

CV- Jeppe Vang Lauritsen, Associate Professor

Interdisciplinary Nanoscience Center, Aarhus University, DK-8000 Aarhus C, Ph: +4587156728, Fax: +4523382369, Email: jvang@inano.au.dk

Date& Place of birth: December 27th ,1975, Aarhus, Denmark. Married, 3 Children.

Professional employment:

2002-2003 Postdoctoral positions, Haldor Topsøe A/S

2003-2007 Postdoctoral positions, Department of Physics and Astronomy, Aarhus University

2007-2008 Assistant Professor, Department of Physics and Astronomy, Aarhus University

2008- Associate Professor, Interdisciplinary Nanoscience Center , Aarhus University, Principal investigator of the 'Nanocatalysis Laboratory'

Education:

1999-2002 PhD, Department of Physics, Aarhus University

Research interests and expertise:

Investigation on the fundamental physics and chemistry of surfaces, with a special emphasis on surface reactivity and catalysis of nanoparticles for energy applications. Focused on development of new tools for characterization as well as applying these powerful tools to achieve an atomic-scale understanding of which factors determine the specific catalytic properties of nanoparticles and nanostructures.

Scientific achievement and leadership:

Peer-reviewed papers: 95 Hereof 10 in Physical Review Letters, 7 ACS Nano, 2 Nanolett, 1 Nature Nanotechnology, 3 Nature Communications, 1 JACS. Book chapters: 4. Citations: 6354 in total, H-factor: 36/40 (WoS/Google scholar), (including self-citations, Oct 2018)34 invited and 21 contributed talks at international conferences, workshops and universities. Supervised 19 PhD students (7 currently) and 8 post docs (3 currently) from 2006-now. Supervised 6 Master students and numerous bachelor projects in physics or nanotechnology.

Member of Executive Committee of the Interdisciplinary Nanoscience Center (iNANO), Aarhus University (2014-)

Member of Executive Committee, Integrated Materials Research Center (iMAT), Aarhus University (from 2017-)

Board member, Centre for Storage Ring Facilities (ISA), Aarhus University (2015-)
Funded industry collaborations with Haldor Topsøe A/S, Image Metrology A/S, SynGasChem BV, Synfuels China.

Current grants and Funding:

InnovationFund Denmark: "Production of shape-controlled titania materials for improved NOx emission control" (with Haldor Topsøe) (2017-2021) (23 Mkr hereof 7.1 Mkr to my group)

Villumfonden research project: "Visualization of the Atomic-scale Structure of

Catalytic Surfaces in Reactive Atmospheres”, (5.5 Mkr) (2016-2020)

Danish Research Council – Technology and Production (FTP) ”Atomic-scale studies of iron-based Fischer-Tropsch catalysts for fuel production (2.6Mkr) (2015-2018)

Innovation Fund Denmark (formerly DSF): “CAT-C: Clean-Air-Technologies by development of new catalysts” (2013-2018) (with Lund University and Haldor Topsøe A/S, 18 Mkr, hereof 12 M Mkr to my group)

Awards:

Morton M. Traum Award of the American Vacuum Society-2001, Nano-ECOSS Prize-2002, European Conference on Surface Science, Award of the European Federations of Catalysis Societies (EFCATS) 2003, 2003 PhD award of the Danish Academy of Natural Sciences, Richard A. Glenn Award of the American Chemical Society 2003, Lundbeckfondens Talentpris-2005, 2006 Grant from the Betty and Valdemar van Hauen Foundation, ERC Starting Investigator Grant 2009 -“OxideSynergy”

Projects:

2016-2021 Visualization of the Atomic-scale Structure of Catalytic Surfaces in Reactive Atmospheres

2013-2016 STM studies of FeC Fisher-Tropsch Model Catalysts Lauritsen,

2014-2016 HYDECAT: Enabling Ultra Deep Hydrodesulphurization by Nanoscale Engineering of New Catalysts

2009-2014 OxideSynergy: ERC Starting Grant:Understanding the Atomic Scale Synergies of Catalytically Active Nanoclusters on Metal Oxide Surfaces Lauritsen

2014-2018 CAT-C: Clean-Air-Technologies by development of new catalysts

2013-2017 Atomart opløste studier af mangan- og koboltoxid nanokatalysatorer

CV- Duncan Sutherland, Professor

Interdisciplinary Nanoscience Center, Aarhus University, DK-8000 Aarhus C, Ph: +4523385789, Fax: +4587156714, Email: duncan@inano.au.dk

Date & Place of birth: 9th March 1970, UK; Married, 2 Children.

PhD date: 12th October, 1995

Education:

1988-1991 BSc. in Physics University of Bristol UK

1991-1995 Ph.D in Physics Interface Analysis Center University of Bristol UK

Studies of Titanium as an implant material within the body and within a model of the inflammatory response” Supervisor: Professor G.C. Allen

2000-2001 15 ECTS Pedagogics: Teaching and Learning in Higher Educ Chalmers Sweden

2006- Docent (Swedish DSc.) awarded at the Department of Appl Physics Chalmers Sweden

Employment:

1996 Royal Society European Postdoctoral fellowship Dept. Applied Physics Chalmers S

1997-8 Marie Curie FP4 Individual postdoctoral fellowship Dept. Applied Physics Chalmers

1999-2001 Dokortjanst Dept. Applied Physics Chalmers Sweden

2001-2006 Project Leader Dept. Applied Physics Chalmers Sweden

2002-2005 a total of 10 months paternity leave (in Sweden)

