

CURRICULUM VITAE

Last update 2009-12-15

Name Børge Holme
Date of birth 24 March 1968
Nationality Norwegian
Present position Research Scientist (80 %) / Adjunct Associate Professor (20 %)
Department SINTEF Materials and Chemistry / University of Oslo
Education The SINTEF leader training program "MATEKledelse II" (2002 - 2004).
Ph.D., Materials Science, University of Oslo (1996).
M.Sc., Materials Science, University of Oslo (1992).

Positions

Spring 2007 - Adjunct Associate Professor at the Department of Physics, University of Oslo, in a 20 percent position. Teaching lab and problem-solving classes in the introductory course to Materials Science and Nanotechnology (MENA1000), fall 2008 and 2007. Supervising three PhD students.

Spring 2004 Teacher for one group of physics students taking the introductory course in Mechanics (FYS-MEK1110) at the University of Oslo. Three hour teaching in problem-solving per week during the spring of 2004.

1999 - Research Scientist at SINTEF Materials and Chemistry, Department for Synthesis and Properties.

1997 - 1998 Post doc. scientist at the University of Oslo and the European Synchrotron Radiation Facility (ESRF) in Grenoble, France.

Spring 1997 Post doc. scientist at University of Oslo for Norsk Hydro Research Center.

Main fields of competence

- Secondary Ion Mass Spectrometry (SIMS)
- Glow Discharge Mass Spectrometry (GDMS)
- White Light Interferometry (WLI)
- Atomic Force Microscopy (AFM)
- Transmission Electron Microscopy (TEM)
- Ultramicrotomy as sample preparation for TEM and AFM
- Extended X-ray Absorption Fine Structure (EXAFS)
- Quantitative optical microscopy
- Quantitative analysis of surface topography
- Developing new measurement capabilities for existing instruments
- Precipitation in aluminum alloys
- Organizing and leading multidisciplinary projects
- Programming in the "C" language
- Creative problem solving

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Experience in SINTEF

Project Management

- Sub-project leader in the SALSA (Sustainable Aluminium Surface Application) project running 2007 - 2013 with total budget 17 MNOK. Responsible for developing refined methods for quantification of trace elements by GDMS, and carrying out such analyses.
- Coordinator for the experimental work in the COOL project (~ 800 kkr/year) for Elkem and Sapa, involving heat treatment of Al samples with subsequent SEM and TEM quantitative analysis 2006-2008.
- Project leader for a small project (~ 100 h/year) where new techniques were developed to - for the first time - measure directly the etching depth of dental enamel by using White Light Interferometry.
- Project leader for MatekLab, Oslo, ~ 200 h/year, April 2002 - 2005.
- Sub-project leader and researcher in the NorLight project *Light Metal Surface Science*, ~ 500 h/year, 2001 - 2003.
- Project leader of SEP-2000 WYKO developing hardware and software for a topography video technique, 900 h in 2000.

Project Participation

- Key experimentalist in sub-project 1 of “CapFoil” funded by Hydro 2005-2008, including characterisation of samples with several different microscopy techniques (SIMS, SEM, EPMA, OM).
- Through experiments and simulations, developed a model for predicting the etching response of an aluminium surface based on its initial topography, in the NorLight project *Light Metal Surface Science*, part 4, ~ 100 h/year, 2005 - 2006
- Performing topography measurements and analyses in the NorLight project *Fatigue and Durability*, ~ 120 h/year, 2002 - 2004
- Performing TEM experiments and data analysis on aluminum and catalyst samples for various clients, ~ 160h/year 2000 - 2002
- Key member of project team in PROSMAT Overflate, ~ 450 h/year 1999 - 2001
- Participation in several other long-term and short-term projects

Project Sale

- Continued Bjørn Steinar Tanem’s work on developing a method for studying the micro- and nanostructure of polymer blends for use in high voltage cables by AFM in the Nexans “SkatteFunn” project HVDC in 2005, managed by Kjell Olafsen. This led to the establishment of a follow-up project HVDC II for the years 2006-2008 with a total budget of 2.4 Mkr (0.3 M€).
- Was engaged by Hunsfos Fabrikker AS (part of Cham Paper Group) to solve a technical problem with one of their paper machines in 2004. The initial small-scale project developed into a long-term commitment of problem solving and consultancy with an expenditure to date of 1.3 Mkr (0.16 M€).
- Heavily involved in coordinating and writing the project application for the NorLight project *Light Metal Surface Science*, along with Jostein Mårdalen, during the year 2000. The project ran from 2001 to 2006 with a total budget of 40 Mkr (5.3 M€).

