CURRICULUM VITAE, MAGNAR BJØRÅS

Born August 20th 1965, Levanger, Norway

Present positions Professor, Dept. of Microbiology,
University of Oslo and Oslo University Hospital (2006-)
Professor, Dept of Cancer Research and
Molecular Medicine, Norwegian University of
Science and Technology, Trondheim (2015-)

Work address Department of Cancer Res and Molecular Medicine,
Norwegian University of Science and Technology
(NTNU), N-7489 Trondheim, Norway

Web http://www.ntnu.edu/employees/magnar.bjoras/

Positions held

1994 – 1995	Visiting Research Sci	University of Strasbourg
1995 – 2002	Research scientist	Dept. of Microbiology, National Hospital, Oslo
2002 – 2004	Visiting Research Sci	Scripps Research Institute, San Diego, CA, USA
2005 – 2006	Deputy Head of Research	Dept. of Microbiology, Oslo University Hospital
2007 – 2014	Head of Research	Dept. of Microbiology, Oslo University Hospital
2010 – 2014	Deputy Research	Division of Diagn. and Interv., Oslo Univ. Hosp.

Scientific activity/Publications: Published 148 PubMed articles in international journals; 6 reviews and 142 original articles (**Impact factor**, number of publications):

*Nature (**36.3**, 4), JACC (**15.3**, 1), Mol Cell (**14.2**, 1), Nature Struct Mol Biol (**12.7**, 2), Trends in Biochem Sci (**11.6**, 1), American J of Hum Gen (**11.2**, 1), Nature Commun (10.0, 2), EMBO J (**10.5**, 4), Blood (**10.1**, 3), PNAS (**9.7**, 4), FEMS Microbiol Rev (9.3, 1), Cur Opin Gen Dev (8.7, 1), PLoS Gen (8.7, 1), Circulation Heart Failure (8.6, 1), Mol Cell Biol (8.1, 2), Nucl Acid Res (**8.0**, 17), Stem Cells (**7.7**, 1), Hum Mol Gen (**7.6**, 1), J Neuroscience (**7.3**, 1), Cell Reports (**7.7**, 2), Aging Cell (**6.5**, 1), Cell Structure (**6.3**, 2), Carcinogenesis (**5.7**, 1), Free Radicals in Medicine and Biology (**5.4**, 3), J Biol Chem (**5.3**, 4), Sci Reports (**5.2**, 4), Biochim Biophys Acta (**5.2**, 1), Cell Death and Disease (**5.1,** 1), J Mol Cel Cardiol. (**5.1**, 1) Mol Microbiol (**5.0**, 3). RNA (**4.7**, 1) Int J Antimicrobial Agents (**4.1**, 1), DNA repair (**4.1**, 13), J Inher Met Dis (**3.6**, 2), Neonatology (**2**, 2.7)*

HI factor: 36. Citations: 5486 (excluding self-citations)

International conferences: Invited speaker at 32 international conferences and to several national and international institutions.

Awards & honors

- Medinnova's Idea Prize (2009). National Hospital Yong Investigator Awards (2005).

Most important professional affiliations and merit in the last 10 years

- 10 PhD committees
- Reviewer for Nature, Cell, PNAS, EMBO, NAR, DNA repair, MCB, Mol.Microb., FRMB, National Science Foundation, USA, Research Council of Finland, and for several other international funding agencies
- Grants from EU, Norwegian Council of Research, Norwegian Cancer Society, South-Eastern Norway Regional Health Authority, Novordisk and other foundations.
- Leader of the South-Eastern Norway Regional Health Authority regional technology platform for "Structural Biology and Bioinformatics", 2007-2012.
- Deputy research leader, Clinic for Intervention and Diagnostics, OUH, 2010 –
- Advisory Board/Instituttråd, Institute of Clinical medicine, Medical Faculty, UiO, 2014-2016
- Board member; NCMM-UiO, EMBL node in molecular medicine, 2013-2015

- Member of the "The Royal Norwegian Society of Science and Letters", 2015
- Two patent applications (EPO Patent EP2482836 "Antibacterial Polypeptides And Use Thereof" A1 & PCT Patent 2012/069551 "dinQ-sRNA type I toxin-antitoxin systems for plasmid maintenance").
- Licensed affinity purified human Ogg1 and Neil1 antibody (2014). Millipore-Merck.

Composition of research group

4 senior scientists, 8 postdocs, 3 PhD students, 1MSc students, 3 technicians

Supervision of PhD-students and postdocs trained

- 2 PhD-students presently under supervision as main supervisor
- 10 PhD-students completed for the period 1.1.2005 – 31.12.2015 as main supervisor: Juris Allunans 2005; Ingrid Morland 2006; Veslemøy Rolseth 2007; Gunn Hildrestrand 2009; Ragnhild W Sneve 2010; Toril Ranneberg Nilsen 2012; Yngve T Bliksrud 2012; Yngve Sejersted 2012; Silje Krokeide Zandstra 2013; Ida Rosnes 2013.
- 20 postdocs trained: Ingrun Alseth; Bjørn Dalhus; Paul Backe; David Kunke; James Booth; Mingyi Yang, Veslemøy Rolseth, Gunn Hildrestrand; Ragnhild W Sneve; Daniel Cortazar; Katja Schefler, Xiaolin Lin, Henning Cederkvist, Alexandre Row, Cathrine Fladeby, Erik Vik, Nicole Bethge, Xiao Zhang, Vuk Palibrk, Hanne Korvald.