2006 Associate Professor iNANO, Aarhus University Denmark

2009 Associate Professor MSK iNANO, Aarhus University Denmark

2017 Professor iNANO, Aarhus University Denmark

Prizes and Grant awards:

1988 Lawrence F Bessie Summer scholarship to Weitzmann Inst. Rehovot Israel

1991 Raychem Undergraduate research prize in physics University of Bristol UK

1999 Recipient EU FP5 PI NANOMED: Nanobiotechnology and medicine
146k EURO*

2004 Co-recipient EU FP6 STREP NANOCUES: 450k EURO*

2004 Ph.D supervisor of the year Chalmers

2006 Recipient (PI) FNU Framework grant Nanoplasmonics for biosensors
360 K DKK

2007 Recipient (PI) Lundbeck Foundation grant 1 M DKK

2008 Co-recipient Innovation Consortium Grant GENIUS 2.4 M DKK*

2008 Recipient (PI) FNU Large Framework grant Nanoplasmonics 3.5 M DKK

2008 Recipient (PI) FTP Project grant Advanced Functional Nanomaterials for Steering Stem Cell Differentiation 5.2 M DKK

2009 Recipient (PI) EU FP7 3DNANOBIODEVICES 234K EURO*

2009 Recipient (PI) EU FP7 NANOYOU 93 K EURO*

2009 Recipient (PI) EU FP7 INGENIOUS 450K EURO*

2010 Co-recipient Strategic research council project Nanotoxicology	
1.6M DKK*	
2011 Recipient (PI) EU FP7 NANOPINION	200K EURO*
2012 Recipient (PI) FNU Project Grant Mechanotransduction	1.8M DKK
2013 Recipient (PI) EU FP7 DIREKT	276K EURO*
2014 Recipient (PI) HTF Heat Transfer	2.1M DKK*
2014 Recipient (PI) EU DERMAL	150K DKK*
2014 Recipient (PI) Villum Block Stipend Chiral plasmonics	1.2M DKK
2015 Recipient (PI) EU SYMBIOTIC FET OPEN	520K EURO*
2015 Recipient (PI) FTP Project Grant Plasmonic conformational biosensors	
2.5M DKK	
2017 Co-recipient DG Excellence Center CellPAT	10M DKK*

* figures refer to DS part of larger and multi center grants

Key Research Topics:

Functional Nanomaterials, Biological response to nanomaterials, Development of nanofabrication technology based on self assembly of colloidal particles and macromolecules: Understanding hybridization in nanoplasmonic systems, Plasmon enhanced optical processes, Metamaterials; Ultrasensitive biosensors via nanoparticle plasmonics; Understanding mechanotransduction; Steering cellular biosystems via nanoscale surface cues for biomaterials/tissue engineering/cell therapy: Protein function at nanostructured/nanoparticle interfaces; Nanotoxicology

Leadership:

2004-2006 Workpackage Leader. Joint European Curriculum and Central Management Committee for EU FP6 NOE FRONTIERS Chalmers.
 2004-2006 Scientific co-ordinator and Workpackage leader EU FP6 STREP NANOCUES
 2006-2017 Workpackage leader in 5 EU projects FP6 NANOCAP, INGENIOUS, NANOYOU, DIREKT, SYMBIOTIC.
 2006-2010 Advanced Danish technology Fund WP leader and Executive group member
 2009-2011 Project leader for two Danish funded multicenter projects in the area of Plasmonics (FNU) and Stem cell differentiation (FTP)
 2014- Head of Nanoscience PhD programme at Aarhus University

Ph.D supervision:

Supervised 16 Ph.D students to completion (11 as main supervisor)
 Currently supervising 5 Ph.D students as main supervisor
 Awarded Ph.D supervisor of the year award at Chalmers 2004
 Current research group: 6 Ph.D's, 1 post-doc, 2 research assistants, 1 technician, 3-4 students (functional nanomaterials, biointerfaces, nanoplasmonics, nanotoxicology, nanoethics) PhD's/MSc's supervised to completion in the last 5 years 11/4

Publications in international peer reviewed journals:

124 published and accepted articles (including 16 Nano Letters, 3 Adv. Mater, 1 Nat Comm.) >7000 cites, ~55 cites/article and h-index 43 (WoS) or >10000 h-index 48

(Googlescholar) 2 Granted Patents, 3 PCT stage and 1 National stage patent application

Referee for:

Nano Letters, Nature Nanotechnology, Biomaterials, Analytical Chemistry, Advanced Materials, Langmuir, Experimental Cell Research, Physical Review B, Nanotechnology. Research councils in Sweden (NT15 vice chair), Norway (NANOMAT/NANO2021), UK (BBSRC) and ESF, ESA/NASA programmes. Ph.D external opponent tasks and internal committee head tasks (16+35)

Invited talks: (since 2002)

28 invited talks at international conferences e.g.MSE2012, I-MRS Cancun 2013, EMRS 2014, IRB Crete 2014, 79thPMM 2015, PCVIII Bangkok 2016, IRB2 Crete 2016, ICFNN 2018, ScSB2018 >30 invited talks at Universities, Educational, Ethics, Innovation events.

International collaborative network

Broad international network with participation in European FP 4, 5, 6, 7 and Horizon 2020 programmes (total 13 projects). Joint papers with 14 international groups in the last 5 years.

CV- Kurt Vesterager Gothelf, Professor

Department of Chemistry and iNANO, Aarhus University, DK-8000 Aarhus C, Ph: +4587156752, Fax: +4587156752, Email: kvg@chem.au.dk

Date & Place of birth: 7th April 1968, Vester Sogn, Denmark

Education:

1987 High school graduation from Thisted Gymnasium.

1987 Matriculation at Aarhus University (Chemistry/Biotechnology).

1989/90 Exchange student at Heidelberg University, Germany.

