E. **Vullum**, P. T. M. Tybell and R. **Holmestad**, "Advanced quantitative fine structure analyzes of perovskite oxides using electron energy loss spectroscopy", MMC/EMAG2015, Manchester, UK, 29 June - 2 July 2015. [Poster]
43. J. F. Reinertsen, J. S. **Nilsen**, A. B. **Mosberg**, V. T. **Fauske**, A. M. Munshi, D. L. Dheeraj, B.-O. Fimland, A. T. J. **van Helvoort** and H. Weman, "Self-Induced Formation of Quantum Well Tubes in Self-Catalyzed GaAs/AlGaAs Core-Shell Nanowires", Heraeus-Seminar on III-V Nanowire Photonics, Bad Honnef, Germany, 22-25 March 2015. [Poster]
44. Ren, D. L. Dheeraj, J. Huh, J. F. Reinertsen, A. M. Munshi, D.-C. Kim, A. T. J. van Helvoort, H. Weman, and B.-O. Fimland, „High Yield Self-catalyzed GaAsSb/GaAs Heterostructured Nanowire Array on Si (111) by Molecular Beam Epitaxy“, Manowire growth workshop, Barcelona, Spain, 26-30 October 2015. [Talk]
45. Ren, D. L. Dheeraj, J. Huh, J. F. Reinertsen, A. M. Munshi, D.-C. Kim, A. T. J. **van Helvoort**, H. Weman, and B.-O. Fimland, "High-yield self-catalyzed GaAsSb/GaAs heterostructured nanowire array on Si(111) by molecular beam epitaxy", Nano@NTNU, 11 November 2015. [Talk]
46. G. Singh, "Design of Magnetic Nanoparticles and Their Self-assembly into Exotic Superstructures", International Workshop on Complex Magnetic Nanostructures, Azenia, Greece, 2-5 June 2015. [Talk]
47. G. Singh, F. Seland, and S. Sunde, "Design of nanoporous nanoparticles and their electrocatalytic activity", KIFEE International Symposium on Environment, Energy and Materials; Trondheim, Norway, 20-23 September, 2015. [Talk]
48. G. Singh, "Self-assembling colloidal nanomaterials at different length scale for nanobiotechnology applications", Colloids and Surfaces in Biology and Biomaterials Symposium, Uppsala, Sweden, 4-6 November 2015. [Talk]
49. S. **Wenner**, M. **Ervik**, C. **Marioara**, S. J. **Andersen** and R. **Holmestad**, "Atomic Resolution Electron Microscopy of a Hybrid Aluminium Alloy and All Its Phases", Scandem2015, Jyväskylä, Finland, 7-11 June 2015. [Talk]
50. Wenner, Sigurd; Christiansen, Emil; Holstad, Theodor S.; Holmestad, Randi.
51. Krystaller på atomnivå/Se innsiden av et elektronmikroskop. Researchers' Night; 2015-09-25.

## Doctoral theses in the group

1. Jon **Holmestad**, (Scanning) Transmission Electron Microscopy Studies of Grain Boundary Segregation relevant to Intergranular Corrosion in Al-Mg-Si-Cu Alloys, PhD Thesis NTNU, 2015.

## Master theses and projects in the group

1. Tina **Bergh**, "TEM characterization of SiC powders" (Project, Decmeber 2015).
2. **Christiansen**, "TEM Characterization of LaFeO<sub>3</sub> Thin Films on SrTiO<sub>3</sub> Substrates" (Diploma, June 2015).
3. **Garmannslund**, "Processing multidimensional transmission electron microscopy data sets" (Project, Decmeber 2015).
4. Theodor Secanell **Holstad**, " TEM Characterization of BaTiO<sub>3</sub> Thin Films on SrTiO<sub>3</sub> (111) Substrates " (Project, December 2015).
5. J. **Larsen**, "TEM of Chromium doped Zinc Sulfide Thin Films for Solar Cell Applications. " (Diploma, June 2015).
6. B. **Mosberg**, "Characterization of AlGaAs shell structure in GaAs/AlGaAs Core-shell Nanowires" (Diploma, June 2015).
7. Jonas **Sunde**, "Precipitation of Several Coexisting Strengthening Phases in Aluminium Alloys", (Project, Decemeber 2015).