CURRICULUM VITAE
FLEMMING BESENBACHER

Name:	D.Sc. Academician Flemming Besenbacher
Date of Birth:	4th October 1952
Marital status:	Married to Bente Besenbacher
Children:	Søren, born 1981, and Pia, born 1984
Position:	Professor emeritus of nanoscience and physics
Work Address:	Interdisciplinary Nanoscience Center (iNANO) Aarhus University Gustav Wieds Vej 14 8000 Aarhus C Denmark
Phone:	+45 2338 2204
E-mail:	fbe@inano.au.dk, and flemming@besenbacher.dk
	fbe@inano.au.dk
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Academic experience:

1978	Graduated from the Dept. of Physics, University of Aarhus
1978 - 1979	Junior Research Fellow, Dept. of Physics, University of Aarhus
1980 - 1981	Senior Research Fellow, Dept. of Physics, University of Aarhus
1982 & 1983	Visiting scientist, Sandia National Laboratories, Albuquerque
1982 - 1986	Associate Professor, Dept. of Physics, University of Aarhus
1986 - 1989	Associate Research Prof. by the Danish Council for Research Policy
1989 - 1995	Associate Professor, Dept. of Physics, University of Aarhus
1994	D.Sc. Aarhus University
1993 - 2003	Vice-director of Center for Atomic-scale Materials Physics (CAMP)
1996	Full Professor, Dept. of Physics and Astronomy, University of Aarhus
1997	Summer Guest Professor, Lawrence Berkeley National Laboratory, University of California, Berkeley, USA
2002 - 2012	Director of Interdisciplinary Nanoscience Center (iNANO)
2002 - 2012	Director of the iNANO graduate school, iNANOSchool
2005 - 2011	Director of the NANOFOOD consortium
2009 - 2015	Director of the Sino-Danish Center of Excellence “Center for Molecular Nanostructures on Surfaces (CMNS)”

Distinctions

2007 - 2013	Received the title of Knight of the Order of Dannebrog from Her Majesty Queen Margrethe II of Denmark
2013 - 2018	Received the title of Knight 1st Class of the Order of Dannebrog from Her Majesty Queen Margrethe II of Denmark
2018	Received the title of Commander of the Order of Dannebrog from Her Majesty Queen Margrethe II of Denmark

Research awards and other awards:

1986	Awarded Research Associate Professor by the Danish Council for Research Policy
1995	The Danish Physical Society’s Research Prize, the NKT prize, for research achievements in surface science using scanning tunnelling microscopy
1993	Co-recipient of a research award for a center of excellence: Center for Atomics

	scale Materials Physics (CAMP) by the Danish National Research Foundation (1993-2003)
1998	The award for CAMP extended for five more years (1998-2002)
1996	Elected Fellow of the Danish Academy of Natural Sciences (DNA)
1997	Elected Fellow of the Danish Academy of Technical Sciences (ATV)
1997	Elected Fellow of "Det Lærde Selskab" (the Society of Science and Letters), Aarhus University
1998	Elected Fellow of the Royal Danish Academy of Sciences and Letters
2000	Elected member of the Scientific Advisory Board der Max-Planch-Institut für Festkörper-forschung, Stuttgart
2000	Schuit distinguished Lecturer, University of Eindhoven
2001	Co-recipient of a research award for a center of excellence: "Nanoscience and Tissue Engineering approaches to improved biocompatibility"
2001	Elected Fellow of the Institute of Physics
2002	Co-recipient of a research award for a center of excellence: "Towards a new hydrogen economy"
2002	Elected Fellow of the Institute of Nanotechnology
2003	Villum Kann Rasmussen's award for outstanding research achievements in science and great efforts within the new area of nanotechnology (VELUX Foundation)
2003	University of Aarhus Anniversary Foundation Award for outstanding academic research within the area of surface and nano-science
2003	Richard A. Glenn Award for best paper at the Fuels Chemistry Division Spring Symposia, American Chemical Society
2004	Appointed EU project ambassador for the Aarhus Municipality EU Office in Brussels, Belgium
2004	Danmarks Naturvidenskabelige Akademis Industripris 2004 (Industrial prize of the Danish Academy of Natural Sciences 2004)
2004 - 2014	Honorary Professor, Aalborg University
2006	Grundfos award for outstanding nanoscience research
2007	Honorary Professor, Henan University, China
2007	Honorary Professor, Tianjin University, China.
2008	Honorary Professor, Huazhong Normal University, China
2008	Honorary Professor, Jilin University, China
2008	Honorary Professor, Zhejiang University of Technology
2008	Bird-Steward-Lightwood Lectureship award at the Dept. of Chemical and Biological Engineering at University of Wisconsin-Madison
2008	Recipient of one of the prestigious ERC advanced research grants from the European Research Council
2009	Aarhus Business Award 2009
2009	Guest Professor, Institute of High Energy Physics, Key Laboratory for biomedical effects of Nanomaterials and Nanosafety, Chinese Academy of Sciences
2009	Recipient of the prestigious Einstein Professorship, Chinese Academy of Sciences
2009	Elected Honorary Fellow of Chinese Chemical Society
2009	Elected Honorary Fellow of the American Vacuum Society
2009	Recipient of a Sino-Danish Center of Excellence "Center for Molecular Nanostructures on Surfaces CMNS" from the Danish National Research Foundation
2009	Honorary Professor of ICCAS, China
2009	Elected Fellow of Materials Research Society
2009	Elected Fellow of Royal Society of Chemistry
2009	Honorary Professor, Shanghai University, China
2009	Honorary Professor, Central South University, China
2010	Honorary Professor, Tongji University, China
2010	Honorary Professor, Chongqing University
2011	Elected Fellow of the American Physical Society
2011	Honorary Professor, Harbin Institute of Technology
2011 - 2016	Chief International Academic Advisor of Harbin Institute of Technology
2011	Recipient of Rigmor og Carl Holst-Knudsen's Videnskabspris (science award granted by Aarhus University) 2011
2011	Langmuir Lecture Award, ACS