1993 Candscient. in chemistry/biotechnology under Professor Kurt B. G. Torssell, Aarhus University.

1995 PhD in organic chemistry under Prof. K A. Jørgensen, Aarhus University.

Professional experience:

1996-1997 Postdoc in Professor K. A. Jørgensen's group at Aarhus University.

1998-1999 Postdoc in Professor M. C. Pirrung's group at Duke University, USA.

1999-2001 Postdoc at Center for Metal-Catalyzed Reactions, Aarhus University.

2001-2003 Assistant Professor at Aarhus University.

2003-2005 Research Associate Professor at Aarhus University.

2005-2007 Associate Professor at Aarhus University.

2007-2012 Professor (MSO) in Organic Nanochemistry at Aarhus University.

2007-2017 Director of the Danish National Research Foundation: Centre for DNA

Key Research Topics:

Focused on organic chemistry and branches out into DNA nanotechnology, bioconjugation, nucleic acid chemistry, medicinal chemistry and biosensors.

Prizes and Grant awards:

1997 Danish Academy of Natural Sciences PhD prize. Kurt Vesterager Gothelf (Recipient)

2004 Torkil Holm Research Award for Chemistry Kurt Vesterager Gothelf (Recipient).

2008 Knud Lind Larsen Prisen. Kurt Vesterager Gothelf (Recipient)

2010 The Ministry of Science Eliteforsk Award. Kurt Vesterager Gothelf (Recipient)

Research publications:

Author/coauthor of 103 peer-reviewed papers in refereed journals of which >50 are published in American Chemical Society journals, 2 patents (filed and submitted). >12884 Citations. Hirsch's index =53.

Current research group:

Organic Nanochemistry, Department of Chemistry, Aarhus University: 4post docs, 7 PhD students, 4master students, 6 bachelor or project students, and 1 technician, 1 administrator.

Principal Investigator

2001-2003 STVF Talent Project (1 M DKK) (56-00-0301)

2003 The Aarhus University Research Foundation (192,000 DKK)

2003-2004 STVF, Rammeprogram (1,25 M DKK) (26-02-0269)

2004 Torkil Holms Foundation Research Prize 2004 (100,000 DKK)
2004-2005 The Carlsberg Foundation, Research program (Research Associate Professor Grant)(1 M DKK)
2005-2006 STVF, Yngre forskere (2,16 M) (2117-04-0007)
2006-2007 Lundbeck, HPLC instrument (425,000 DKK)
2006-2009 Internationaliseringsstipendier (ca 1,75 M DKK, Forskningsrådene via iNANO)
2007-2012 Danmarks Grundforskningsfond: Centre for DNA Nanotechnology (41M DKK)
2009-2012 NABIIT: Electrochemical sensors for neurotransmitters (9 M DKK)
2012-2017 Danmarks Grundforskningsfond: Centre for DNA Nanotechnology II (50 M DKK)
2015-2019 DETECT: Detection of small molecules and proteins in solution by the DNA strand displacement competition reaction
2018-2021 DNA-Robotics
2018-2024 Novo Nordisk Foundation Challenge Program

Shared grants

1999-2007 The Danish National Research Foundation: Center for Catalysis (ca. 4 M DKK)*
2002-2004 SNF via Center for Oxygen Microscopy (ca. 1 M DKK)*
2004-2006 Danish Research Councils via iNANO (ca. 1.5M DKK)*
2006-2010 O'Chem Graduate school
2008-2011 DNRF MOBIL program (0,6 M DKK)
2007-2009 Direktoratet for FødevarerErhverv (0,5 M DKK)*
2009-2012 DNRF Sino-Danish Center: Molecular nanostructures on Surfaces (ca. 1,5 M DKK)*
2012-2015 DNRF Sino-Danish Center: Molecular nanostructures on Surfaces (ca. 1,6 M DKK)* (* Gothelf share)

Teaching activities:

Advanced Organic Chemistry, Ak2, 1 semester/year, 10 ECTS, 2001- (4 h lectures/week). Specialized Subjects in Organic Chemistry, 1 quarter/year, 5 ECTS, 2007- (4 h lectures week) Supervisor of 25 bachelorprojects (2007-)
In addition several individual lectures and lab exercises have been prepared for students at iNANO and molecular biology.

Other activities:

Chairman of the Board of the Division of Organic Chemistry under the Danish Chemical Society 2009
Referee for: Nature Nanotechnology, Nature Communications, Nature Chemistry, Proceedings of the National Academy of Science, Journal of the American Chemical Society, Angewandte Chemie, Nanoletters, ACSnano, Journal of Organic Chemistry, Langmuir, Chemical Reviews, Chemistry – A European Journal, Macromolecular Chemistry, Chemical Communications, European Journal of Organic Chemistry
Censor on several Master and PhD exams at University of Southern Denmark, University of Copenhagen, and the Technical University of Denmark.

Evaluation of several research proposals from Denmark, Europe, USA and Israel.
Instigator and co-organizer of the first TOKS-meeting, Aarhus University, November, 1994
Organizer of the CDNA minisymposium at Aarhus University 2007 and at Duke University 2009
Member of Danish Academy of Technical Sciences 2011-
Member of the Research and Strategy committee at the Department of Chemistry 2011-
Member of the PhD committee at iNANO 2008-
Member of the International Advisory board for ChemPlusChem 2011-
Treasurer of the International Society for Nanoscale Science, Computation and Engineering 2010-
Organizer of the international conference on DNA computing and molecular programming (DNA18) in Aarhus, August 2012.

