

# Sabine Lahja Flitsch

## Curriculum Vitae

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**Address:** School of Chemistry, The University of Manchester, Manchester Institute of Biotechnology (MIB), 131 Princess Street, Manchester M1 7DN

**Professional Qualifications:** DPhil (Oxon) | MA (Oxon) | DiplChem | CChem | FRSC

**Born:** October 10<sup>th</sup>, 1958 in Münster, Germany  
Married (2 sons | d.o.bs 1996 & 1998)

**Nationality:** German | UK permanent residency

**Current position:** Professor of Chemical Biology, The University of Manchester

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### Research Interests

Chemical Biology of Glycoconjugates and Proteins | Development of Molecular Tools in Chemical Biology | Applications of Biocatalysis in Biotechnology

### Education

1985 DPhil (supervisor Sir JE Baldwin FRS), Department of Chemistry, Oxford University  
Title: 'Penicillin Biosynthesis'

1982 Diplom in Chemistry, WWU Münster, Germany

### Professional History

2004 - Professor of Chemical Biology, The University of Manchester, UK

1998 - 2004 Professor of Protein Chemistry, The University of Edinburgh, UK

1995 - 1998 Reader in Organic Chemistry, The University of Edinburgh, UK

1989 - 1995 University Lecturer in Organic Chemistry, Oxford University, UK

1989 - 1995 Tutorial Fellow in Chemistry at St. Hilda's College, Oxford, UK

1988 - 1989 Departmental Demonstrator, University of Exeter, UK

1985 - 1988 Postdoctoral Fellow, Massachusetts Institute of Technology, USA  
(‘Structure-Function Studies of Bacteriorhodopsin’ | Prof. H. G. Khorana)

### Awards & Fellowships

2020 Biorganic Award (Royal Society of Chemistry)

2018 - 2023 ERC Advanced Grant

2014 Interdisciplinary Award (Royal Society of Chemistry)

2007 - 2012 Wolfson Merit Award (Royal Society)

2001 - 2004 BBSRC Fellowship

1997 Glaxo Wellcome Award for Innovative Chemistry

1996 Zeneca Research Award

1994 - 1995 Special Lecturership at Oxford University

1985 - 1987 Full Postdoctoral Fellowship from the German Academic Exchange Service (DAAD)

1982 - 1985 Michael Wills Full Doctoral Scholarship (DAAD and Michael Wills Trust, UK)

### Significant External Appointments | Recent Major Lectures

2022 Chair for session on ‘Biocatalysis for green chemistry’, 26<sup>th</sup> Solvay Conference – 100<sup>th</sup> Anniversary

2021- Chair of RSC Prize Committee

2021- Chair of *EuChemS* Lecture award Committee

2020- Editorial Advisory Board, *Beilstein Journal of Organic Chemistry*

2020- International Advisory Board, *ChemCatChem*

2020- Jury member for Blavatnik Awards for Young Scientists UK

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- 2020 Ferrier Lectures, New Zealand (*postponed because of Covid outbreak*)
- 2020/21 Guest Editor, Thematic Issue *Chemical Reviews: Glycobiology/Chemistry*
- 2020 - Associate Editor, *Journal of the American Chemical Society AU*
- 2020 - Member (representing Chemistry) of International Expert Panel advising Excellence Initiative, Germany
- 2020 - REF2021, Member and Interdisciplinary Lead of the Chemistry Panel
- 2020 - Board of European Federation of Biotechnology (EFB), Biocatalysis Division
- 2019 - Chair of SAB, Rosalind Franklin Institute, Harwell, UK
- 2019 - International Scientific Advisory Board, Institute of Chemistry of the Slovak Academy of Sciences, Slovakia
- 2019 - Chair of Chemistry Panel, Independent Research Fund Denmark
- 2018 Wilson Baker Lecture, The University of Bristol
- 2018 Burton Lecture, King's College London
- 2018 Elected Chair for 2022 Gordon Conference in 'Biocatalysis'
- 2018 - Chair of ESBOC, organising annual meetings in Biological Chemistry (Gregynog)
- 2018 External assessor for Chemistry, Oxford University
- 2018 SAB, Max Planck Institute Magdeburg
- 2016-2020 External Examiner, Leicester University
- 2016-2019 SAB, School of Chemistry, King's College London
- 2015- International Advisory Board, CeBiTec, University of Bielefeld, Germany
- 2016- International Advisory Board, Hans Knoell Institute Jena, Germany
- 2014 REF2014 – Member of Chemistry Panel
- 2014-2019 Elected member of Royal Society of Chemistry Council
- 2014 - Panel member of BBSRC, ERC, EPSRC, Novo Nordisk Foundation grant committees
- 2014 – 2018 Member of Royal Society Summer Science Exhibition Committee
- 2014 - Member of Newton Award Committees, Royal Society
- 2014- Honorary member of Oxford Glycobiology Institute
- 2013-2014 Member of Norwich Research Park Science Advisory Board
- 2013-2015 External Examiner, Liverpool University
- 2014-2015 External Examiner, University of Hull
- 2012 Panel member, German Excellence Initiative
- 2008 RAE2008 - Member of Chemistry Panel
- 2007 - 2012 Chair of the EuroGlycosciences Forum
- 2009-2020 Associate Editor, *Beilstein Journal of Organic Chemistry*
- 2005-2013 Chair of the International Advisory Board, Leibnitz Institute IPB, Halle, Germany
- 2003-2006 Chair of the Carbohydrate Group, Royal Society of Chemistry
- 1997-2002 Member of the Editorial Board of the *Journal of the Chemical Society, Perkin Trans1*