2011	Overseas director and Professor Honoris Causa, Tongji-Aarhus Joint Center for Nanostructures and Functional Nanomaterials
2011	Honorary Professor, Jiangsu University, China
2012	The Sino-Danish Center of Excellence "Center for Molecular Nanostructures on Surfaces CMNS" extended for 3 years by the Danish National Research Foundation
2012	Recipient of the Award for International Scientific Cooperation, Chinese Academy of Sciences, China
2012	Recipient of the Friendship Award awarded by the Chinese State Administration for Foreign Expert Affairs
2012	Recipient of the 2012 International Science and Technology Cooperation Award of the People's Republic of China awarded by the Chinese State Council
2013	Awarded Honorary Fellow of the Royal Microscopical Society
2013	Elected Foreign Academician of the Chinese Academy of Sciences (CAS)
2014	Molecular Science Forum Lecture Professorship, Center for Molecular Science, Chinese Chemical Society
2017	Honorary Professor, Wuhan University of Technology, China
2017	Advisory Professor, Shanghai Jiao Tong University, China
2018	Honorary Professor, University of Electronic Science and Technology of China (UESTC), Chengdu, China
2018	Honorary Professor, Shandong University, Jinan, China
2018	Honorary Professor, Shanghai Jiao Tong University, China
2019	Fortune Award for Circular Economy Leadership at the The Circulars
2020-2021	Champion of the UN Food Systems Summit
2022	Elected International Fellow of the Academic Advisory Committee (AAC) of the Chinese Academy of Medical Sciences

Leadership:

1993 - 2002	Vice-director of the center of excellence: "Center for Atomic-scale Materials Physics" (CAMP) sponsored the Danish National Research Foundation
1994 - 1997	Head of the "Minicenter for Nanotribology" established under the Danish Materials Research Programme
1996 - 2000	Chairman of the board of the Institute for Storage Ring Facilities Aarhus (ISA), University of Aarhus
1999	Member of the advisory board at "Image Metrology Aps"
2000	Member of expert committee in EU on Nanotechnology in relation to the 6th Framework Programme
2001	Head of scientific advisory committee on nanotechnology for the Danish Research Ministry
2001	Member of advisory committee on nanotechnology for the Danish Ministry of Education
2001	Appointed the Danish representative of the COST-Nanoscience (COST European Co-operation in the field of Scientific and Technical Research)
2001	Appointed Danish representative of the PESC (Physical and Engineering Sciences) unit under ESF (European Science Foundation)
2002 - 2012	Director of the Interdisciplinary Nanoscience Center (iNANO) at the University of Aarhus (www.inano.dk)
2002 - 2012	Director of the iNANO graduate school (iNANOschool), University of Aarhus (www.inanoschool.dk)
2003	Head of the Danish National Nano-network and Instrument Centre
2004	Danish representative on the EU Programme Committee for the 7th Framework Programme
2005 – 2011	Director of the NANOFOOD consortium
2005 - 2012	Member of the Board of Directors of the Carlsberg Foundation
2005 - 2011	Member of the Board of Directors of the Carlsberg Laboratory
2005 - 2012	Member of the Supervisory Board of Carlsberg A/S
2005 - 2012	Member of the Board of the Tuborg Foundation
2012-2021	Chairman of the Board of The Carlsberg Bequest to the memory of