CV- Henrik Birkedal, Associate Professor

Department of Chemistry and iNANO, Aarhus University, DK-8000 Aarhus C, Ph: +45 871 55656, Email: hbirkedal@chem.au.dk

Education

2000 Ph.D. in physics. Supervisor: Prof. Dieter Schwarzenbach, University of Lausanne, Switzerland. Title: "Uses of Synchrotron Radiation in Chemical Crystallography". This work was awarded the Félicitations du jury, which is the highest recognition of the University of Lausanne (equivalent to summa cum laude).

1996 M.Sc. in chemistry from the University of Copenhagen, Denmark. Supervisor of M.Sc. thesis: Prof. Sine Larsen. Title: "Periodic ab initio Hartree Fock in the Study of Crystalline Systems".

Employment (inclusive dates)

2009.08- Associate Professor, Department of Chemistry, University of Aarhus (Denmark)

2009-2007 Skou research associate professor at the Department of Chemistry, University of Aarhus (Denmark) funded by the Danish Natural Science Research Council

2007-2004 Steno research assistant professor at the Department of Chemistry, University of Aarhus (Denmark) funded by the Danish Natural Science Research Council and the Danish Technical Research Council.

2002-2004 Post-doctoral researcher at the Department of Chemistry and Biochemistry, University of California, Santa Barbara (USA) in the group of Professor Galen D. Stucky

2000-2002 First assistant (post-doctoral researcher) at the Institute of Crystallography, University of Lausanne (Switzerland) in the group of Professor Dieter Schwarzenbach

1996-2000 Ph.D. student and teaching and research assistant at the Institute of Crystallography, University of Lausanne (Switzerland) in the group of Professor Dieter Schwarzenbach

Prizes

Birgitte Lodberg Pedersen (Recipient), Bo Brummerstedt Iversen (Recipient), Anders Bentzen (Recipient), Henrik Myhre Jensen (Recipient), Jacopo Catalano (Recipient), Mogens Hinge (Recipient), Menglin Chen (Recipient), Charles Lesher (Recipient), Christian Tegner (Recipient), Thomas Ulrich (Recipient), Thorsten J Nagel (Recipient), Christoffer Karoff (Recipient), Trolle René Linderoth (Recipient), Jeppe Vang Lauritsen (Recipient), Mingdong Dong (Recipient), Nina Lock (Recipient), Duncan S Sutherland (Recipient), Jørgen Skibsted (Recipient), Mogens Christensen (Recipient), Jacob Overgaard (Recipient), Martin Bremholm (Recipient), Henrik Birkedal (Recipient), Torben René Jensen (Recipient), Kim Daasbjerg (Recipient), Alexander N. Zelikin (Recipient), Bjørk Hammer (Recipient), Liv Hornekær (Recipient), Peter Balling (Recipient), Brian Julsgaard (Recipient) & Jill Miwa (Recipient), 2017

Key Research Topics:

Nature's materials

Learning from Nature: Bioinspired materials

Inorganic, solid-state and structural chemistry.

Research publications:

The papers of the author have over 4619 Citations. Hirsch's index =32.

Current research group:

Inorganic Nanochemistry, Department of Chemistry, Aarhus University: 5post docs, 2 PhD students, 5master students,13 bachelor or project students, and 1 technician.

CV- Elena Ferapontova, Associate Professor

Interdisciplinary Nanoscience Center, Aarhus University, DK-8000 Aarhus C, Ph: +4587156703, Email: elena.ferapontova@inano.au.dk

Date& Place of birth: June 24, 1966, Novosibirsk Academic Centre, Novosibirsk, Russia

Employment:

2011 – tenure position: Associate Professor, Head of the Electrochemical Biosensors and Bioelectrocatalysis Group, Interdisciplinary Nanoscience Centre (iNANO), Faculty of Science and Technology, Aarhus University.

2009-2011 Res. Assoc. Prof. by the Carlsberg Foundation, Head of the Electrochemical, Biosensors Group, iNANO, Aarhus University.

2007-2009 Assist. Prof., Department of Chemistry and iNANO, Aarhus University.

1999-2007 Research Fellow, Dept. of Enzymology, Moscow State University; Dept. Anal.Chem., Pharmacy, University of Alcala, Spain; Analytical Chemistry, Lund University, Sweden; School of Chemistry, University of Edinburgh, UK.

Education:

1998 Ph.D. in Electrochemistry (Kinetics and Catalysis), Moscow State University, Russia.

1989 M.Sc. in Chemistry (honour diploma), Moscow State University, Russia.

Research interests and expertise:

Advanced electrochemical technologies for diagnostic devices for cancer, neurodegenerative and infectious diseases, environmental monitoring; Electrochemical studies of electron transport in nucleic acids and proteins and their application in biosensor and bioelectronic devices, Bio- and photoelectrocatalysis for sustainable energy production; Redox signaling.

Current grants and Funding:

2014: 4 year project “NUMEN: Nanotechnologies for Ultrasensitive monitoring of Microbes in the human Environment”, Source: the Danish Council for Independent Research (DFF), FTP: Technology and Production Sciences (DKK 6.49 M)

2017-2021: A core member of a Center for Electromicrobiology (CEM), Danish National Research Foundation (DKK 56 M)

2018: 4 year EU MC ETN “BREAK BIOFILMS” (proposal N813439 granted)

2018-2019: The Danish Agency for Science and Higher Education, International network program, Grant for ABMTechNet: Advanced Biomedical Technologies Network, 285.091 DKK

Industrial connections:

2017 Founder of NUMEN Sensorics ApS; Collaborations: Novozymes; DuPont Industrial Biosciences; Grundfos; Unisense.

Editorial/societal responsibilities, teaching and supervision:

2012- Associate Editor, Electrochimica Acta, Elsevier

2017-2018 Chair Elect; 2019-2020: Chair, Bioelectrochem. Div., the International Society of Electrochemistry.

