

*Curriculum vitae***JENS BREDAL NIELSEN, R., PhD, dr.techn.**

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**Personal information**

Date of birth: November 17<sup>th</sup>, 1962.  
 Place of birth: Horsens, Denmark  
 Citizenship: Danish  
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**Education and degrees**

1986 M.Sc. in Chemical Engineering, DTU, Denmark  
 1989 Ph.D. in Biochemical Engineering, Department of Biotechnology, DTU, Denmark  
 1995 dr.techn., DTU, Denmark

**Positions**

1986 **Research Assistant**, School of Engineering, University of Western Ontario, Canada  
 1987-1989 **PhD student**, Department of Biotechnology, DTU, Denmark  
 1989 **Post doc**, Institut für Technische Chemie, Universität Hannover, Germany  
 1990-1995 **Associate Research Professor**, Department of Biotechnology, DTU, Denmark  
 1995-1996 **Visiting Professor**, Department of Chemical Engineering, MIT, USA  
 1996-1998 **Associate Professor**, Department of Biotechnology, DTU, Denmark  
 1998-2008 **Professor**, BioCentrum, DTU, Denmark  
 2005-2011 **Adjunct Professor**, Department of Biotechnology, NTNU, Norway  
 2008-2015 **Professor**, Department of Chemical and Biological Engineering, Chalmers, Sweden  
 2011-2019 **Professor**, Novo Nordisk Foundation Centre for Biosustainability, DTU, Denmark  
 2012-2017 **Adjunct Professor**, Department of Biotechnology, Royal Institute of Technology (KTH), Sweden  
 2013-2019 **CSO**, Novo Nordisk Foundation Centre for Biosustainability, DTU, Denmark  
 2015 **Founding Head of Department**, Department of Biology and Biological Engineering, Chalmers, Sweden (served 9 months as Head of Department and structured a department of 150 people)  
 2015- **Professor**, Department of Biology and Biological Engineering, Chalmers, Sweden  
 2016-2019 **Adjunct Professor**, Beijing University of Chemical Technology (BUCT), China  
 2019- **CEO**, BioInnovation Institute, Copenhagen, Denmark

**Academic Appointments and Merits**

1994-1999 **Founding Chairman**, Danish Biotechnological Forum, Denmark  
 1995-2000 **Deputy Director**, Center for Process Biotechnology, DTU, Denmark  
 1995-1998 **Co-ordinator**, Physiological Engineering, Nordic Industrial Fund  
 1998-2002 **Co-ordinator**, NordPhys, Nordic Industrial Fund  
 2001-2003 **Director**, Center for Process Biotechnology, DTU, Denmark  
 2001-2003 **Board Member**, Center for BioProcess Technology, KTH, Sweden  
 2002 **Evaluation Panel**, Dutch genomics initiative (50 million EUR)  
 2002-2007 **SAB Member**, Kluywer Center for Genomics of Industrial Fermentations, TU Delft, The Netherlands  
 2002-2008 **SAB Member**, Max-Planck Institute for Dynamic of Complex Technical Systems, Germany  
 2003 **Guest Professor**, Tianjin University, China  
 2004-2007 **Founding Director**, Center for Microbial Biotechnology, DTU, Denmark  
 2004-2007 **Member of Integrative and Systems Biology Panel**, BBSRC, UK (50 million GPD)  
 2004- **Advisory Board**, Society for Biological Engineering, USA  
 2005 **Chairman of Evaluation Committee**, HepatoSys, Germany  
 2005-2008 **Co-ordinator**, Yeast Systems Biology Network, EU Framework VI  
 2006-2007 **Founder and Board Member**, Danish Biotechnological Society, Denmark  
 2008-2011 **Member of Review Panel of SystemsX.ch**, Switzerland (100 million CHF)  
 2008-2011 **Co-ordinator**, Systems Biology as a Driver for Industrial Biotechnology, EU Framework VII  
 2009-2014 **SAB Member**, Netherlands Institute for Systems Biology, The Netherlands  
 2010-2016 **Director Area of Advance Life Science**, Chalmers University of Technology, Sweden  
 2010-2019 **Member of World Council for Industrial Biotechnology**, World Economic Forum