### Publications

>200 journal articles, > 8,800 citations; *h*-index= 52

See [https://scholar.google.com/citations?user=SDiQ\\_McAAAAJ](https://scholar.google.com/citations?user=SDiQ_McAAAAJ) for latest citation data.

or using: [orcid.org/0000-0003-3974-646X](https://orcid.org/0000-0003-3974-646X)

### Research Projects and Funding

SLF has led as principal investigator (PI), and been involved in as co-investigator (co-I), several multi-million interdisciplinary research projects over the past thirty years, involving collaborations both with UK and with international partners from most European countries. Recent projects include ProgrES (PI, ERC Advanced Grant 2018-2023, £2M); GlycoBioM (PI, £5.1M consortium total from FP7, finished 2015); Chem21 (co-I, £1.2M, Innovative Medicines Initiative, 2012-2017); BBSRC LOLA award on 'Rapid evolution of enzymes and synthetic microorganisms' (co-I, 2012-2017); three ITN Marie Curie Training networks (co-I: GlycoVax, TINTIN, Immunoshape); and two BBSRC/Innovate UK

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Catalyst awards (PI for 'Glycoenzymes for Bioindustries', co-I for 'Chemo-enzymatic Production of Speciality Glycans', 2015-2020).

SLF was been director of IBCarb, a BBSRC-funded network in Biotechnology and Bioenergy (NIBB, 2013-2017) that has promoted British glycobiochemistry as leading internationally, and includes 250 partners from academia and industry. SLF has established close collaborations with industry, in particular GSK, BASF, Ludger, Prozomix, Dextra and Carbosynth, and is founding Director of the start-up company BioShape. At a European level, SLF has lead the CSA network CarboMet (2017-2021), which aims to promote the application of metrology in Glycosciences.

#### Supervision of Early Stage Researchers

SLF has supervised over 40 PhD students and 20 Postdocs and currently has an active group of 7 PhD students and 5 postdocs.

In total, 18 Alumni from the Flitsch laboratory currently hold independent academic positions: Rein Ulijn (CUNY Advanced Science Research Centre, New York, USA); Iain Wilson (BOKU, Vienna, Austria); Josef Voglmeir (Nanjing Agricultural University, China) Gideon Grogan (University of York, UK); Roslyn Bill (Aston University, UK); Anne Routledge (York University, UK); Helen Osborn (Reading University, UK); Philip Lowden, (Birkbeck, UK); Derek Macmillan (University College London, UK), James Dowden (Nottingham University, UK); Elaine O'Reilly (Nottingham University, UK); Paula Booth (King's College London, UK); Martin Weissenborn (University of Halle, Germany); Anthony Green (The University of Manchester, UK); Antonio Sanchez Ruiz, Universidad de Castilla, Spain); Juana Elizabeth Reyes Martínez (Universidad de Guanajuato, Mexico); Francesco Mutti (University of Amsterdam, NL); Fabio Parmeggiani (Politecnico di Milano).

#### Outreach

The SLF laboratory has been involved in numerous outreach activities, most recently providing exhibits of their research to the public at the following events: Royal Society summer exhibitions London 2013/Manchester 2016 – 'The Complex Life of Sugars'; ESOF 2016, Manchester; ScienceX 2016, Manchester; Manchester Science Spectacular 2015; The Great British Bioscience Festival, London 2014; Manchester Science Festival, 2014. SLF has led a successful iGEM team, winning a gold medal in Boston in 2015. During 2014-2018 SLF has acted as Local Authority School Governor at St Matthews High School in Moston, Manchester. Very recently, SLF has become more actively engaged in promoting diversity in the chemical sciences and has initiated the diversity HUB at the Royal Society of Chemistry, together with colleagues from UK industry and academia.

SLF is actively committed to open access publishing and was Associate Editor (now on Advisory Board) for the *Beilstein Journal of Organic Chemistry*, a free open access journal for over 10 years. Very recently, she has joined the Editorial Board of *JACS Au*, a new initiative by the American Chemical Society that aims to make scientific papers of high quality open to all.