Self-evaluation

Focus of my research has been on the repair of endogenous DNA base lesions and mechanisms for removal of base damage in DNA. I started my research career in the laboratory of Prof Erling Seeberg in 1989 and was trained in molecular biology and protein biochemistry and have been involved in cloning, purification and characterization of several DNA repair enzymes from bacteria (*E. coli*, *Bacillus, M.tuberculosis* and *Neisseria*), yeast (*S. cer* and *S. pombe*) and human (i.e. EMBO, 1990; Nature 1992; PNAS 1996; EMBO 1997; MCB 1997; NAR 2002; Nature 2002; JBC 2004; NAR 2005; Mol Micro 2006).

In order to improve on the efforts and expertise in protein structure analysis I spent two years (2002-2004) in Professor John Tainer at Scripps Research Institute, California. I have been involved in solving the atomic structure (3D) of several DNA-protein complexes (i.e. EMBO 2008; NSMB 2008; NSMB 2009; Cell Structure 2011; Cell Structure 2012).

Since 2004 when my group joined the CoE in Molecular Biology and Neuroscience (CMBN) we have built up research competence and expertise on understanding the impact of DNA repair in neurodegeneration (Nature 2007; BMC Neurosci 2009; DNA repair 2008; Pediatric Res 2009; Brain Res 2010; Stem Cells 2010; Wang J Neurosci 2011; PNAS 2011; Hum Mol Gen 2012; Cell Reports 2012).

During the last five years the Bjørås group has established collaborations, including several clinical departments at OUS, to study the impact of DNA base lesion repair on diseases such as viral infections (i.e Blood 2005; Virology 2006; JMB 2008), heart failure (Mutation Res 2009; J Mol Cell Card 2014; DNA repair 2015) metabolic diseases (Mol Genet Metab 2010; J Inherited Met Diseas 2012) and cancer (Carcinogenesis 2009; Blood 2010; Blood 2012; DNA repair 2012).

Another research project in the Bjørås group focus on elucidating the function of small non-coding RNAs and small toxic peptides that modulate the response to DNA damage in E. coli (i.e. NAR 2008; PLoSOne 2010; PLoSGen, 2013). Two patents applications have been filed based on these findings.

Major contributions to early careers of excellent researchers – The following previous postdocs/senior researchers have established their own research groups with their own funding at Oslo University Hospital (OUH) and University of Oslo (UoO) with support from the Bjørås group

Previous group member	Current institution	Establ. own group
Prof Lars Eide	Dept. of Medical Biochemistry, Univ. of Oslo	2009
Dr Ingrun Alseth	Dept. of Microbiology, Oslo Univ. Hosp.	2010
Dr Bjørn Dalhus	Dept. of Medical Biochemistry, Univ. of Oslo	2011
Dr Stig Ove Bøe	Dept. of Medical Biochemistry, Univ. of Oslo	2012
Dr Jorrit Enserink	Dept. of Microbiology, Oslo Univ. Hosp.	2012

Currently supporting/mentoring five senior researchers for independent careers (Katja Scheffler, Valentyn Oksenych, James Booth, Johanne Egge Rinholm and Barbara van Loon).

Mentoring – Have been mentoring two female postdocs at the University of Oslo about career strategies/paths in research (UiO's mentoring program).

National and international networks

- BioStruct, National graduate school in structural biology, 2013 -
- Norwegian Stem Cell Centre, 2012 -
- Norwegian Centre of Excellence (CoE): Centre of Molecular Biology and Neurobiology (CMBN), 2003 – 2012.
- Norwegian Functional Genomics (FUGE) platform: Consortium of Advanced Microbial Sciences and Technologies (CAMST), 2003 – 2008.
- European Union Integrated Project 6FP programme: DNA damage response and repair mechanisms, 2005 – 2008.