Special Merits

- Won a place in Veeco Instrument's "2009 SPM Calendar" and was featured in the month of June with an image showing the combined use of WLI and AFM for the study of nanoporous catalyst crystals.
(http://www.veeco.com/library/calendar_contest/2009.aspx)
- Won a place in Veeco Instrument's "2008 SPM Calendar" and was featured in the month of July with an image of two 3D cubes composed of AFM images made in three orthogonal directions of a polymer blend sample
(http://www.veeco.com/library/calendar_contest/2008.aspx).
- Biography included in the 2009 Edition of Marquis *Who's Who in the World, Who's Who in Science and Engineering, 10th Anniversary Edition 2008-2009*, published in December 2007, and in the previous version for 2006-2007. Also a biographee of the Marquis Premier Edition of *Who's Who of Emerging Leaders, 2007*, published in December 2006.
- Entered the Nikon "Small world" competition with a micrograph of a cracked silica coating, and got the image featured among the 2005 "Images of distinction" that were published in the Nikon's Small World 2006 Calendar.
- Won the prize for best materials science poster, entitled "*Visualising Changes in Surface Topography during Electropolishing of Aluminium using White Light Interferometry*", along with M. Fleissner at the Scandinavian microscopy conference SCANDEM-2003 in Oslo.
- Awarded His Majesty the King's Gold Medal for the PhD Thesis "*Structures in Reduced Magnetite - an Investigation into the Porous Iron Ammonia Synthesis Catalyst*". Granted audience to King Harald V of Norway on 22 September 1997 to thank the king in person for the gold medal.
- Part of a three member committee in charge of the practical exam at the 27th International Physics Olympiad in Oslo, 30 June to 7 July 1996. Responsible for the first half of the exam text, and for making the model answer and detailed marking scheme.
- Won the prize for best materials science poster, entitled "*Four different modes of reduction within magnetite grains of the ammonia synthesis catalyst*", at the Scandinavian microscopy conference SCANDEM-94 in Kuopio, Finland.
- Won the prize for "Best Colour Micrograph" in the science-and-art competition at SCANDEM-94, with an optical micrograph called "The weeping Iron Man" made with interference contrast of a porous iron ammonia synthesis catalyst sample.
- Awarded the prize for best pupil graduating from 'Hellerud videregående skole'.

Refereeing, etc.

- Was administrator of the adjudication committee for PhD candidate Annett Thøgersen at the University of Oslo. The defended her thesis "*TEM and XPS studies of nanocrystals and clusters in nanostructured materials used for memory storage applications*" on 5 June 2009.

- Was second opponent at the PhD defense of Wakshum Mekonnen Tucho at the Norwegian University of Science and Technology on 20 April 2009, where he defended his thesis “*Self-supported, thin Pd/Ag membranes for Hydrogen separation – Microstructure and permeation studies*”.
- Accepted in 2008 an invitation to become a member of the editorial board of The Open Surface Science Journal (<http://www.bentham.org/open/tosursj/EBM.htm>). Have since then refereed one manuscript intended for this journal.
- After publishing a paper on the measurement of pitting corrosion by White Light Interferometry, was asked to referee a paper in Applied Surface Science in January 2008, with a new request for the revised version in April.
- In connection with the participation at the ASST 2006 conference, was asked to referee one article that had been submitted for the proceedings, to be published in ATB Metallurgie.
- Part of a three-member committee along with Post doc. Marie Bysveen and Professor em. Jon Arne Bakken to evaluate an application for promotion from 'høyskolelektor' to 'førstelektor' at Oslo University College, November 2003.
- Referee for one article in *Industrial and Engineering Chemistry Research* on the topic of a catalyst for ammonia synthesis, February 1999.

Professional memberships

Member of the Norwegian Physical Society.

Spare time activities

- Thinking up and building small, practical inventions.
- Volunteer for the Red Cross, helping 11-13 graders with their homework 3-4 hours a week, starting in 2009.
- Active member of Oslo Student Christian Fellowship: Leader and book-keeper of the English speaking group “Christian Union” 1993-1996. Leader of Nordmarks-kapellet 2001-2008, co-authored the chapel’s history book (104 pages printed + 173 more pages on an accompanying DVD) to the 75th anniversary in 2008.
- Leader at more than twenty youth camps since the year 2000.

Publications

For details, see list of publications.