2011-2012	<b>Member of Industrial Biotechnology and Bioenergy Strategy Advisory Panel, BBSRC, UK</b>
2011	<b>Presidential appointed evaluator of Humbolt University, Germany</b>
2011	<b>Member of DoE Evaluation Panel for Joint Bioenergy Institute, USA</b>
2011-	<b>Swedish Delegate in International Commission of Yeast (ICY)</b>
2011-2015	<b>National Reference Committee, Science for Life Laboratory, Stockholm, Sweden</b>
2012-2014	<b>Scientific Advisory Board Universeum Science Museum, Gothenburg, Sweden</b>
2012-	<b>Founding president of International Metabolic Engineering Society, USA</b>
2012	<b>4<sup>th</sup> Most cited European researcher in the field of Mycology</b>
2012-2013	<b>Evaluation panel of Academy of Finland, Finland</b>
2012-2014	<b>International Advisory Board, Thailand's National Center for Genetic Engineering and Biotechnology, Bangkok, Thailand</b>
2014	<b>Scientific Advisory Board, Energy Biosciences Institute, UC Berkeley, Berkeley, USA</b>
2015-2018	<b>Advisory Board, Gothia Forum, Sahlgrenska University Hospital, Gothenburg, Sweden</b>
2016-2019	<b>Director of Life Science, Beijing Advanced Center for Soft Matter Science and Engineering, Beijing University of Chemical Technology, China</b>
2016-2019	<b>Advisory Committee, Joint Bioenergy Institute, Lawrence Berkeley Laboratory, USA</b>
2016-	<b>Committee chairman for Novozymes Award for Excellence in Biochemical and Chemical Engineering, Novozymes, Denmark</b>
2016-	<b>Novozymes Prize award committee, Novo Nordisk Foundation, Denmark (chairman 2018-2019)</b>
2018-	<b>F1000 Faculty, F1000Prime</b>

#### Awards

1989	<b>Direktør Gorm Petersen's Mindelegat, Denmark</b>
1994	<b>Ulrik Brinch og Hustru Marie Brinch's legat, Denmark</b>
1996	<b>STVFs Jubilæumspris, Statens Teknisk Videnskabelige Forskningsråd, Denmark</b>
2001	<b>Aksel Tovborg Jensens Legat, Bjerrum-Brøndsted-Lang Lecture, Carlsberg Foundation, Denmark</b>
2002	<b>Villum Kann Rasmussen's Årslegat, Villum Kann Rasmussen Fonden, Denmark</b>
2004	<b>Merck Award for Metabolic Engineering, USA</b>
2011	<b>Amgen Biochemical Engineering Award, USA</b>
2012	<b>Charles D. Scott Award 2012, Symposium on Biotechnology for Fuels and Chemicals, USA</b>
2012	<b>Nature Award for Mentoring, Nature Publishing Group, UK</b>
2013	<b>Norblad-Exstrand Medalj, The Swedish Chemical Society, Sweden</b>
2016	<b>Gaden Award, American Chemical Society, USA</b>
2016	<b>Novozymes Prize, Novo Nordisk Foundation, Denmark</b>
2017	<b>ENI Award, ENI, Italy</b>
2017	<b>Gold Medal, Royal Swedish Academy of Engineering Sciences, Sweden</b>
2017	<b>Eric and Sheila Samson Prime Ministers Prize for Innovation in Alternative Fuels for Transportation, Fuels and Smart Mobility Initiative, Israel</b>
2019	<b>Emil Chr. Hansen's Gold Medal for Microbiological Research, Denmark</b>
2019	<b>Arvid Carlsson Award, Sahlgrenska Science Park, Sweden</b>
2019	<b>James E. Bailey Award, American Institute for Chemical Engineering, USA</b>
2020	<b>Gregory Stephanopoulos Award for Metabolic Engineering, IMES, USA</b>