2008 - 2015	Board member of the MedTech Innovative Center, Aarhus, Denmark
2009 - 2015	Director of the Sino-Danish Center of Excellence "Center for Molecular Nanostructures on Surfaces (CMNS)"
2009	Appointed member of reference group for the FP7 theme Nanosciences, Nanotechnologies, Materials and New Production Technologies by the Danish Agency for Science, Technology and Innovation
2010	Appointed Head of the scientific panel on Materials and Nanotechnology in connection with the establishment of a Danish roadmap for research infrastructure by the Danish Ministry of Science, Technology and Innovation
2010	Member of expert group for the Norwegian Research Council
2010-2017	Chairman of the Board of Nanoference A/S
2011	Chairman of the international "advisory board" of the new center, Harbin Aarhus International Center of Surfaces and Interfaces, HAISI
2011 -2021	Chairman of the Board of Trustees of the Carlsberg Laboratory
2012	Participated in the High Performance Board program: How Board Directors can make a real difference, IMD-Lausanne, Switzerland
2012	Completed the "Executive Education Program" held by Presidents Institute, Copenhagen
2012	Participated in the "Leading from the Chair programme" held at INSEAD, Paris
2012 -2021	Chairman of the Board of Directors of the Carlsberg Foundation
2012 -2022	Chairman of the Supervisory Board of Carlsberg A/S
2012 -2021	Deputy Chairman of the Board of Directors of The Museum of National History at Frederiksborg Castle
2012	Member of the Danish Council for Research Policy
2012 -	Member of the Executive Council of the Mary Foundation - H.R.H. Princess Mary's Foundation
2012 - 2016	Member of the Board of LevOss ApS
2013 - 2018	Member of the leadership development organization Center for Leadership (CfL)
2014 - 2015	Member of the Board of Unisense Environment A/S
2014 -	Member of the Advisory Board of Center for Corporate Governance, CBS
2014 - 2020	Deputy Chairman of the Board of Innovation Fund Denmark
2014 - 2015	Member of the Advisory Board of Videnskab.dk
2016 -	Chairman of the Board of UNLEASH
2015 -	Member of the Board of Unisense A/S
2015 - 2019	Chairman of the Tuborg Foundation
2016 - 2017	Chairman of the Danish Government Advisory Board for Circular Economy
2016 - 2017	Member of The Danish Government's Digital Growth Panel
2017 -	Member of the Vice Chancellor's Advisory Board, University of Surrey
2017 -2020	Member of the Advisory Board for SDG accelerator (UNDP),
2017 - 2018	Member of the Danish Ministry of Taxation's Advisory Panel for succession planning in commercial foundations
2018 -	Member of the Kenjin-Tatsujin International Advisory Council, Ashinaga,
2018 -	Chairman of the Board of Aarhus Vand
2018 -2019	Chairman of Copenhagen Capacity's diaspora task force
2019	Chairnan of the Board of DANIAS
2019 -	Member of the board of representatives of NRGi Elsalg A/S
2019 -	Chairman of the Danish Government's Think Tank on Prevention of Food Waste and Food Loss, ONE\THIRD
2019-	Member of the Board of Sulfilogger A/S
2021	Member of the Board ReDi School of Digital Transformation
2021	Deputy Chairman of Water Valley Denmark

Other:

2012	High Performance Boards Program at IMD, Lausanne
2013	Board Leadership Masterclass at CBS
2016	Leading from the Chair Program at INSEAD

Research administration:

