

BIOSKETCH

Johan R. Lillehaug

Born: 25.09.45

Home address: Ibsensgate 89, 5052 Bergen

Nationality: Norwegian

Present position: Department Chairman (2004-) and Professor in biotechnology (1987-), Department of Molecular Biology, University of Bergen, Bergen, Norway.

Degrees: Cand. real. 1971, Dr. philos. 1978. University of Bergen, Norway

Research experience abroad: 1) 1977-78, Research scholar in the laboratory of professor C. Heidelberger, Comprehensive Cancer Research Center, University of Southern California, Los Angeles. 2) 1985/86, sabbatical, visiting professor in the laboratory of professor J. Landolph, Comprehensive Cancer Research Center, University of Southern California, Los Angeles. 3) 1989, visiting professor for 3 months with professor J. Landolph. See 2). 4) 1994/95 and 5), 2002-2003, twice visiting professor at INSERM Unite 496, Director, Dr. Michel Lanotte, Centre G. Hayem, Hopital Saint Louis, Paris, France.

Scientific publications: Published 166 research articles and reviews and 4 manuscripts submitted.

Research interests: Early work on enzymology of prokaryote DNA and RNA polymerases, polynucleotide kinase, and DNA ligase. Then I studied *in vitro* carcinogenesis and toxicology, including tumour promotion. Since 1984, I have studied the molecular mechanisms of signal transduction. I have used *in vitro* cell cultures in these studies as well as studies on thyroid cancer based on human biopsies. This latter project has been in close collaboration with professor J. E. Varhaug, Haukeland sykehus. We were the first to demonstrate expression of the wild-type *ret* gene in normal thyroid. Two novel proteins, NATH and PDGF-C are the focus of structural and functional studies. NATH is part of the human NatA (NATH-hARD1) complex, which is a protein N- α -acetyl transferase. We

were the first to show that down-regulation of this activity leads to apoptosis in mammalian cells. 13 members of the hARD1 family have been cloned and are under structural and functional studies. At least three functionally related Nats (NatA, -B, and -C) have been identified. Structural and functional studies of the Nats are the main focus of my group.

I am one of the founding members of The Locus for Experimental Cancer Research, Faculty of Medicine, University of Bergen (1997-2007).

I was the Norwegian PI of the first complete bacterial genome project in Norway: Sequencing of the *Methylococcus capsulatus* genome. This was a 50/50 shared project with TIGR, USA. The project, GABI, was a Strategic University Programme supported by the UiB and the Norwegian Research Council. Scientists from three UiB departments at the Faculty of Science and Mathematics participated. The genomic sequence has been published and the project has now been taken into functional genomics, system biology as well as certain aspects of commercialisation.

I have a long-standing collaboration with Dr. Michel Lanotte, Director of INSERM Unite 694, Paris, France on mechanisms of vitamin A mediated gene regulation. Our recent projects focus on the mechanisms by which vitamin A regulates terminal differentiation of promyelocytic leukemia cells.

I collaborate with Prof. Per Eystein Lønning, Haukeland University Hospital, on molecular mechanisms of chemoresistance in breast cancer and malignant melanoma. Our emphasis is on the p53 pathway and the identification of predictive markers (and their mechanism of function) in chemoresistance of specific cancers.

Administration:

In the following, I list some of the administrative activities I have engaged in:

- 1) Member of the IBMB, UiB, council for several years during the years 1971 to 1995.
- 2) I was the first elected student representative to the first advisory council of the Department of Biochemistry (IBMB) in 1969.
- 3) Member of the Faculty of Medicine council 1987 – 1995.
- 4) Chairman of the Bergen chapter of the Norwegian Biochemical Society, 1983 and 1984.
- 5) Member of the NBS council during the same period.

- 6) Chairman of the NBS' Committee of Ethics in Science, 1990-92.
 - 7) Member of the National Committee on Biotechnology, 1988-1993.
 - 8) Member of Rådgivende utvalg i celle- og genteknologi (RUCG), joint committee for the Norwegian research councils, 1988-1993.
 - 9) Member of NFR, MHs program committee for Cell- and gene technology, 1994-98.
 - 10) Member of NFRs reference group on biotechnology in relation to the EU Fifth Framework programme 1995.
- I have in addition served on several ad hoc committees appointed by NRF.
- 11) Norwegian government representative to the Council of European Molecular Biology Laboratory, 1991-99.
 - 12) Norwegian government representative to the European Molecular Biology Conference, 1991-99.
 - 13) Member of the interim council, 1996, of the Marine Molecular Biology Research Centre, Sars Senteret, HIB, University of Bergen.
 - 14) Vice chairman at the Department of Molecular Biology, Univ. of Bergen, 1997 and 1998.
 - 15) Establisher and director of the DNA sequencing laboratory, University of Bergen, 1997-2001.
 - 16) Member of the UiB Council committee for FUGE, 2001 -2005.
 - 17) Member of the steering group for the UiB microarray service facility, 2000 -.
 - 18) Member of the Norwegian Cancer Society evaluation committee in molecular biology, 1999-.
 - 19) Co-organiser of "The Ninth International Charles Heidelberger Symposium on Molecular and Cellular Mechanisms of Carcinogenesis and of Cancer Chemotherapy", Bergen, 2002.
 - 20) Chairperson of the advisory board for NORSTRUCT, FUGE platform, 2003-2007.
 - 21) President-elect of the Norwegian Biochemical Society, 2003
 - 22) President of the Norwegian Biochemical Society, 2004-2006.
 - 23) Leading my own research group since 1983.
 - 24) Head of the Department of Molecular Biology, University of Bergen, 01.01.04—
 - 25) Head of The Norwegian Research Council granting committee FRIBIOMOL. 05.05.2004-2007.
 - 26) Member of the steering committee for the Nordic Centres of Excellence in Molecular Medicine, 2005-2010.

- 27) Member of several committees at the University of Bergen and PhD evaluation committees.
- 28) Member of evaluation committee for two professorships at the Department of Molecular Biology and Biosciences, University of Oslo, Norway (2007).
- 29) Head of The Norwegian Research Council granting committee FRIBIO 2007-2010.

Teaching experience:

Teaching university undergraduate courses in general chemistry, organic chemistry and biochemistry since 1970. Established graduate course in molecular biology, DNA replication and RNA expression. Have acted as Head teacher of courses in DNA molecular biology, protein structure and function, physical molecular biology, and advanced practical courses in molecular biology. I have organised a course in “Legers videre- og etterutdanning” and given lectures in such courses. Student groups: science students, medical school students, and school of dentistry students. Student level: Undergraduate, hovedfag (Masters degree), and dr. degree level.

Research supervisor: Master degree students: 56 (Master degree, cand. scient., cand. real.)(5 presently under supervision). Dr. degree: 11, co-supervisor: 9. Present Ph. D students: 2, co-supervision: 3.

GROUP composition:

Professor Johan R. Lillehaug

Post doc. Thomas Arnesen, Helse Vest

Post doc. Odd Andre Karlsen, Research Council

PhD student: Line Myklebust, Cancer Society

PhD student: Rune Evjenth, UiB

PhD student: Darina Gromyko, Cancer Society

Technicians: 1 positions paid by the Cancer Society and 1 position in collaboration with Prof. J.E. Varhaug (Cancer Society).

0.5 position, UiB

Master students: 5.

Collaborative group of Professor P.E. Lønning, Haukeland University Hospital:

3 PhD students, 2 Post. docs., and 2 technicians.

Bergen, 16.04.2010.

Johan R. Lillehaug