Editorial Advisory Board: ChemistryOpen, Wiley; Electroanalysis, Wiley; Russian Journal of Electrochemistry

(Co-)supervision: 23 PhD projects ; 20 M.Sc. and B.Sc. projects and 12 Postdocs

Citations and presentations:

Google Scholar: Hirsch-index: 31; citations: 3168; i10-index: 67

(https://scholar.google.dk/citations?hl=en&view_op=list_works&gmla=AJsNF5IxuIkKudr881PauV4vEp1RZGkCZs2qPpCJIrcfhkqSVP9YqqxnqCLo2w22KGvXKp4UhApESsLfNNMXFaaOBoZDS4KQ&user=JIRt8vMAAAAJ)

Papers: 103 refereed journal papers; in 89 is the corresponding author. 2 book chapters, 14 invited papers, 3 popular articles. 4 patent applications filed; one edited book.

CV- Daniel Otzen, Professor

Interdisciplinary Nanoscience Center, Aarhus University, DK-8000 Aarhus C, Ph: +4520725238, Fax:+4587156741, Email: dao@inano.au.dk

Date & Place of birth: 2nd February, 1969, Denmark. Married.

Education:

1992 M.Sc. in Chemistry/Biotechnology, Aarhus University, Denmark

1995 PhD in Protein Science, Aarhus University and Cambridge University, UK

Professional details:

Professor of nanobiotechnology, iNANO; Department of Molecular Biology, Aarhus University, web: <http://www.proteins.dk>

Professional experience:

1995-1997 Research Chemist, Novo Nordisk A/S

1997-2000 Post-doctoral fellow at Lund University

2000-2004 Associate Professor, Department of Life Sciences, Aalborg University.

2004-2007 Professor, Department of Life Sciences, Aalborg University

2007- Professor, iNANO, Aarhus University.

2006-2011, 2013- Adjunct Professor, Copenhagen University

2007-2012 Adjunct Professor, Aalborg University

Areas of expertise:

Pathological and functional fibrillation and aggregation of proteins.

Protein stability and formulation.

Protein-surfactant and protein-lipid interactions.

Biophysics of membrane proteins, including stability and mechanism of insertion, folding and association in lipid bilayers and detergent micelles.

Fellowships and awards:

2014 Eliteforskerpris (Elite Researcher Prize), Danish Ministry of Science and Innovation

2010 Member, Royal Danish Society of Science and Letters

2009 The Research Prize of the Alzheimer Research Foundation

2006 Carlsberg Biotechnology Prize

2003 Silver Medal, Royal Danish Society of Sciences and Letters.

2003 EMBO Young Investigator

Leadership:

2009-2013 Leader, Lundbeck network for Bacterial Amyloid

2006-2011 Consortium Leader, Innovation Consortium CureND

2002-2007 Director of Doctoral School of Biotechnology, Aalborg University.

2013-2017 Coordinator, Marie Curie ITN project TOPIC (2 European Industrial Doctorates)

Scholarly activity:

Reviewer for >50 different journals.

Executive Editor of Biochimica et Biophysica Acta – Proteins and Proteomics (from Jan. 2017).

Since 2013 member of Danish Research Council (FNU – Natural Sciences).

Publication record:

1 edited book, 10 book chapters and >260 original research articles in international peer-reviewed journals since 1993. These include: 2 in Nature Communications, 3 in JACS, 2 in Angew. Chemie, 10 in PNAS, 2 in Molecular Microbiology, 15 in J. Biol. Chem., 23 in J. Mol. Biol., 19 in Biochemistry and 13 reviews. Web of science: > 7800 citations. H-index: 48.

SciVal Field Weighted Citation Index (2011-2015): 1.55. ORCID ID 0000-0002-2918-8989.

Research group and facilities:

Heads research group with 1 post-doc, 5 PhD students, 3 M.Sc. students and 1 lab technician. Have supervised 32 PhD students and > 50 M.Sc. students. Research equipment includes optical spectroscopy, mechano-acoustic instrumentation, calorimetry and imaging equipment in combination with rapid reaction apparatus. This is combined with protein engineering and detailed mechanistic interpretation of the data.

Examination activities

Since 2000 external examiner of 40 PhD theses in Denmark (22), Sweden (10), Norway (1), UK (1 Leeds, 1 Cambridge), Ireland (2 UCD), Holland, Spain, Portugal.

CV- Ebbe Sloth Andersen, Associate Professor

Interdisciplinary Nanoscience Center, Aarhus University, DK-8000 Aarhus C, Ph:
+45 41178619 , Email: esa@inano.au.dk

Date & Place of birth: 9th August, 1976.