The Danish Natural Science Research Council (1998-2004)
The Scientific Commission for Physics and Chemistry under the Danish Technical Research Council (1996-2000)
The Programme Committee for the Materials Programme under the Danish Research Ministry (1999)
The steering committee for the Center for Surface Reactivity under the Danish Materials Research Programme (1994-1997)
The board of the Faculty of Science, University of Aarhus, (2001-)
The Strategy Committee for the Faculty of Science, University of Aarhus (2000)
The Research Committee for Faculty of Science, University of Aarhus (2000-)
The Board of the Department of Physics and Astronomy, University of Aarhus (1988-92, and 1999-2004)
The VIP Advisory Board, Department of Physics and Astronomy, Univ. of Aarhus (2004-)
PhD evaluation and steering committee at the Department of Physics and Astronomy
The Board of the Danish Physical Society (1990-1994)
The Board of Solid State Section of the Danish Physical Society (1994-1999)
The International Advisory Board and Programme Committee for European Conferences on Surface Science
International Advisory Board for the Conf. on Scanning Tunneling Microscopy, International Conf. on Scanning Probe Spectroscopy
Chair of the Programme Committee for NANO-7 & ECOSS-21
International Advisory Board of ECOSS-22
International Program Committee of the ASEVA Summer School 2004
Scientific Committee of the Fifth Nordic Conference on Surface Science (Finland 2004)
International Advisory Committee of ISSS-4 (2004 - 2005)
Topsøe Catalysis Forum (2004-)
IVS Advisory Board on Nanotechnology (2004-)
International Scientific Advisory Committee of the 16th International Microscopy Congress in Sapphoro 2005
Scientific and Industrial Advisory board of NanoBio-Europe conference 2005-2007
Advisory Board of NanoBio-Europe Conference 2005,
Scientific Advisory Board, Centre for Molecular (Bio) medicine, Trieste, Italy (2005-)
Veeco Technical Advisory Board
National censor team for engineering education (2006-2014)
Danish National Network for the 7th EU Framework Programme
International Advisory Committee of ISSS-5& ISSS-6 & ISSS-7 (2008-2014)
International Organizing Committee of NTNE08
Scientific Advisory Committee, NANOMAT Programme
Member of international evaluation committee of MESA+
Advisory Board of ECOSS 26 (2009)
Visiting Committee, Commissariat à l´Énergie Atomique (2009)
Member of Nano Today Editorial Advisory Board
Scientific committee member of International-ASET Conference of Nanotechnology: Fundamentals and Applications 2010
Elected member of the Materials Research Society Board of Directors
International Advisory Committee of ChinaNANO 2011 and 2013
AVS Surface Science Division Executive Committee (2011-2012) Participated in the "Board Academy" – a research-based program for board managers and executive managers
Election Committee of the Danish Academy of Technical Sciences
Member of the award committee for the Heinrich Rohrer Medal, Surface Science Society of Japan (SSSJ)

Member of:

Fellow of the Danish Academy of Natural Sciences (DNA)
Fellow of the Danish Academy of Technical Sciences (ATV)

1998	Fellow of the Royal Danish Academy of Sciences and Letters
	Fellow of Royal Society of Chemistry Fellow of the European Academy of Sciences Royal Fellow of the Royal Microscopical Society Foreign Academician of the Chinese Academy of Sciences Fellow of the European Academy of Sciences The EU Academy of Sciences
Editorial board of:	Chemical Physics Letters (1996-2000) Surface Review and Letters (1998-) Probe Microscopy (1999-)
	Progress in Surface Science (1999-2008) Journal of Nanoscience and Nanotechnology (2001-) Journal of Nanoscience (2002-) Journal of Physics - Condensed Matter (2001-) Surface Science (2003-2008) Nanoletters (2003-) Small (2004-) Journal of Nanotechnology (2004-2008) Journal of Scanning Probe Microscopy (2006-2008) Physical Review Letters (2006-2008) Nanoscale Research Letters (2006-) Nano Today (2006-) Journal of Nano Education (2007-2009) Open Condensed Matter Physics Journal (2007-) NANOMEDICINE: Nanotechnology, Biology and Medicine (2008-2012) ACS-NANO (2008-) Advanced Biomaterials ChemPhysChem (2010-) Nano Energy (2012-)
Referee for:	Science, Nature, Nature Materials, Nature Nanotechnology, Phys. Rev. Letters, Phys. Rev. B, JACS, ACS-NANO, Surface Science, Jour. Chem. Phys., Langmuir, Angewandte Chemie, Nanotechnology, NanoLetters, Europhysics Letters,
	Chemical Physics Letters, Surface Review and Letters, Probe Microscopy; Progress in Surface Science, European Research Council, European Commission (European Research Excellence)
	I have been referee for larger research proposals for the research councils in Japan, US, Sweden, Italy, Netherlands, Switzerland, Ireland, Germany, Austria and Norway.
Invited talks:	At international conferences: approx.180 since 1990 At research institutions and universities: approx. 100 since 1990
Larger Research Grants (> 100,000 Euros)	Clean-Air-Technologies by development of new catalysts (CAT-C), Danish Strategic Research Council, 2,016,129 Euros
	Center for Molecular Nanostructures on Surfaces (CMNS), Danish National Research Foundation, 2,016,129 Euros
	Center for Atomic-Scale Surface Science (CASS), Villum Kahn Rasmussen Foundation, 1,344,086 Euros
	Antifouling fish - reducing bacterial contamination during food production, Danish

