Leopoldina
Nationale Akademie
der Wissenschaften

Curriculum Vitae Professor Dr Bengt Nordén

Name: **Bengt Johan Fredrik Nordén**
Born: **15 May 1945**

Research Priorities: Optical linear dichroism spectroscopy, development of novel DNA-binding ligands

Bengt Nordén is a Swedish chemist. He conducts fundamental research regarding a variety of issues, though his approach remains consistent: He always examines DNA from a biological perspective. Using this approach, Nordén searches for, for example, novel principles for identifying long DNA sequences and mechanisms for genetic recombination.

Academic and Professional Career

2004	Visiting Professor, California Institute of Technology (CalTech), Pasadena, USA
since 1995	Professor of Physical Chemistry, Chalmers University of Technology, Gothenburg, Sweden
1980	Visiting Professor, University of Copenhagen, Copenhagen, Denmark
1978	Visiting Professor, University of Oregon, Eugene and University of Utah, Salt Lake City, USA
1972 - 1978	Lecturer of Inorganic Chemistry, Lund University, Lund, Sweden
1971	PhD in Inorganic Chemistry, Lund University, Lund, Sweden
1968	Degree in Mathematics, M.Sc. in Theoretical Physics and Chemistry, Lund University, Lund, Sweden

Functions in Scientific Societies and Committees

2006 - 2008	Member, Prize Committee, Millennium Technology Prize, Technology Academy Finland, Finland
2007	Co-Founder, Molecular Frontiers, Royal Swedish Academy of Sciences, Sweden
2004 - 2010	Member, Board of Trustees, Nobel Foundation, Stockholm, Sweden
2001 - 2003	Chairperson, Nobel Committee for Chemistry, Stockholm, Sweden
1998 - 2003	Chairperson, Chemistry Section, Swedish Research Council, Stockholm, Sweden
1994 - 2005	Member, Nobel Committee for Chemistry, Stockholm, Sweden
1992 - 1994	Scientific Advisor to Minister of Science Per Unckel and to the Swedish government, Sweden

Project Coordination, Membership in Collaborative Research Projects

2021 - 2023	"DNA recognition mechanisms", Swedish Research Council, Sweden
2016 - 2020	"Physical and biological impacts of Stretched DNA", Swedish Research Council, Sweden
2008 - 2015	"Bio-inspired Molecular Nanotechnolgy", King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia
2008 - 2013	"Supramolecular Motive Power", European Research Council (ERC)
2000 - 2015	"Molecular spectroscopy of biological systems", Swedish Research Council, Sweden

Honours and Awarded Memberships

2014	Honorary Scholarship, Royal Society of Chemistry, London, UK
2009	Svante Arrhenius Gold Medal
2009	Honorary Fellow, Chemical Research Society of India (CRSI), India
2009	Honorary Fellow, Chinese Chemical Society, China
since 2009	Fellow, The World Academy of Sciences (TWAS), Trieste, Italy
since 2008	Member, The Finnish Academy of Science and Letters, Finland
2008	King Abdullah University of Science and Technology Award, KAUST, Thuwal, Saudi Arabia
since 2007	Member, The Norwegian Academy of Science and Letters, Norway
since 2006	Member, German National Academy of Sciences Leopoldina, Germany

since 2006	Member, The Swedish Academy of Engineering Sciences in Finland, Helsinki, Finland
2006	Honorary Professor, Sichuan University, Chengdu, China
since 2005	Member, The Royal Swedish Academy of Engineering Sciences, Sweden
since 2003	Member, Academia Europaea
1996	Honorary Fellow, Australian National University, Canberra, Australia
1994	Arrhenius Placard (Arrhenius-Plaketten), Swedish Chemical Society, Sweden
1992	Göran Gustafsson Prize, Royal Swedish Academy of Sciences, Sweden
since 1992	Member, Royal Physiographic Society of Lund, Lund, Sweden
since 1991	Member, Royal Swedish Academy of Sciences, Sweden
1984	Member, The Royal Society of Arts and Sciences, Gothenburg, Sweden
1972	Fabian Gyllenborg's Prize, Lund University, Lund, Sweden

Research Priorities

Bengt Nordén is a Swedish chemist. He conducts fundamental research regarding a variety of issues, though his approach remains consistent: He always examines DNA from a biological perspective. Using this approach, Nordén searches for, for example, novel principles for identifying long DNA sequences and mechanisms for genetic recombination.

The latter refers to a reorganisation of genetic material. This means that the genes, too, are recombined, thus causing their characteristics to change. The genetic variability which occurs this way is the basis for improved adaptation to changing environmental conditions. Currently, Bengt Nordén is focusing on homologous recombination in the contexts of cancer and sterility, and as it relates to CRISPR-Cas. Despite much research, the mechanisms with which the human DNA-binding protein Rad51 and the bacterial protein RecA search for homology (commonality) and carry out strand exchange are still not understood on an atomic level. If scientists were to succeed in understanding the mechanisms of recombination as well as in deducing generalisable effects on the management of DNA in Rad51-CRISPR Cas9 and other contexts, this would pave the way for important future medical applications.

Additionally, Bengt Nordén founded the organisation "Molecular Frontiers", in which many Nobel laureates are involved. This internationally active organisation aims to identify scientific breakthroughs as early as possible as well as to pique young people's interest in science.