Education:

2006/11 PhD at Interdisciplinary Nanoscience Center, Aarhus University, Denmark
2002/03 MSc at Department of Molecular Biology and Genetics, Aarhus University,
Denmark
2000 BSc in Chemistry and Molecular Biology

Positions:

2016- Associate Professor, Interdisciplinary Nanoscience Center, Aarhus
University, Denmark
2012-2016 Assistant Professor, Interdisciplinary Nanoscience Center, Aarhus
University, Denmark
2013-2015 Visiting Associate w. Prof. Rothmund (8 months), Division of
Engineering and Applied Science, Caltech, USA
2007-2011 Postdoctoral scholar w. Prof. Kjems and Prof. Gothelf, Center for DNA
nanotechnology, Aarhus University, Denmark

Awards, fellowships and honors:

2016 ERC Consolidator Grant.
2014 Equipment grant from the Carlsberg Foundation
2014 Presentation award, 3rd in the Harvard BIOMOD competition acting as
supervisor
2013 Audience Award in the BIOMOD competition at Harvard acting as supervisor
2011 Starting Grant from the Danish Council for Independent Research
2011 Grand prize in the BIOMOD competition at Harvard acting as supervisor
2009 DNA box selected as "Research of the year" in two major Danish newspapers

Projects:

2012-2015 Sapere Aude
2013-2017 EscoDNA: The European School of DNA Nanotechnology
2013-2017 CDNA: Centre for DNA Nanotechnology
2013-2013 Visiting Associate in Computing and Mathematical Sciences, California
Institute of Technology
2013-2017 EScoDNA: European School of DNA Nanotechnology

Supervision of graduate students and postdoctoral fellows;

2012–2015 Main supervisor of 2 Postdocs, 3 PhD students, Interdisciplinary
Nanoscience Center, Aarhus University, Denmark
2006–2011 Cosupervisor of 5+ PhD students w. Prof. Kjems, Interdisciplinary
Nanoscience Center, Aarhus University, Denmark

Teaching activities:

2011–2015 Course organizer – Bionanotechnology, Aarhus University, Denmark
2015–2016 Course lecturer – Nanomedicine, Aarhus University, Denmark
2007–2014 Course lecturer – RNomics, Aarhus University, Denmark

Organization of scientific meetings:

2016/09 Program committee DNA22.

2016/03 Co-organizer, 10 years of DNA origami, Caltech

2012 Co-organizer, 18th International Conference on DNA Computing and Molecular Programming (DNA18), Denmark

Scholarly activity:

Reviewer of research papers for journals e.g. Science, Nature Nanotechnology, Nature Communications, Nature Methods, Nucleic Acid Research, Biophysical Journal, Chemical Science. Approx. 10 per year. Evaluator of PhD theses and grants proposals. Google Scholar: Hirsch-index:17; citations: 2330; i10-index: 22

Two teaching book chapters and 10+ popular science articles. Presentations at high-schools. Scientific cartoons for popular science magazines, review papers and presentations. Has contributed material for Deutches National Museum, Munich, for permanent exhibition on DNA nanotechnology.

Press coverage:

2014/08 Press coverage of "RNA origami", 2 uni media, 3 web media.

2011+12+14 Press coverage of "BIOMOD prizes for Danish students", radio, TV, web media.

2012/12 Interviewed about "DNA folding" for newspaper article, Weekendavisen.

2011/11 Press coverage of the "digital labbench", 2 uni media, 1 newspaper, 3 web media

2009/06 Press coverage of "DNA origami box", national TV, 3 newspapers, 30+ web media

CV- Torben René Jensen, Professor

Department of Chemistry and iNANO and CMC, Aarhus University, DK-8000 Aarhus C, Ph: +4522721486, Fax: +4587155939, Email: trj@chem.au.dk

Education and Position:

1993 Cand. scient. i kemi og fysik, Syd Dansk Universitet, Odense Universitet (SDU).

1994-1995 Gymnasielærer (Adjunkt) ved Rosborg Amtsgymnasium, Vejle. Gymnasieskolens teoretiske og praktiske pædagogikumuddannelse i kemi og fysik.

1995-1998 ph.d. i materialekemi, Syd Dansk Universitet, Odense Universitet

1998-2000 Projektforsker, Afd. for materialers fysik og kemi, Forskningscenter Risø

2000-2001 Adjunkt, Kemisk Institut, Århus Universitet.

2002-2005 Forskningslektor, Stenostipendiat, Kemisk Institut, Århus Universitet.

2005-2007 lektor, Carlsbergstipendiat, Kemisk Institut, Århus Universitet.

CV- Bo Brummerstedt Iversen, Professor

Department of Chemistry and iNANO, Aarhus University, DK-8000 Aarhus C

Ph: +45 2778 2887, Fax: +45 8619 6199, Email: bo@chem.au.dk

Date & Place of birth: 22th , June, 1967, Aarhus, Denmark. Married, 2 Children.

Academic degrees:

1990 B. Sc. (Chemistry and Physics), Aarhus University (AU)

1993 M. Sc. (Crystallography), AU (incl. 1 year at SUNY Buffalo with Professor Philip Coppens)

1995 Ph. D. (inorganic chemistry), AU (incl. 3 months at ANU, Canberra with Dr. Philip Reynolds)

2002 Doctor of Science from Aarhus University (“X-ray charge density studies of chemical bonding”)

2010 Doctor of Technology from DTU (“Phonon Glass Electron Crystal materials for thermoelectric energy conversion”)

Employments:

1995 – 1996 Research Assistant Professor at Dep. of Chem., AU

1996 – 1998 Post doc at Dep. of Chem., UC Santa Barbara (Prof. Galen Stucky)

1998 – 2000 Assistant Professor at Dep. of Chem., AU

2000 – 2003 Associate Professor at Dep. of Chem., AU

2001- Visiting professor at UC Santa Barbara (6 months)

2004 - Professor at Dep. of Chem., AU (Chair of Inorganic Chemistry)