National collaborations

- Prof. Marit Otterlei, University of Trondheim: Genome maintenance mechanisms.
- Prof. Geir Slupphaug, University of Trondheim: Genome maintenance mechanisms.
- Prof. Hans Krokan, University of Trondheim: Genome maintenance mechanisms.
- Prof. Pål Aukrust and Prof. Bente Halvorsen, Oslo University Hospital: Impact of base excision repair on infectious disease (HIV/CVID) and cardiovascular disease.
- Prof. Fredrik Muller, Oslo University Hospital, Oslo: Modulation of base excision repair by human cytomegalovirus.
- Prof. Bergersen, University of Oslo: Oxidative stress and hippocampal formation.
- Prof. Torbjørn Rognes, Oslo University Hospital, Oslo: Computational search for novel repair genes and functional characterization.
- Prof. Arne Klungland, Oslo University Hospital: Genome and epigenome research.
- Prof. Lars Eide, University of Oslo: Mitochondrial DNA repair.
- Prof Bjørn Dalhus, Oslo University Hospital: Structural biology of DNA repair enzymes.
- Prof Stig Ove Bøe, Oslo University Hospital: Role of promyelocytic leukemia factor in brain.
- Prof. Hilde Nilsen, University of Oslo: DNA base lesion repair mechanisms.
- Prof. Kirsten Skarstad, Oslo University Hospital: Small hydrophobic peptides in E. coli.
- Prof. Ola Didrik Saugstad, Oslo University Hospital: Oxidative stress and brain damage.
- Prof Axel and Ioanna Sandvig, NTNU, Disease mechanisms of ALS.
- Professor Wenche Sjursen, NTNU, Translesion polymerases in cancer.

International collaborations

- Prof. Yusaku Nakabeppu, University of Kyushu, Japan: Oxidative damage and neurodegeneration.
- Prof. John Tainer, SCRIPPS, La Jolla, USA: Structural Biochemistry of DNA base lesions.
- Prof. Cynthia McMurray, Mayo Clinic, Rochester, USA: Role of oxidative DNA damage repair for triplett expansion in Huntington disease.
- Prof. Francoise Dantzer, Univ of Strasbourg, France: PARP3 function in brain.

- Timothy Bredy, Queensland University, Brisbane, Australia: Cognitive function and oxidative DNA damage.
- Dr Richardson N Leão, Brain Institute, Natal, Brazil, UFRN, Impact of oxidative DNA damage on neurogenesis and psychosis.
- Dr Lumi Krejci, Sumoylatio of DNA repair proteins. Marzyk University, Czech Republic.

Invited speaker at international meetings (since 2006)

- Erling Seeberg Symposium on DNA repair, Lofoten, Norway, Mai 28-June 2, 2006.
- Workshop on "Xeroderma pigmentosum and other diseases of human premature aging and DNA repair: Molecules to patients.", Virginia, USA, September 5-8, 2006.
- Joint EU-USA DNA repair Workshop. EU: DNA Damage Response and Repair Mechanisms. USA: Structural Cell Biology of DNA Repair Machines. Berkeley, USA, April 11-14, 2007.
- TBadapt meeting in Oslo, Norway. April 3 – 4, 2008.
- EU DNA repair Workshop: "DNA damage Response and Repair Mechanisms.", Rotterdam, Netherland, April 15-18, 2008.
- 2nd international Genome Dynamics Conference: "Genome Dynamics and Instability in the Aging Brain.", Pacific Grove, CA, USA, June 13 – 17, 2008.
- 3rd Microbial Genome Maintenance Meeting: "Transformation and DNA repair", Oslo, Norway, August 30 – September 2, 2008.
- 3rd EU-US meeting on "DNA repair", Galvestone, USA, February 21-25, 2009.
- Århus, January, 29-30, 2009.
- EU DNA repair Workshop: "DNA damage Response and Repair Mechanisms.", Crete, Greece, April 20-23, 2009.
- 10th International Conference on Environmental Mutagens, Firenze, Italy, August 20-25, 2009.
- 3rd international Genome Dynamics Conference: "DNA repair and neurological disease." Brighton, UK, July 18 – 21, 2010.
- Erling Seeberg Symposium on DNA repair, Trondheim, Norway, June 18-23, 2012.
- Swizz Meeting on Genome Stability and Chromatin Stability, Weggis, Switzerland, May 30 – June 1, 2012.
- EMBO workshop: "Structure specific nucleases in replication and repair.", Cote d'Azur, France, September 16-20, 2012.
- 4th international Genome Dynamics Conference: "DNA repair and neurological disease." Oslo, Norway, September 20 – 24, 2012.
- 4th Microbial Genome Maintenance Meeting on Transformation and DNA Repair. Norway, Oslo, April 26-29, 2013.
- 1st Fusion Conference on DNA and RNA structures in DNA damage responses, Cancun, February 2016
- 5th EU/US conference on DNA Base Lesion Repair, Santa Fe, USA (2014)
- Zing Conference on genome integrity, Cairns, Australia, August 2015
- 2nd Fusion Conference on DNA and RNA structures in DNA damage responses, Cancun, February 2016
- EEMGS Conference, Copenhagen, August 2016
- 10th International conference on Bioiformatics of genome regulation, Novosibirsk, Russia, September 2016

Organization of international meetings as conference chair

- 1st Seeberg Conference on DNA repair, Henningsvær, Norway (2006) [Conference chair]
- Cellular responses to DNA damage in S.pombe, Oslo, Norway (2007) [Conference chair]
- 2nd Seeberg Conference on DNA repair, Geiranger, Norway (2009) [Conference chair]
- 4th EU/US conference on DNA Base Lesion Repair, Oslo, Norway (2011) [Conference chair]