Ministry of Agriculture, Fisheries and Food, 375, 400 Euros

Individualized Musculoskeletal regeneration and Reconstruction Network, Danish Ministry of Agriculture, Fisheries and Food, 288,579 Euros

NanoNonWovens, Danish National Advanced Technology Foundation, 1,151,600 Euros

Cement of the future – building materials of the future - FUTURECEM, Danish National Advanced Technology Foundation, 1,342,300 Euros

Protein-based functionalisation of surfaces, Danish National Advanced Technology Foundation, 2,006,700 Euros

Mobile measurements of oil quality - OnBoard NMR, Danish National Advanced Technology Foundation, 1,786,100 Euros

Novel materials for hydrogen storage, the Danish Council for Strategic Research, 335,570 Euros

Interdisciplinary projects in nanoscience, the Danish Council for Strategic Research, 2,013,400 Euros

Bioimaging using nanoparticles, the Danish Council for Strategic Research, 1,159,700 Euros

New metal-oxide and -sulphide catalysts, the Danish Council for Strategic Research, 1,072,900 Euros

Center for surface reactivity, the Danish Natural Science Research Council, 805,400 Euros

High-pressure STM chamber for catalysis, the Danish Natural Science Research Council, 456,400 Euros

Studies of catalytic properties of metal-oxide and –sulphide surfaces and nanostructures, Lundbeck Foundation, 1,81,000 Euros

Development of improved catalysts, Haldor Topsoe, 203,000 Euros

Studies of model catalysts with Atomic Force Microscopy, Haldor Topsoe, 483,200 Euros

Anti-biofouling nanostructured surfaces for the slaughter- and dairy sectors, the Danish Pig Levy Fond and the Danish Milk Levy found, 335,570 Euros

Centre for NeuroEngineering (CNE), the Research Council for Technology, 230,300 Euros

Cross-institutional, interdisciplinary projects in nanotechnology and nanoscience at University of Aarhus and Aalborg University, Danish Agency for Science, Technology and Innovation, 3,350,000 Euros

Innovation consortium, MiNAP, Ministry of Science, Technology and Development, 302,000 Euros

Chitosan-based nanoparticles and membranes for biomedicine, Ministry of Science, Technology and Development, 483,220 Euros

The hydrogen society, the Research Council for Technology and Production, 1,054,000 Euros

Nanoscience and tissue engineering approaches to improved biocompatibility and biointegration and implants, Danish Medical Research Council, 918.000 Euros

New design strategies for catalysts, the Danish Research Council for Technology and Production, 441,600 Euros

Center for Atomic Scale Materials Physics (CAMP), Danish National Research Foundation, 5,000,000 Euros

The graduate school, (iNANOschool), Public and private funding, 4,005,000 Euros

EU Grants:

ERC, Advanced research grant, European Research Council, 1.400,000 Euros

Computing inside a single molecule using atomic scale technology, Pico-Inside, EU, FP6, Integrated Project, 271,700 Euros

Nanoscience targeted at life sciences (Frontiers), EU, FP6, Network of Excellence, 422,500 Euros

Molecular Networks at Phase Boundaries, EU, Marie Curie Training network, 417,800 Euros

Training and Mobility of Researchers (TMR) Programme, Manipulation of individual atoms and molecules with the STM (1997-)

Information Society Technology, Bottom-Up-Nanomachines (BUN)

Research Training Networks, Reactivity of clean and modified oxide surfaces (OXIDESURFACES)

Research Training Network, Atomic and molecular manipulation as a new tool for science and technology (AMMIST)

STREP under the 6^{th} Framework, Nanocues

Supervision:

I have supervised 26 PhD students and am currently supervising 16 PhD students. I have supervised 18 Master of Science students.
Since 1994, I have been a member of the PhD Committee at the Department of Physics and Astronomy and as such been head of the evaluation committee at more than 20 PhD exams.
From 2003 to 2012, I was the director of the graduate school, iNANOschool, in which 150 PhD students are currently enrolled.