#### Academies

1997	<b>Member of the Academy of Technical Sciences, Denmark</b>
2010	<b>National Academy of Engineering, USA</b>
2010	<b>Member of the Royal Danish Academy of Science and Letters, Denmark</b>
2010	<b>Member of the Royal Swedish Academy of Engineering Sciences, Sweden</b>
2011	<b>College of Fellows of American Institute for Medical and Biological Engineering, USA</b>
2012	<b>Member of Royal Society of Arts and Sciences in Gothenburg, Sweden</b>
2012	<b>Fellow of the American Academy of Microbiology, USA</b>
2014	<b>Member of the Royal Swedish Academy of Sciences, Sweden</b>
2019	<b>National Academy of Sciences, USA</b>
2019	<b>Royal Physiographic Society of Lund, Sweden</b>
2019	<b>Chinese Academy of Engineering, China</b>

#### Other Honors

1995	<b>Fulbright Fellow, USA</b>
2002	<b>Sunner Memorial Lecture, Lund University, Sweden</b>
2004	<b>Hough Memorial Lecture, Birmingham University, UK</b>
2010	<b>Appointed as Wallenberg Scholar, Sweden</b>

2014	<b>William Chalmers Lecture</b> , Chalmers University of Technology, Sweden
2014	<b>Honorary Professor</b> , Beijing University of Chemical Technology, Beijing, China
2015	<b>Zhang Dayu Lectureship</b> , Dalian Institute for Chemical Physics, Chinese Academy of Science, China
2015	<b>Honorary Professor</b> , Dalian Institute for Chemical Physics, Chinese Academy of Science, China
2015, 2016	<b>Highly Cited Researcher</b> , Thomson Reuter
2017	<b>Honorary Professor</b> , East China University of Science and Technology, Shanghai, China
2017	<b>Adjunct Professor</b> , Jiangnan University, Wuxi, China
2017, 2018	<b>Highly Cited Researcher</b> , Clarivate
2019	<b>Honorary Professor</b> , Jiangnan University, Wuxi, China
2019	<b>Ridder af Dannebrog</b> (Knight of the order of Dannebrog), Queen Margrethe II, Denmark
2019	<b>Honorary Professor</b> , Tianjin University, Tianjin, China
2019	<b>Peiyang Lectureship</b> , Tianjin University, Tianjin, China
2019	<b>Honorary Professor</b> , Nankai University, Tianjin, China
2019, 2020	<b>Highly Cited Researcher</b> , Web-of-Science
2020	<b>Most cited researcher on fungi</b> in the World over the period 2010-2020, ExpertScape
2020	<b>The KAIST CBE Global Distinguished Lectureship</b> , KAIST, South Korea

#### Memberships in Societies

1986-	<b>The Danish Society for Engineers</b> , Denmark
1996-	<b>Member of American Association for the Advancement of Science</b> , USA
2001-	<b>Society for Industrial Microbiology</b> , USA
2004-	<b>American Chemical Society</b> , USA
2004-	<b>Society for Biological Engineering</b> , USA
2006-	<b>American Society for Microbiology</b> , USA
2012-	<b>International Metabolic Engineering Society</b> , USA

#### Publications, Patents, Presentations and Citations

*Google Scholar: H-factor of 132; >85,000 citations and >42,000 citations since 2016*

*Web of Science Highly Cited Researcher in 2015-2020*

637	<b>Original Papers in Peer Reviewed Journals</b>
123	<b>Review Papers in Peer Reviewed Journals</b>
31	<b>Commentaries in peer reviewed journals</b>
49	<b>Book Contributions</b>
3	<b>Text books:</b> Bioreaction Engineering Principles (1994,2003,2011) (English & Chinese), Metabolic Engineering (1998) (English, Chinese & Japanese), Metabolome Analysis (2007)
1	<b>Monograph</b>
4	<b>Edited books</b>
38	<b>Issued patents (8 patent families)</b>
36	<b>Patent applications (15 patent families)</b>
225	<b>Invited oral presentations at international conferences</b>
137	<b>Invited seminars at universities and companies</b>