SLF has been instrumental in supporting the scientific community (in particular early stage researchers) during the Covid related shutdowns and has organised on-line events to promote networking and support in the form of an on-line lecture series for the European Glycoscience community (<https://carbomet.eu/egc-webinar/>) and two Gordon Research Connect Events (Sept 2020 & January 2021) in Biocatalysis (co-host with Birgit Kosjek, Merck).

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### Selected Major Invited Lectures (since 2015)

#### 2021

- September Invited Lecture - Beilstein Symposium on Enzymology, Germany  
Invited Lecture - Biotech meets Medicine Conference, GlycoNet, Germany  
Invited Lecture – INNOGLY cost action meeting, Crete, Greece
- August Invited Lecture 3<sup>rd</sup> Aachen Protein Engineering Symposium AcES2021
- July Plenary lecture XVII CSCC meeting, Pontignano, Italy
- June Invited Lecture, Warren workshop, Grenoble  
Invited Lecture, Spanish Biocatalysis Society
- April Seminar at GSK, Stevenage
- March Plenary lecture Women's IQCC forum, Girona, Spain
- February Invited lecture GlycoNet/ACS joint seminar
- January Invited Lecture, Frontiers in Carbohydrates Symposium, NIH, USA  
Moderator GRC Connects: Innovation by Evolution

#### 2020

*(a number of lecture invitations were postponed because of Coronavirus: Ferrier Lectures, NZ / MECP2020 in Aachen | Buergenstock)*

- November Seminar at Oxford University
- September EMBL workshop on Chemical Biology, Heidelberg, Germany (on-line)
- August Seminar at MPI, Golm, Germany (on-line)
- February Seminar at Imperial College, London
- January RSC Chemical Biology and Bio-Organic Chemistry Group Forum (Keynote)

#### 2019

- December Plenary lecture Mercia meeting, Wolverhampton  
Plenary lecture at Winter Processing Conference, Birmingham, UK
- October Keynote at COST action, INNOGLY, Santiago di Compostella, Spain  
CBID Council RSC meeting, Manchester, UK  
Seminar, KTH Stockholm, Sweden
- September Keynote EFMC-ASMC'19 meeting Athens, Greece
- July Plenary, EuroCarb, Leiden, NL
- June Keynote ICCP450, Brisbane, Australia  
Invited lecture GRC Carbohydrates, Hong Kong  
Keynote Human Glycome Meeting, Split, Croatia
- March Keynote VAAM conference, Mainz, Germany  
Invited Lecture GRC Glycobiology, Italy
- February Keynote LS2 Annual Meeting, Zuerich, Switzerland
- January Plenary, Catalysis Hub Meeting, Loughborough, UK

#### 2018

- November Plenary III SiLaByB, San Louis, Argentina  
Keynote Glycobiology Meeting, New Orleans, USA
- October Keynote Glycobiology Meeting Bruges, Belgium  
Wilson Baker Lecture, Bristol
- September Seminar, University of Naples, Italy
- August Keynote EUCHEM meeting Liverpool  
Invited ACS Meeting, Boston, USA
- July Plenary International Carbohydrate meeting Lisbon, Portugal  
Keynote GRS in Biocatalysis, Biddeford, USA
- June Keynote, Organic Chemistry Symposium, Tartu, Estonia

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May Seminar University of Girona, Spain  
Seminar Cermav, Grenoble, France  
Keynote ESBOC meeting, Gregynog, UK  
March Burton Lecture, Kings College London  
Keynote ACS meeting, New Orleans, USA

#### 2017

December Keynote 'Khorana symposium, Chandigarh, India  
November Seminar, The University of Queensland, Australia  
Seminar UMIT, Melbourne, Australia  
October Seminar Pharmaceutical University Nanjing  
Seminar Estaren University, Shanghai  
July Invited lecture FEMS meeting Valencia  
June Plenary lecture Carbohydrate symposium Bratislava  
Invited lecture Beilstein Symposium, Berlin, Germany  
February Seminar, Norwich University

#### 2016

July Invited Lecture, Society for Industrial Microbiology and Biotechnology (SIMB)  
New Orleans, USA  
Invited Lecture, GRC Biocatalysis, Biddeford USA  
Keynote, IUPAC Meeting, Sydney, Australia  
May Plenary, Cardiff chemistry symposium, UK  
March Invited lecture, Meeting on Biocatalysis, Schwarzenberg, Austria  
February Keynote, Meeting on Heterocyclic Chemistry, Florida, USA  
January Seminar, Agricultural University of Nanjing, China

#### 2015

December Invited lecture, Pacificchem, Hawaii, USA  
November Seminar, A-star Singapore  
October Invited lecture, Forschungszentrum Juelich, Germany  
June Invited Lecture, Beilstein Symposium, Berlin, Germany  
April RSC lecture, UC Dublin, Ireland  
March Invited Lecture GSK conference, Stevenage  
January Seminar University of Oxford, Oxford UK