- 15 Scientific articles in international refereed journals
- 12 Scientific articles in proceedings from international conferences
- 29 Presentations / posters from international conferences
- 20 Presentations / posters from national meetings
- 18 SINTEF Reports
- >40 SINTEF Memos

List of Publications for Børge Holme

Last update 2009-12-15

Scientific articles in international refereed journals:

18. Børge Holme, Pablo Cubillas, Jasmina Hafizovic Cavka, Michael W. Anderson, Duncan Akporiaye
Growth mechanisms in SAPO-34 studied by White Light Interferometry and Atomic Force Microscopy
To be submitted as short communication to Crystal Growth & Design, December 2009.
17. Kjersti R. Stenhagen, Lene H. Hove, Børge Holme, Sebastien Lamolle, Anne Bjørg Tveit
Dental erosions measured on enamel specimens and replica. A comparison of different methods
To be submitted to Caries Research, December 2009.
16. Le Thuy Truong, Åge Larsen, Børge Holme, Spyros Diplas, Finn Knut Hansen, Jaan Roots, Sissel Jørgensen
Dispersibility of Silane-functionalized Alumina Nanoparticles in Syndiotactic Polypropylene
Accepted for publication in Surface and Interface Analysis, 26 November 2009.
15. Sigmund J. Andersen, Børge Holme and Calin D. Marioara
Quantification of small, convex particles by TEM
Ultramicroscopy, **108**, 750-762 (2008) ISSN 0304-3991
doi:10.1016/j.ultramic.2007.12.001
14. Hove L H, Holme B, Young A, Tveit A B
The Protective Effect of TiF₄, SnF₂ and NaF against Erosion-Like Lesions in situ
Caries Research, **42**, 68-72 (2008) ISSN 1421-976X (electronic) 0008-6568 (paper)
doi:10.1159/000112816
13. Lene Hystad Hove, Børge Holme, Alix Young, Anne Bjørg Tveit
The erosion-inhibiting effect of TiF₄, SnF₂ and NaF solutions on pellicle-covered enamel in vitro
Acta Odontol Scand **65**, 259-264 (2007) ISSN 1502-3850 (electronic) 0001-6357 (paper)
doi:10.1080/00016350701477581
12. Børge Holme and Otto Lunder
Characterisation of pitting corrosion by white light interferometry
Corrosion Science, **49**, 391-401 (2007) ISSN 0010-938X
doi:10.1016/j.corsci.2006.04.022
11. Børge Holme, Bjørn Andersson and Nina Dahl
Predicting the development of surface topography during alkaline etching of aluminium surfaces
ATB Metallurgie, Benelux Métallurgie, **45 n° 1-4**, 347-352 (2006) ISSN 0365-7302

10. Hove L, Holme B, Øgaard B, Willumsen T, Tveit AB
The Protective Effect of TiF₄, SnF₂ and NaF on Erosion of Enamel by Hydrochloric Acid in vitro Measured by White Light Interferometry
Caries Research, **40**, 440-443 (2006) ISSN 0008-6568
doi:10.1159/000094291
9. S.K. Ås, B. Skallerud, B.W. Tveiten, B. Holme
Fatigue life prediction of machined components using finite element analysis of surface topography
International Journal of Fatigue, **27**, 1590-1596 (2005)
doi:10.1016/j.ijfatigue.2005.07.031
8. Børge Holme, Lene Hystad Hove and Anne Bjørg Tveit
Using white light interferometry to measure etching of dental enamel
Measurement, **38/2**, 137-147 (2005)
doi:10.1016/j.measurement.2005.04.003
7. B. S. Tanem, J. H. Nordlien, J. Mårdalen and B. Holme
Ultramicrotomy as a sample preparation tool for combined use of SKPFM and TEM
ATB Metallurgie, Benelux Metallurgie, **42 n° 1-2**, 346-351 (2003)
6. Børge Holme
Method for studying changes in topography using white light interferometry
Special Edition of the *Practical Metallography*, **32**, 125-128 (2001). Papers of the European Metallographic Conference and Exhibition, EuroMet2000. ISBN: 3-88355-296-8
5. X. J. Jiang, B. Noble, B. Holme, G. Waterloo and J. Taftø
Differential Scanning Calorimetry and Electron Diffraction Investigation on Low Temperature Aging in Al-Zn-Mg Alloys
Metallurgical and Materials Transactions A, **31A**, 339-348 (2000)
4. Børge Holme and Johan Taftø
Mechanism of transformation from Fe_{3-x}Al_xO₄ to porous Fe by exposure to H₂ gas
Philosophical Magazine A, **80**, 373-387 (2000)
3. Børge Holme, Per Skaugset and Johan Taftø
Microstructure of Reduced Magnetite as a Function of Aluminum Content and Reduction Temperature
Applied Catalysis A, **162**, 149-159 (1997)
2. Børge Holme
Morphology and Crystallographic Relationships in Reduced Magnetite; A Comprehensive Structural Study of the Porous Iron Ammonia Synthesis Catalyst
Journal of Catalysis, **167**, 12-24 (1997)
1. Børge Holme and Johan Taftø
Crystallite Shape and Iron Lattice Orientation in the Ammonia Synthesis Catalyst
Journal of Catalysis, **152**, 243-251 (1995)