#### Key Grants

1993-1996	<b>Nordic Project on Physiological Engineering</b> , Nordic Industrial Fund (>20 MDKK)
1995-2002	<b>4 Projects</b> , EU Framework VI (about 8 MDKK)
1996-1999	<b>Center for Process Biotechnology</b> , Danish Technical Research Council (20 MDKK)
1997-2000	<b>Nordic network NordPhys</b> , Nordic Industrial Fund (4 MDKK)
1999-2003	<b>DABIC</b> , Danish Technical Research Council (18 MDKK)
2000-2007	<b>6 Projects</b> , EU Framework V (about 15 MDKK)
2003-2007	<b>Heterologous production of polyketides</b> , Danish Technical Research Council (2.8 MDKK)
2004-2008	<b>Center for Microbial Biotechnology</b> , Danish Technical Research Council (36 MDKK)
2005-2009	<b>3 Projects</b> , EU Framework VI (about 8.5 MDKK)
2005-2008	<b>Genome sequencing of <i>A. baumannii</i></b> , Lundbeck Foundation (1.2 MDKK)
2005-2008	<b>Yeast Systems Biology Network</b> , EU Framework VI (1.3 MEUR)
2006-2008	<b>Yeast in No Gravity</b> , European Space Agency (2.7 MDKK)
2007-2009	<b>Systems Biology: From model organisms to application</b> , NORDFORSK (0.8 MNOK)
2008-2011	<b>Systems Biology as a Driver for Industrial Biotechnology</b> , EU Framework VII (1 MEUR)
2008-2013	<b>UNICELLSYS</b> , EU Framework VII (5.4 MSEK)
2009-2011	<b>Regulation of lipid metabolism in eukaryotic cells</b> , Vetenskapsrådet (3 MSEK)
2010-2014	<b>Industrial Systems Biology</b> , European Research Council (2.5 MEUR)
2010-2013	<b>Systems Biology of Metabolism</b> , NORDFORSK (0.6 MNOK)

2011-2020	<b>Wallenberg Scholar</b> , Knut and Alice Wallenberg Foundation (15 MSEK+15 MSEK)
2011-2020	<b>NNF Center for Biosustainability</b> , Novo Nordisk Foundation (60 MDKK)
2012-2015	<b>Engineering of Acetyl-CoA Metabolism in Yeast</b> , Vetenskapsrådet (6.4 MSEK)
2012-2014	<b>Platform for studying metagenomes and metabolic diseases</b> , Torsten Söderbergs Stiftelse (5 MSEK)
2012-2017	<b>BioVacSafe</b> , Innovative Medicines Initiative, EU (10.0 MSEK)
2012-2016	<b>Excellence Center for Metabolic Engineering</b> , FORMAS (25 MSEK)
2012-2017	<b>MetaCardis</b> , EU Framework VII (7.5 MSEK)
2012-2017	<b>Advanced Biofuel Production by Oleagenous Yeast</b> , Department of Energy, USA (2 MUSD)
2013-2016	<b>Biobased production of diesel and jetfuel</b> , Vetenskapsrådet (17 MSEK)
2014-2016	<b>Mathematical modelling of tissue metabolism in response to malnutrition</b> , Bill & Melinda Gates Foundation (1 MUSD)
2014-2017	<b>YeastCell</b> , ITN Marie Curie, EU Framework VII( 3 MSEK)
2014-2017	<b>QuantFung</b> , ITN Marie Curie, EU Framework VII (5 MSEK)
2015-2018	<b>3 Projects</b> , ERA-SysApp and ERA-Pathogen, EU Framework VII (9 MSEK)
2015-2019	<b>Biotechnological Production of High-Value Added Ingredients</b> , Stiftelsen for Strategisk Forskning (32 MSEK)
2016-2019	<b>Genome-scale transcriptional regulation in yeast</b> , Vetenskapsrådet (4.4 MSEK)
2016-2021	<b>Gut-microbiome effect on CVD</b> , Novo Nordisk Foundation (9 MDKK)
2016-2019	<b>Wallenberg Center for Protein Research</b> , Knut and Alice Wallenberg Foundation (20 MSEK)
2016-2020	<b>CHASSY</b> , Horizon2020 (7 MSEK)
2016-2020	<b>DD-DeCaF</b> , Horizon2020 (8.5 MSEK)
2016-2020	<b>PacMEN</b> , ITN Marie Curie, Horizon2020 (6 MSEK)
2017-2018	<b>Proof-of-Concept of cancer biomarkers</b> , Knut and Alice Wallenberg Foundation (4.5 MSEK)
2017-2020	<b>Biobased production of diesel and jetfuels</b> , Energimyndigheten (4 MSEK)
2017-2023	<b>Systems biology of the eukaryal protein secretion pathway</b> , Stiftelsen for Strategisk Forskning (34 MSEK)
2018-2019	<b>Proof-of-Concept of cancer biomarkers</b> , Knut and Alice Wallenberg Foundation (5 MSEK)
2018-2023	<b>CellNova</b> , Vinnova (9 MSEK) (co-PI together)