2005- Visiting professor at University of Western Australia (~1 month every year)

2015- International guest professor at University of Tsukuba, Japan (~½ month every year)

Awards & Honors:

1999 Silver Medal of the Royal Danish Academy of Sciences and Letters

1999 Scientia Europaea Prize of the French Academy of Science (250 kkr)

2009 Rigmor and Carl Holst-Knudsen Science Prize (100 kkr)

2009 Danish Natural Science Academy Industry Prize

2010 Fellow of the Royal Danish Academy of Science and Letters

2010 Fellow of the Danish Natural Science Academy

2011 Fellow of the Danish Academy of Technical Sciences

2011 Elite Researcher Prize from the Danish Ministry of Science, Technology and Innovation (1200 kkr)

2011 Bjerrum-Brønsted-Lang Prize from the Royal Danish Academy of Science and Letters (25 kkr)

2014 Grundfos Prize (1000 kkr)

2015 First Class Order of Dannebrog by Queen Margrethe II of Denmark (“Knighthood”)

2017 Queen Margrethe II Science Prize (100 kkr)

Leadership and Administration:

Director of ESS Lighthouse (2019-2028, a national prestige project involving six Danish universities and Danish industry to exploit the large investment in ESS, MAX4 and E-XFEL)

Director of the Aarhus University Center for Integrated Materials Research (2017 -)
Director of the Danish National Research Foundation Center for Materials Crystallography (2010 - 2019, an international Centre of Excellence with partners in Germany, Italy, Australia, USA and Japan, ~25 post docs and ~50 PhD students)
Director of the Danish Strategic Research Council Center for Energy Materials (2008 - 2012)
Director of the Danish Strategic Research Council Center for Thermoelectric Energy Conversion (2014 - 2018)
Member of the Scientific Advisory Council (SAC) at the European Spallation Source (ESS) (2013-2016); of the Board of the MAX4 synchrotron (2016 -), of the Board of the ASTRID synchrotron (2015 -); of the Steering Committee of the Danmax Beamline at MAX4
Chairman of the Scientific and Technical Advisory Panel (STAP) on Diffraction at the ESS (2011-2014); the Commission on Charge, Spin and Momentum densities under European Crystallographic Association (2004-2012); the Research Committee at Department of Chemistry, Aarhus University (2015 - 2017), Member of the ESS STAP on Data Management and Scientific Computing (2017 -) • Board member of the Danish Chemical Society (2001-2005); Danish Centre for Synchrotron and Neutron Scattering (2004 -); the Commission on Charge, Spin and Momentum densities under the International Union of Crystallography (2001 - 2011); Danish Battery Society (2013 - 2016); the Department of Chemistry, AU (2008 - 2014); iNANO (2013 -); LINX (2016 -)
Member of the Academic Council of the Faculty of Science & Technology, AU (2004 -); PhD Admission Committee at the Faculty of Science & Technology, AU (2013 -); Research Committee at the Faculty of Science and Technology, AU (2015 - 2017); iNANO Ph. D. Committee (2008 - 2013); Advisory boards on Energy and on Synchrotron/Neutron science for the Danish Ministry of Higher Education & Science; the Advisory Board at the Institute of Physics, Chinese Academy of Science, Beijing, China
Member of scientific evaluation committees at all levels (Professor, Director, Head of Department, Dean, Associate Professor, Assistant Professor, post doc, PhD, MSc)
Organizer the Annual Danish Chemical Society Aarhus Winter Meeting since 2005 -; Danscatt School on synchrotron, neutron and XFEL (2018)
Ad hoc referee for >30 major international journals (including all high impact journals), the European Commission, the US National Science Foundation, 8 different National Research Councils, the Hasylab Beamtime review
Completed leadership courses by Learn2Lead (6 days) and the DNRF (4 days)
Approximately 1 refereeing pr week including science, nature etc – declining 5-10 times this number
Research: My research interests revolve around topics in materials chemistry and materials crystallography with emphasis on application of synchrotron and neutron scattering methods. They include synthesis, characterization and application of energy materials (thermoelectrics, ion batteries, solar energy, Fuel cells, catalysis), chemical bonding, electron density analysis, nanoparticles, supercritical fluids, hydrothermal liquefaction (bio-oil).

~450 peer reviewed publications, 7 patents, ~20 popular science articles (H ~53, Citations ~11200, i20 ~170)

~10-15 invited lectures per year at international conferences and universities (total of several hundreds)

Very broad international network, participant in various large projects funded by EU, US, AUS sources

Principal investigator on hundreds of beam time allocations at synchrotron and neutron sources including APS, SPring8, ESRF, Petra, Diamond, Doris, MaxLAB, NSLS, ILL, SNS, IPNS, HFIR, FRM2, ISIS, PSI, RISØ, Los Alamos

Principal investigator on grants totaling >35 mill. Euro since 2000 (grants from FNU, FTP, DNRF, DSF, HTF, EUDP, EU, IFD, Lundbeck, Carlsberg, Villum, AU-IDEAS, DCA, NUFI)

Intellectual responsible for IPR of the the start-up company TEGnology

Current Research group:

Laboratory technician: Aref Mamakhel, Laboratory manager: Peter Hald, Centre Managers: Hazel Reardon, Aske Møller Jørgensen, Post doc: Espen Eikeland, Sajesh Thomas, Robin Lefevre, Maja Thomsen, Lirong Song, Jiawei Zhang, Jonas Palle Ph. D. students: Ida Gjerlevsen, Karl Fischer Færch, Sanna Sommer, Kasper Tolborg, Nikolaj Roth, Nils Lau Broge, Martin Bondesgaard, Christian Bonar Zeuthen, Martin Roelsgaard, Frederik Søndergaard, Lasse Rabøl Jørgensen, Jinlong Yu, Bjarke Svane, Kristoffer Holm, Thomas Bjørn Grønbech, Jonas Beyer, Jonas Sandeman MSc students: Rafael Jeppesen, Ida Wivel Holm, Niels Juul Project students: Xenia Hassing-Hasen, Josephine Berg, Nicolaj Søgaard Bachelor students: Rasmus Christensen, Magnus Kløve Kjær, Anders Feidenhans'l, Emilie Skytte Vosegaard

Teaching (since 2003):

General Chemistry (5 ECTS, 200-400 students): Fall semester 2003-2018

Inorganic Materials Chemistry (10 ECTS, 50-100 students): Fall semester 2003-2018

Main scientific contributions:

I have made fundamental and broad contributions to materials crystallography by using and developing cutting-edge (synchrotron and neutron) diffraction and scattering techniques/procedures to show how accurate and detailed structural insight is essential for understanding and improving the key properties of materials. The structural studies have been combined with materials synthesis, property characterization and electronic structure investigations.

I have authored ~150 papers on cutting-edge thermoelectric materials discovering and rationalizing the relationships between synthetic procedures, dimensionality (3D, 2D), doping, actual composition, structure, structural disorder, rattler atoms motion and the resulting thermal, electronic and thermoelectric properties of the materials. These studies has been an important contribution and prerequisite for the progress of thermoelectric research, which had traditionally underrated the importance of the structural aspects. The work has led to discovery of extraordinary materials such as FeSb₂ and Mg₃Sb_{1.5}Bi_{0.5}Te_{0.02} with outstanding thermoelectric properties. Within the field of “Thermoelectrics” I have a Field-Weighted Citation Impact of 2.25 calculated in Scival (Scopus basis) for a 10-year track, 2008-2017. Reference FWCI

for general research: Oxford University, 2.28 (2012-2017); Harvard University 2.38 (2012-2017).

I have provided fundamental contributions in nanoparticle synthesis, characterization, structure and in particular nucleation, publishing ~100 papers. For decades the prevailing models to explain nucleation have been based on thermodynamic arguments without consideration of the chemical nature of the specific system. As a consequence, nucleation processes have been customarily treated on a “particle” or “monomer” level. Through development and application of in-situ X-ray total scattering data measurements and the subsequent pair distribution function analysis, I have shown that nucleation of nanoparticles expose a fascinating chemical richness spanning from mono-metal to complex polymer precursor species, which, through a specific system-dependent multistep reaction mechanism, develop into pristine nanocrystals. I have argued that it is time to introduce a paradigm shift in the general nucleation theory and move away from the “one model fits all” to a chemistry-based approach rooted in atomic scale insight.

For more than 25 years I have been a key international researcher and innovator in charge density research with ~100 papers providing insights always in materials of great importance. I was among the pioneers of synchrotron charge densities and I have contributed strongly method developments, three recent cases being the assessment of core electron deformation, powder X-ray charge densities and the proposal of the nuclear-weighted X-ray maximum entropy method. The latter is a new method to facilitate the analysis of structural disorder and anharmonicity. Very recently I have shown that current DFT theory cannot predict charge densities and chemical bonding in van der Waal (2D) materials thereby severely questioning the accuracy of modern electronic structure calculations. Innovation, Industry collaboration and Technology Transfer:

Thermoelectrics: Introduced thermoelectrics research to Denmark in the late 90's. Published more than 150 original papers in the field and inventor of four patent families on Zn₄Sb₃. IPR formed the basis of the company TEGnology (1/3 stocks owned by AU).

Hydrothermal Liquefaction (HTL): Developed together with the Danish company SCF Technologies the unique HTL technology for robust conversion of all types of wet biomass to bio-fuel. Initiator of AU project to build HTL pilot plant with broad industry participation.

Supercritical synthesis: Introduced flow synthesis of nanoparticles in supercritical fluids in Denmark (>100 original publications). The technology has been now transferred to The Danish Technological Institute for scale up and forms the core of numerous projects in collaboration with industry.

Alkali ion batteries: In collaboration with Haldor Topsøe A/S a complete battery laboratory has been built at AU.

Linking Industry to Neutrons and X-rays (LINX): AU responsible for a national industry portal that builds up competences in Danish industry to employ synchrotron and neutron radiation.

Career paths of previous PhD students and post docs:

Responsible supervisor on 47 post docs, 41 PhD degrees, 70 Master degrees, 72 bachelor degrees. Many of my students and post docs hold prominent positions in academia or industry providing a large and influential network.

Academic:

3 Full Professors (U. Vienna, U. Chicago, U. Tsukuba)

10 Associate professors (U. Tsukuba, U. Zhejiang, U. Jiansu, U. Harbin, U. Bordeaux, Aarhus U)

4 Assistant Professors (U. Erlangen, U. Tsukuba, U. Copenhagen, Aarhus U)

8 Staff scientists (DESY, Taiwan synchrotron, Aarhus U, NIMS, SynFuels China Co. Ltd.)

6 Post docs (recent) (U. Trondheim, Aarhus U, U. Copenhagen, U. Monash, U. Colorado, U. Bangalore)

Industry:

36 Scientists or Managers (Danish Technological Institute, NEAS Energy, AKV Gummi, Novo Nordisk, FLSmidth, Haldor Topsøe, Dansk Supermarked, Rambøll, Velux, Danfoss, TEGnology, BASF, EWII)