Scientific publications in Proceedings from international conferences

13. B. Holme, N. Ljones, A. Bakken, O. Lunder, J. E. Lein, L. Vines, T. Hauge, Ø. Bauger and K. Nisancioglu
Preferential Grain Etching of AlMgSi(Zn) Model Alloys
Submitted to ECS Transactions, as a conference paper from the 216th Meeting of The Electrochemical Society in Vienna, Austria, 4-9 October 2009. Expected publication in January 2010.
12. B. Holme, S. Gouttebroze, C. Marioara, B.R. Henriksen, K. Lewin
Measurements and modelling of precipitation and dissolution during cooling and preheating of extrusion billets
ET Conference, 12-16 May 2008, Orlando, USA, 12 page paper, abstract available at <http://www.etfoundation.org/ET2008/abstracts/BPAbstracts/057BP.htm>
11. S. K. Ås, B. Skallerud, B. W. Tveiten and B. Holme
Study of fatigue crack initiation in rough surfaces using the finite element method and measured surface topography
Proc ECF15, The 15th European Conference of Fracture, Stockholm (2004).
<http://www.ecf15.org/ECF-proceedings/Kyrre%20Aas%20S%20et%20al.pdf>
10. M. Fleissner and B. Holme
Application of White Light Interferometry to study changes in surface topography during electropolishing
SCANDEM 2003 Proceedings Book, Meeting of The Scandinavian Society for Electron Microscopy, 63-64 (2003).
9. C. Simon, B. Holme, N. Roussey and R. Bredesen
Characterisation of Coating Properties during Drying of Silica Sols on Steel by White Light Interferometry.
Proc. Shaping II, 387-392 (2002)
8. B.S. Tanem, B. Holme, S. Haarberg and J.A. Horst
Pitting corrosion in industrial Al alloy
Proceedings from SCANDEM 2002, The 53rd Meeting of The Scandinavian Society for Electron Microscopy, 152 (2002).
7. E. Sørbrøden, V. Hansen, B. Holme and J. Taftø
Imaging of hardening particles in Al-Mg-Zn using plasmon losses in electron energy loss spectroscopy
Proceedings from SCANDEM 2002, The 53rd Meeting of The Scandinavian Society for Electron Microscopy, (2002).
6. B. Holme
Studying Changes in Surface Topography by White Light Interferometry
A short abstract and three example videos are featured in:
An article from the June 2002 JOM: A Hypertext-Enhanced Article
The Symposium Imaging of Dynamic Processes: Multimedia Highlights
by Iver E. Anderson, *JOM* **54** (6) (2002) pp. 23-24.
<http://www.tms.org/pubs/journals/JOM/0206/Anderson-0206.html#Video5>

5. B. Holme
Studying Changes in Surface Topography by White Light Interferometry
A five page extended abstract with focus on rolled aluminum surfaces appeared in:
Aluminum 2002: Michael H. Skillingberg and Subodh Das, editors
“A collection of papers from the 2002 TMS Annual Meeting and Exhibition held in Seattle, Washington, February 17-21, 2002.” ISBN: 0-87339-526-3, pp. 205-210.
<http://doc.tms.org/servlet/ProductCatalog?container=01-5263>
4. B. Andersson, B. Holme, E. Janssen:
Development of thickness variations during tensile testing.
Proceedings IDDRG. WGII, Ann Abor, 3 (2000), STF24 S00061
3. Børge Holme and Johan Taftø
Three dimensional reconstruction of morphology in iron catalyst using optical- and electron microscopy
Proceedings from SCANDEM 1995, The 47th Annual Meeting of The Scandinavian Society for Electron Microscopy, pp 82-83 (1995)
2. Børge Holme
Four different modes of reduction within magnetite grains of the ammonia synthesis catalyst
Proceedings from SCANDEM 1994, The 46th Annual Meeting of The Scandinavian Society for Electron Microscopy, pp 134-135 (1994)
1. Børge Holme and Johan Taftø
Application of rotation matrices to represent crystallographic orientations in reduced magnetite
Proceedings from SCANDEM 1993, The 45th Annual Meeting of The Scandinavian Society for Electron Microscopy, pp 107-108 (1993)