Publication statistics:

As per January 2023, my publication list contains 760 entries in international, refereed journals, including:

Book chapters and reviews: 44
Nature: 4
Nature Materials: 4
Nature Nanotechnology: 3
Science: 11
Phys. Rev. Lett. (PRL): 59
Journal of Applied Physics (J. Appl. Phys.): 13
Applied Physical Letters: 5
JACS: 25

Angewandte Chemie: 28
ACS Nano: 42

My published articles have been cited 56,903 times and my H-index is 119. My research activities have resulted in 11 patents.

Selected publications:

1. P.T. Sprunger, L. Petersen, E.W. Plummer, E. Lægsgaard and F. Besenbacher, Giant Friedel oscillations on the Be(0001) surface, Science 275 (1997) 1764

2. F. Besenbacher, I. Chorkendorff, B.S. Clausen, B. Hammer, A. Molenbroek, J.K. Nørskov and I. Stensgaard, Design of a surface alloy catalyst for steam reforming, Science 279 (1998) 1913

3. S. Horch, H.T. Lorensen, S. Helveg, E. Lægsgaard, I. Stensgaard, K.W. Jacobsen, J.K. Nørskov and F. Besenbacher, Enhancement of surface self-diffusion of platinum atoms by adsorbed hydrogen, Nature 398 (1999)

4. Kühnle et al., Chiral recognition in dimerization of adsorbed cysteine observed by scanning tunneling microscopy, Nature 415 (2002) 891

5. F. Rosei, M. Schunack, P. Jiang, A. Gourdon, E. Lægsgaard, I. Stensgaard, C. Joachim, and F. Besenbacher, Organic molecules acting as templates on metal surfaces, Science 296 (2002) 328

6. R. Otero, F. Hümmelink, F. Sato, S.B. Legoas, P. Thostrup,, E. Lægsgaard, D.S. Galvão, I. Stensgaard, and F. Besenbacher, Lock-and-key effect in the surface diffusion of large organic molecules probed by STM, Nature Materials, Nature Materials 3 (2004) 779

7. R.T. Vang, K. Honkala, S. Dahl, E.K. Vestergaard, J. Schnadt, E. Lægsgaard, B.S. Clausen, J.K. Nørskov, and F. Besenbacher, Controlling the catalytic bond- breaking selectivity of Ni surfaces by step blocking, Nature Materials 4 (2005) 160

8. S. Weigelt, C. Busse, L. Petersen, E. Rauls, B. Hammer, K.V. Gothelf, F. Besenbacher og T. R. Linderoth, Chiral switching by spontaneous conformational change in adsorbed organic molecules, Nature Materials 5(2006) 112-117

9. D. Matthey, J.G. Wang, S. Wendt, J. Matthiesen, R. Schaub, E. Lægsgaard, B. Hammer and F. Besenbacher, Enhanced bonding of gold nanoparticles on oxidized TiO_2(110), Science **315** (2007) 1692-, Enhanced bonding of gold nanoparticles on oxidized TiO_2(110), Science 315 (2007) 1692

10. S. Wendt, P.T. Sprunger, E. Lira, G.K.H. Madsen, Z. Li, J.Ø. Hansen, J. Matthiesen, A. Blekinge-Rasmussen, E. Lægsgaard, B. Hammer and F. Besenbacher, The role of interstitial sites in the Ti3d defect state in the band gap of titania, Science 320 (2008) 1755

Patents:

J.H. Hyldtoft, B.S. Clausen, F. Besenbacher, R.T. Vang, J.K. Nørskov, C.G.L. Olsen, E.K. Vestergaard: Fuel cell and anode, patent number 04012278.0