#### Editorial Activities

1999	<b>Chemical Engineering Science</b> , Guest editor of special volume
1999-2019	<b>Metabolic Engineering</b> , Editorial Board (1999-2002), Assoc. Editor (2003-2019), Editor-in-Chief (2018-2019)
1999-	<b>Applied Microbiology and Biotechnology</b> , Editorial Board
2000-2018	<b>Bioprocess and Biosystems Engineering</b> , Assoc. Editor (2000-2007), Editorial Board (2007-2018)
2001-	<b>Biotechnology and Bioengineering</b> , Assoc. Editor
2001-2019	<b>FEMS Yeast Research</b> , Editorial Board (2001-2007), Assoc. Editor (2007-2019), Editor-in-Chief (2011-2019)
2004-	<b>Journal of Industrial Microbiology and Biotechnology</b> , Editorial Board (2004-2010), Senior Editor (2010-2015), Editorial Board (2015-)
2004-	<b>Advances in Biochemical Engineering/Biotechnology</b> , Editorial Board
2008-	<b>Microbial Cell Factories</b> , Advisory Board
2009-	<b>Microbial Biotechnology</b> , Editorial Board
2010-	<b>Biotechnology Journal</b> , Editorial Board
2012-	<b>ACS Synthetic Biology</b> , Editorial Board
2013-	<b>Wiley-Blackwell Advanced Biotechnology Book series</b> (3. Edition), Editor-in-Chief
2015-2020	<b>Cell Systems</b> , Editorial Board
2015-2018	<b>Scientific Reports</b> , Editorial Board
2015-	<b>Synthetic and Systems Biotechnology</b> , Editorial Board
2016-2018	<b>PLOS Computational Biology</b> , Associate Editor (2016-2018)
2016-	<b>Current Opinion of Systems Biology</b> , Editorial Board
2016-	<b>Applied and Environmental Microbiology</b> , Editorial Board
2017-	<b>Cell Stress</b> , Editorial Board
2017-	<b>Biotechnology and Bioprocess Engineering</b> , Editorial Board
2019-	<b>Frontiers in Chemical Science and Engineering</b> , Editorial Board
2020-	<b>QRB Discovery</b> , Editorial Board

#### Teaching

Jens Nielsen has organized more than 15 advanced courses on metabolic engineering and systems biology in Denmark, Sweden, Thailand, China and Chile, and he has been teaching in several different courses at all levels in the areas of

biotechnology, fermentation technology, bioreaction engineering, metabolic engineering and systems biology. Currently examiner of the MSc courses KMG060 Systems Biology and KKR063 Metabolic Engineering at Chalmers.

Prof Nielsen has extensive experience with developing, organizing and running new courses and he has been actively involved in the design of new teaching programs at both the BSc and MSc level in the field of biotechnology and systems biology.