Lectures, posters etc. at international conferences

29. L. T. Truong, Å. Larsen, B. Holme, F. K. Hansen, J. Roots
Morphology and crystallization behavior of syndiotactic polypropylene-alumina nanocomposites
Twenty minute oral presentation at the Europe/Africa Regional Meeting of the Polymer Processing Society, Larnaca, Cyprus. 19 October 2009
28. Le Thuy Truong, Åge Larsen, Børge Holme, Spyros Diplas, Finn Knut Hansen, Jaan Roots, Sissel Jørgensen
Dispersibility of Silane-functionalized Alumina Nanoparticles in Syndiotactic Polypropylene
Poster at the 13th European Conference on Applications of Surface and Interface Analysis (ECASIA'09) in Antalya, Turkey. 19 October 2009
27. B. Holme, N. Ljones, A. Bakken, O. Lunder, J. E. Lein, L. Vines, T. Hauge, K. Nisancioglu
Preferential grain etching of AlMgSi(Zn) model alloys
Twenty minute oral presentation at the 216th Meeting of The Electrochemical Society in

Vienna, Austria.

6 October 2009

26. L. H. Hove, B. Holme, K.R. Stenhagen, AB.Tveit
Comparing four techniques for analyzing erosive tooth loss and progression, in vitro
Poster at the 56th Congress of the European Organisation for Caries Research,
Budapest, Hungary. 1-4 July 2009
25. B. Holme, N. Ljones, A. Bakken, O. Lunder, J. E. Lein, L. Vines, T. Hauge, K. Nisancioglu
Preferential grain etching of Aluminium products
Twenty minute oral presentation at the 5th International Symposium on Aluminium Surface
Science and Technology (ASST-2009) in Leiden, Holland. 12 May 2009
24. J. C. Walmsley, B. Holme
Characterisation of trace elements in aluminium alloys
Twenty minute oral presentation at the 5th International Symposium on Aluminium Surface
Science and Technology (ASST-2009) in Leiden, Holland. 12 May 2009
23. B. Holme, S. Gouttebroze, C. Marioara, B.R. Henriksen, K. Lewin
**Measurements and modelling of precipitation and dissolution during cooling and
preheating of extrusion billets**
ET Conference, , Orlando, USA, 12-16 May 2008
22. B. Holme, B. Andersson and N. Dahl
**Predicting the Development of Surface Topography During Alkaline Etching of
Aluminium Surfaces.**
Twenty minute oral presentation at the 4th International Symposium on Aluminium Surface
Science and Technology (ASST-2006) in Beaune, France. 17 May 2006
21. B. Holme, L. H. Hove, A. B. Tveit
**Accurate Measurement of Erosion-like Lesions In Vitro Using White Light
Interferometry.**
Poster at the 52nd Congress of the European Organisation for Caries Research, Indianapolis,
USA. Introduced during a 6 minute oral presentation with time for questions. 9 July 2005
20. L. H. Hove, B. Holme, B. Øgaard, A. Young, A. B. Tveit
**The Protective Effect of TiF₄, SnF₂ and NaF Against Erosion-like Lesions in Pellicle-
covered Enamel.**
Poster at the 52nd Congress of the European Organisation for Caries Research, Indianapolis,
USA. 9 July 2005
19. S. K. Ås, B. Skallerud, B. Holme, B. W. Tveiten
**Surface measurements using white light interferometry in fatigue testing and
prediction.**
Lecture at the International Conference on Fatigue Damage of Structural Materials V,
Hyannis, USA. Full papers from the presentations will be published in a special issue of
International Journal of Fatigue. 23 September 2004
18. Sigmund Kyrre Ås, Bjørn Skallerud, Bård W Tveiten, Børge Holme
**Study of fatigue crack initiation in rough surfaces using the finite element method and
measured surface topography.**
Lecture at The 15th European Conference of Fracture, Stockholm, 13 August 2004