F. Besenbacher, E. K. Vestergaard, R. T. Vang, J.K. Nørskov, B.S. Clausen, J. Hyldtoft, C. Olsen: Carbon resistant anode materials for solid oxide fuel cells, application number PA 2003 00869, June 2003

F. Besenbacher, M. Foss, M.R. Duch, F.S. Pedersen: BioStructure Surface Arrays, application number PA 2005 00610 and US 60/675096, April 2005

F. Besenbacher, M. Foss, L.K. Andersen, M.R. Duch, J. Justesen, F.S. Pedersen: Biocompatible material for surgical implants, application number PA 2005 00981, April 2005

K.A. Howard, J. Kjems, F. Besenbacher, X.D. Liu. (2006) Nanoparticles for nucleic acid delivery Application No. PCT/DK2007/050084, Publication No. WO 2008/003329

K.A. Howard, J. Kjems, F. Besenbacher (2007). Chitosan/siRNA nanoparticles for treatment of inflammatory diseases. Application No. PCT/DK2008/050184

M. Andreasen, K.A. Howard, J. Kjems, F. Besenbacher (2007). Osteopontin-chitosan nanoparticles. Application No. PCT/DK2008/050179

M. Andersen, K.A. Howard, J. Kjems, F. Besenbacher (2007). Freeze-dried chitosan nanoparticles. Application No. PCT/DK2008050171

T. Broch-Nielsen, J. Bondergaard, F. Besenbacher, P. Kingshott, S. Moelgaard (2007): Superhydrophobic coating of a polymer nonwoven, in particular a polypropylene nonwoven, WO2007048630, DE102005051550

T. Broch-Nielsen, J. Bondergaard, F. Besenbacher, P.Kingshott (2007): Material Comprising and consisting of fibres and nanoclay, WO2007048547, DE102005051844, EP1941083.

M.R. Duch, L. Markert, J. Lovmand, A.C. Füchtbauer, E.M. Füchtbauer, M. Foss, F. Besenbacher, F.S. Pedersen, PA 2008 00726

M. R. Duch, J. Lovmand, M. Foss, F. Besenbacher, F.S. Pedersen, PA 2008 00730.
S. Shipovskov, D. Sutherland, F. Besenbacher, B.S. Laursen (2008), Nanojelly, WO01/28328, WO97/20041, WO06/002630

F. Besenbacher, K. Howard, J. Kjems and X. Liu (2008), Nanoparticles for nucleic acid delivery, WO 2008/003329, EP2037899

K.A. Howard, I. Nawroth, J. Alsner, J. Overgaard, F. Besenbacher and J. Kjems (2008). Chitosan/siRNA nanoparticles as a treatment for radiation-induced fibrosis (RIF). DK PA 2009*****

S. Shipovskov, D. Sutherland, F. Besenbacher (2010): Gel Compositions, WO/2010/031408

B.S. Lauresen, J. B. Kristensen, F. Besenbacher, D. Sutherland, S. Shipovskov, K.M. Kragh (2010): Composition, WO/2010/089598 A1

F. Besenbacher, K.A. Howard, J. Kjems, X. Liu (2011): Chitosan/sIRNA nanoparticles, DK/EP 2037899

Industrial Collaboration: Co-founder of InvitroQ ApS
Senior advisor and consultant to Haldor Topsøe A/S
Member of the Haldor Topsoe Catalysis Forum advisory group
Member of the scientific advisory board for SCF Technologies A/S
Close collaboration with Danfoss A/s, Danfoss Bionics A/S, Grundfos A/S. NANONORD A/S, Cantion A/S, Danisco A/S, Arla A/S, Fibertex A/S, Image Metrology A/S
Board member of the MTIC Foundation, MedTech Innovation Center

Research Competences:	Current research activities include the development and use of scanning tunneling microscopy, a variety of other surface sensitive techniques to study clean and adsorbate-covered surfaces, and synthesis and characterization of nanostructures on surfaces.
Research Areas:	Nanoscience, nanotechnology, nanocatalysis, structure and reactivity of clean, adsorbate-covered and alloy surfaces, scanning tunnelling microscopy, atomic force microscopy, nucleation and growth of nanoclusters, interaction of hydrogen with defects in metals, hydrogen storage, quantized conductance in nanowires, different penetration phenomena, biocompatibility, biosensors, physical and chemical properties of biomolecules and novel materials based on nano objects.