### Mentoring

Main supervisor of <i>graduated</i> PhD students	88
Main supervisor of <i>current</i> PhD students	13
Examiner of <i>current</i> PhD students	4
Co-supervisor of graduated PhD students (including visiting PhD students and as Examiner)	49
<i>Former</i> affiliated post docs	105
<i>Current</i> affiliated post docs	4
<i>Former</i> other affiliated staff	45

### Business Experience

1992-	<b>Collaboration with industry</b> ; collaborated with more than 15 different companies in Austria, Denmark, France, Germany, The Netherlands, Sweden, Switzerland and USA. Cumulative funding from industry to my research group exceeds 30 MSEK.
1996-	<b>Consultant</b> for several internationally leading biotech and pharmaceutical companies
1997-2001	<b>N&amp;N Biotechn ApS</b> , Denmark, Founder and CEO (acquired by Fluxome A/S)
2002-2005	<b>Symbion Venture Capital</b> , Denmark, Member of Scientific Advisory Board
2002-2012	<b>Fluxome A/S</b> , Denmark (major activities acquired by Evolva SA in 2012); A yeast metabolic engineering company. Founder and involved in raising >25 MEUR in capital, CEO (2002-2004), CSO (2002-2008), Member of BoD (2002-2005 & 2008-2012), Chairman of SAB (2008-2012). The company brought yeast produced resveratrol to the market.
2002-2007	<b>Gothia Yeast Solutions</b> , Sweden, Member of SAB
2006-2011	<b>MycoTeQ A/S</b> , Denmark. An antibiotics discovery company. Founder and Chairman of BOD; Raised about 1 MEUR in capital, one novel antibiotic identified
2008-2010	<b>GlycoFi, Inc.</b> , USA, Member of SAB
2008-2015	<b>Genomatica, Inc.</b> , USA, Member of SAB
2011-2018	<b>MetaboGen AB</b> , Sweden. A human gut microbiome company. Founder and Member of BoD; Raised >4 MEUR in capital. Sold to Biogaia AB in 2018
2013-2018	<b>Evolva SA</b> , Switzerland, Member of SAB
2014-	<b>Biopetrolia AB</b> , Sweden. A yeast synthetic biology company. Founder and Chairman of BoD; Raised >1 MEUR in soft funding and through research collaborations.
2014-2018	<b>Novogy Inc.</b> , USA, Member of SAB
2017-	<b>Elypta AB</b> , Sweden. A cancer diagnostic company. Founder, Chairman of BoD (2017-2018) and member of BoD (2018-). Raised >15 MEUR in VC capital and soft funding.
2019-	<b>Chrysea Labs Inc.</b> , Ireland. A yeast synthetic biology company. Raised >9 MEUR in VC capital.

### Organization of Conferences

1990-	Member of organizing and scientific committee of more than 50 conferences
2000	<b>ESBES3</b> , Denmark, Chairman (~300 delegates)
2002	<b>Analysis of Microbial Cells at the Single Cell Level</b> , Denmark, Co-Chair (~100 delegates)
2002	<b>Metabolic Engineering IV</b> , Italy, Chairman (~250 delegates)
2004	<b>European Conference on Fungal Genetics VI</b> , Denmark, Co-Chair (~800 delegates)
2005	<b>ECB12</b> , Denmark, Chairman of Scientific Committee (~1200 delegates)
2008	<b>ICSB2008</b> , Sweden, Member of Organizing Committee (~1000 delegates)
2010	<b>FEBS2010</b> , Sweden, Member of Organizing Committee (~2000 delegates)
2010	<b>Industrial Systems Biology 2010</b> , Sweden, Chairman (~200 delegates)
2011	<b>Key Symposium on Systems Medicine</b> , Sweden, Chairman (~100 delegates)
2013	<b>Copenhagen Bioscience Conference</b> , Denmark, Co-Chairman (~150 delegates)
2015	<b>Copenhagen Bioscience Conference</b> , Denmark, Chairman (~150 delegates)
2017	<b>Metabolic Engineering Summit</b> , Beijing, China (~600 delegates)
2019	<b>Copenhagen Bioscience Conference</b> , Denmark, Chairman (~150 delegates)