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17. Børge Holme and Martin Fleissner
Automated Analysis of Corrosion Pit Geometry on Large Samples.
Twenty minute oral presentation at the International Conference on Environmental friendly
Pre-treatments for Aluminium and other Metals (ICEPAM 2004), Oslo, 16 June 2004
16. M. Fleissner and B. Holme
Automated Analysis of Corrosion Pit Geometry on Large Samples.
Twenty minute invited lecture at the 'Wyko Optical Profiler Applications Conference and
User Meeting' in Cambridge, England, 10 June 2004
15. B. Holme, L. H. Hove, T. Willumsen, B. Øgaard, A. B. Tveit
Etching of dental enamel studied by White Light Interferometry.
Twenty minute invited lecture at the 'Wyko Optical Profiler Applications Conference and
User Meeting' in Cambridge, England, 10 June 2004
14. M. Fleissner and B. Holme
**Visualising Changes in Surface Topography during Electropolishing of Aluminium
using White Light Interferometry.**
Poster at SCANDEM 2003 in Oslo. Won the best-poster award. 10-13 June 2003
13. B. S. Tanem, S. Haarberg, B. Holme, J. Mårdalen, J. H. Nordlien
**Combination of analytical techniques used for studying the corrosion behaviour of
industrially relevant Al alloys.**
Poster at the 3rd International Symposium on Aluminium Surface Science and Technology
(ASST 2003) in Bonn, 18-22 May 2003
12. B. S. Tanem, J. E. Lein, B. Holme, J. Mårdalen, J. H. Nordlien, L. Auran
**Scanning Kelvin Probe Force Microscopy applied to map Volta potential across grain
boundaries in extruded AlMgSi-alloys.**
Lecture at the 3rd International Symposium on Aluminium Surface Science and Technology
(ASST 2003) 18-22 May 2003
11. C. Simon, B. Holme, N. Roussey and R. Bredesen
**Characterisation of Coating Properties during Drying of Silica Sols on Steel by White
Light Interferometry.**
Poster at the conference "Shaping II" in Gent, 24-26 October 2002
10. E. Sørbrøden, V. Hansen, B. Holme and J. Taftø
**Imaging of hardening particles in Al-Mg-Zn using plasmon losses in electron energy loss
spectroscopy.**
Poster at SCANDEM 2002 in Tampere, Finland, 12-15 June 2002
9. B. S. Tanem, B. Holme, S. Haarberg and J. A. Horst
Pitting corrosion in industrial Al alloys.
Poster at SCANDEM 2002 in Tampere, Finland, 12-15 June 2002
8. Børge Holme
Studying Changes in Surface Topography by White Light Interferometry.

- Lecture at the TMS 2002 Annual Meeting and Exhibition, Seattle, Washington. Given twice, at the symposia "*Imaging of dynamic systems*" and "*Aluminum Sheet and Plate Rolling and Finishing Technology and Applications*". 18-21 February 2002
7. Christian R. Simon, Børge Holme, Clémentine Prevost and Rune Bredesen
In-situ Characterisation of the Formation of Nanoparticle-based Coatings.
Poster at "Sol-Gel 2001", XI International Workshop on Glasses, Ceramics, Hybrids and Nanocomposites from Gels, Padova, Italy, 16-21 September 2001
 6. Børge Holme
Using the NT-2000 and Special Software to Study and Visualize Changes in Topography.
Lecture at the VII European Metrology Users Meeting, Liverpool, 13 November 2000
 5. Børge Holme
Method for studying changes in topography using white light interferometry.
Poster at Euro-Met 2000 in Saarbrücken, Germany. 13 - 15 September 2000
 4. Børge Holme
Studying changes in topography using the NT-2000.
Twenty-minute lecture at the VI European Metrology Users Meeting in Oslo, co hosted by SINTEF Materials Technology. 25 May 2000
 3. Børge Holme and Johan Taftø
Three dimensional reconstruction of morphology in iron catalyst using optical- and electron microscopy
Poster at SCANDEM-95 in Trondheim, Norway. Two page extended abstract published in "*Proceedings SCANDEM-95*". June 1995
 2. Børge Holme
Four different modes of reduction within magnetite grains of the ammonia synthesis catalyst
Poster at SCANDEM-94 in Kuopio, Finland. Two page extended abstract published in "*Proceedings SCANDEM-94*". (The poster won first price in the category for Materials Science among 27 other contributions.) June 1994
 1. Børge Holme and Johan Taftø
Application of rotation matrices to represent crystallographic orientations in reduced magnetite
Poster at SCANDEM-93 in Lund, Sweden. Two page extended abstract published in "*Proceedings SCANDEM-93*". June 1993

Lectures, posters etc. at national meetings

20. S. Gouttebroze, B. Holme, C. Marioara, B.R. Henriksen, K. Lewin
Measurements and modelling of precipitation and dissolution during cooling and preheating of extrusion billets
Oral presentation at 'Norsk Metallurgisk Sommermøte', Trondheim,, 21-22 May 2008

19. B. Holme
Measuring topography by White Light Interferometry: Principles and applications - including examples from dentistry
Fourty minute talk given at the Faculty of Odontology, University of Oslo, 26 April 2006
18. S. K. Ås, B. Skallerud, B. Holme, B. Wathne Tveiten,
Surface measurements using white light interferometry in fatigue testing and prediction.
Oral presentation at 'Norsk Metallurgisk Sommermøte', Trondheim, 5-6 May 2004
17. J. Mårdalen, T. Kolås, B. Holme, B. S. Tanem, J. Walmsley, O. Lunder
Utvikling av et nytt reflektormateriale – Glamox Reflektormatt (GRM).
Lecture at 'Norsk Metallografisk Forening's annual meeting, Trondheim, 18-19 March 2004
16. B. S. Tanem, S. Haarberg, B. Holme, J. Mårdalen, J. H. Nordlien
Combination of analytical techniques used for studying the corrosion behaviour of industrially relevant Al alloys.
Poster at the NorLight LMSS Annual Meeting in Trondheim, 22-23 January 2004
15. M. Simonsen, B. S. Tanem, R. Holmestad, B. Holme, J. H. Nordlien
Combination of GD-OES and FEGSEM to study intermetallic particles in an industrial EN AW-3102 aluminium alloy.
Poster at the NorLight LMSS Annual Meeting in Trondheim, 22-23 January 2004
14. B. Holme
"Karakterisering og kvantifisering av overflater - fra aluminium via sjokolade til tannemalje".
Fourty minute lecture at a meeting for 'Norsk Korrosjonsteknisk Forening Oslo' and 'Norsk Metallurgisk Selskap Oslo', 16 October 2003
13. B. S. Tanem, J. E. Lein, B. Holme, J. Mårdalen, J. H. Nordlien, L. Auran
Scanning Kelvin Probe Force Microscopy applied to map Volta potential across grain boundaries in extruded AlMgSi-alloys.
Lecture at Japan-Norwegian seminar, Trondheim, 16 May 2003
12. Børge Holme
Geometrical distribution of corrosion attacks on extruded profiles.
Lecture at the NorLight LMSS Annual Meeting in Trondheim, 28 November 2002
11. B. S. Tanem, B. Holme, J. A. Horst, A. Bjørgum and S. Haarberg
Pitting corrosion in industrial Al-alloys.
Poster at the NorLight LMSS Annual Meeting in Trondheim, 27-28 November 2002
10. Børge Holme, Astrid Bjørgum, John Erik Lein
Lettmetall Overflate: Studier av korn grensekorrosjon i Al-Mg-Si-legeringer for bruk i bil.
Lecture at "Norsk Metallurgisk Sommermøte" in the NorLight session, 24 May 2002
9. Børge Holme
Visualisering av endringer i overflatetopografi ved hjelp av hvittlysinterferometri.
Lecture at "Norsk Metallurgisk Sommermøte" in the Aluminium session, 24 May 2002

8. Børge Holme
EDS-study of precipitates in Al-Zn-Mg alloys.
Fifteen-minute invited lecture at the workshop in connection with the opening of the new FEG-Transmission Electron Microscope at the University of Oslo. 15 March 2001
7. Børge Holme, Kenneth Knudsen, Randi Haakenaasen, Frode Mo and Johan Taftø
Synchrotron Studies of Al-Zn-Mg alloy.
Poster presented at the Norwegian Physical Society's "Seminar in Condensed Matter Physics and Chemistry" at Kvam. September 1997
6. Børge Holme
Structures in the Ammonia Synthesis Catalyst
Forty-five minute invited lecture held at "Fritz-Haber-Institut der Max-Planck-Gesellschaft", Berlin, Germany. 4 November 1996
5. Børge Holme
Characteristic pore structures and iron lattice orientations in the ammonia synthesis catalyst studied by optical- and transmission electron microscopy
Fifteen minute lecture held at the Norwegian Physical Society's "Seminar in Condensed Matter Physics and Chemistry" at Kvam. 3 September 1995
4. Børge Holme
Elektronholografi (Electron Holography)
Fifteen minute lecture held at the summer meeting for the Norwegian Physical Society in Tromsø, based on a forty-five minute dr.scient. lecture held at UiO. 19 June 1995
3. Børge Holme and Johan Taftø
Porous single crystals of α -iron in reduced magnetite
Fifteen minute lecture held at the Norwegian Physical Society's "Seminar in Condensed Matter Physics and Chemistry" at Kvam. September 1992
2. Børge Holme
Ordered pore structure in iron catalyst as a result of transformation involving uniaxial volume shrinkage
Poster at 'Fysikermøtet' (Meeting of the Norwegian Physical Society) in Stavanger, Norway. July 1992.
1. B. Holme, L. A. Kristiansen, T. Fuglerud and J. Taftø
The mechanism of transformation from Fe₃O₄ to the Fe ammonia synthesis catalyst
Fifteen minute lecture at the Norwegian Physical Society's "Seminar in Condensed Matter Physics and Chemistry" at Kvam. September 1991

SINTEF reports:

18. **SINTEF F13358** 2009-11-25
Written by Børge Holme. Checked by Otto Lunder.
Summary of results from quantitative GDMS analyses in the SALSA project in February and June 2009.

Sign. _____

17. **SINTEF F11273** 2009-03-19
Written by Sylvain Gouttebroze and Børge Holme. Checked by Christian Simensen.
Summary of the COOL project 2006-2008: Experimental measurements, precipitation model description and user interface.
16. **SINTEF F10969** 2009-02-27
Written by Børge Holme. Checked by Bjørn Andersson.
Summary of activities and results from sub project 1 “Rolling and annealing” in the “CapFoil” project for the years 2005-2008.
15. **STF80MK F06222** 2007-05-02
Written by Calin Marioara and Børge Holme. Checked by Øyvind Nielsen.
Microstructure quantification by TEM of AA6063 samples A8-6, B8-3.5, A8-3, A8-VIII and A8-X-1.
14. **STF80MK F06219** 2006-08-21
Written by Calin Marioara and Børge Holme. Checked by Bjørn Andersson.
Methodology for quantification of needle shaped phases and dispersoids from TEM.
13. **STF80MK F06220** 2006-06-14
Written by Børge Holme. Checked by Bjørn Andersson.
Summary of investigation into the rejection by Becromal of capacitor foils produced at Slim during the spring of 2006.
12. **STF90 F05032** 2005-01-31
Written by Alain Ferber and Børge Holme. Checked by Erik Wold and Nina Dahl.
In-Line Roughness Monitoring.
11. **STF24 F04014** 2004-08-10
Written by B. Holme. Checked by O. Ø. Knudsen and J. Berget.
Examination of coatings on Yankee cylinders on PM3 and PM4 at Hunsfos Fabrikker.
10. KO-report from project number 244495.19, 18 pages 2003-12-09
Written by Martin Fleissner. Checked by Børge Holme.
Characterisation of pinholes in an aluminium foil.
9. **STF24 A03002:** 2003-02-07
Written by Børge Holme. Checked by Keith Redford.
Testing, karakterisering og analyse av materialer i Oslo.
8. **STF24 A03003:** 2003-02-07
Written by Børge Holme. Checked by Keith Redford.
Testing, characterisation and analysis of materials in Oslo.
7. **STF24 F02038:** 2002-09-23
Written by Børge Holme. Checked by Bjørn Andersson.
Comparison of cluster- and crystallite size in alumina supported cobalt catalyst samples.

6. **STF24 F02022:**
Written by Børge Holme and I. Furulund. Checked by Tor Einar Johnsen 2002-03-12
Atlas for overflatekarakteristika (OK-atlas) med hovedvekt på blankvalsede overflater.
5. **STF24 A02004:**
Written by Børge Holme. Checked by Bjørn Andersson 2002-01-29
TEM investigation of particle sizes and densities in samples of alloy 7108.50 after heat-treatment to different degrees of ageing.
4. **STF24 F01018:**
Written by Børge Holme. Checked by Bjørn Andersson 2001-02-28
Feasibility study of EDS analysis on Mg-Zn particles in Al-Zn-Mg alloys using the new FEG-TEM JEOL 2010F at the University of Oslo.
3. **STF24 F01001:**
Written by Børge Holme. 2001-01-10
Concluding report from project 244345.00 SEP 2000: "WYKO Prøveholder".
2. **STF24 F00009:**
Written by Børge Holme. Checked by Bjørn Andersson. 2000-02-09
Topography study of surfaces that were in contact during annealing of aluminum sheets under pressure.
1. **STF24 F00010:**
Written by Børge Holme. Checked by Bjørn Andersson. 2000-02-09
Study of filiform shape as a way of quantifying adhesion of lacquer on sheet aluminum.

Other publications or news items:

5. Played the role as an "all-knowing port professor" in a 13 part TV series made for the port authority "Zeeland Seaports" in Holland, which was shown on local TV in Zeeland from 25 September to 18 December 2006. In a 3-5 minute section of each episode, the "professor" explains some physical principle which is utilized in the seaport area by building simplified models to demonstrate the principle. Clips available at <http://folk.uio.no/bholme/haven.html>
Filmed 12-13 August 2006
4. News item on the SINTEF external web-page regarding the cooperation with the University of Oslo to develop a method for measuring directly the etching of dental enamel.
Author: Åse Dragland. Important contributions to text and translation from Børge Holme.
2004-02-05
3. Designed and produced the electronic Christmas Card for SINTEF Materials Technology 2003 based on a self made microscope image. 2003-12-04
2. Featured in a one-page article in the magazine 'Overflateteknikk' where the White Light Interferometer was described along with our further developements of the instrument.

Sign. _____

Author: Erik Bang (ed.). Significant contributions from B. Holme in correcting and improving text, and providing topography image. November 2003

1. Børge Holme, Tom Henning Johansen and Arnt Inge Vistnes.
Praktisk eksamen ved Fysikk-OL (Experimental exam at the Physics Olympiad)
Fra Fysikkens Verden (Journal of the Norwegian Physical Society), **No. 3** (1996) pp 85-86.