

Curriculum Vitae
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Geert-Jan Boons

UGA Foundation Distinguished Professor in Biochemical Sciences

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Professor and Chair

Utrecht University
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<https://www.uu.nl/en/research/chemical-biology-and-drug-discovery>

Date of Birth April 7, 1962 (Oisterwijk, The Netherlands)

Education

- 1987 First Degree (equivalent to M.Sc.), Chemistry, State University of Leiden (Netherlands)
1991 Ph.D., Synthetic Carbohydrate Chemistry, State University of Leiden (Netherlands),
advisor Prof. J.H. van Boom
Thesis: An approach towards the development of a synthetic vaccine against *Neisseria meningitidis*
1991-1992 Postdoctoral Research Assistant, with Prof. S.V. Ley, Imperial College, London (United Kingdom)
1992-1993 Postdoctoral Research Assistant, with Prof. S.V. Ley, University of Cambridge (United Kingdom)

Professional Experience

- 1987-1988 Research Scientist, Department of Research and Development, N.V. Organon, Oss (Netherlands)
1993-1997 Lecturer, Bioorganic Chemistry, University of Birmingham (United Kingdom)

- 1997-1998 Professor, Bioorganic Chemistry, University of Birmingham (United Kingdom)
- 1998-present Professor, Complex Carbohydrate Research Center and Department of Chemistry, University of Georgia, Athens (USA)
- 2004-2013 Appointed *Franklin Professor of Chemistry*, Franklin College of Arts and Sciences, University of Georgia
- 2006 Visiting Professor, Université de Picardie Jules Verne, Amiens (France)
- 2013-present Appointed *UGA Foundation Distinguished Professor in Biochemical Sciences*, Franklin College of Arts and Sciences, University of Georgia
- 2015-present Professor and Chair, Chemical Biology and Drug Discovery, Departments of Pharmaceutical Sciences and Chemistry, Faculty of Sciences, Utrecht University (Netherlands)

Honors and Awards

- 1991-1993 Ramsay Memorial Fellowship
- 2001 Elected co-chair, 2003 Gordon Research Conference on Carbohydrate
- 2003 Carbohydrate Research Award for Creativity in Carbohydrate Science, European Carbohydrate Organisation at EuroCarb 2003
- 2003 Elected chair, 2005 Gordon Research Conference on Carbohydrate
- 2004 Northeast Georgia American Chemical Society (NEGACS) Chemist of the Year Award for Research
- 2004 Horace S. Isbell Award, Division of Carbohydrate Chemistry, American Chemical Society
- 2004 Appointed *Franklin Professor of Chemistry*, Franklin College of Arts and Sciences, University of Georgia
- 2012 Creative Research Inventor's Award, University of Georgia Research Foundation
- 2013 Appointed *UGA Foundation Distinguished Professor in Biochemical Sciences*, Franklin College of Arts and Sciences, University of Georgia
- 2014 Roy L. Whistler International Award in Carbohydrate Chemistry, International Carbohydrate Organization (ICO)
- 2015 Lamar Dodd Creative Research Award, University of Georgia Research Foundation
- 2015 Claude S. Hudson Award, Division of Carbohydrate Chemistry, American Chemical Society
- 2016 Arthur C. Cope Mid Career Scholars Award, Arthur C. Cope Fund, American Chemical Society

Professional Service

- 1994-1998 Member of the Safety Committee of the School of Chemistry, University of Birmingham (United Kingdom)
- 1995-1998 Member of the Biotechnology Executive Group of the University of Birmingham (United Kingdom)
- 1997-1999 Member of the Engineering and Physical Sciences Research Council (EPSRC), College for Synthetic and Biological Research (United Kingdom)
- 1999-2009 Editorial Board Member, *Carbohydrate Research*
- 2001-present Editorial Board Member, *Journal of Carbohydrate Chemistry*
- 2001 Search Committee for Pharmacy Department Head, University of Georgia

- 2001-2005 Ad Hoc NIH Study Sections: Med Chem A, Bioorganic and Natural Products Chemistry, Innate Immunity and Inflammation, Immunity and Host Defense, Drug Development & Delivery, Synthetic and Biological Chemistry-A
- 2003-present Executive Committee Member, Carbohydrate Division of American Chemical Society
- 2004-present Member of the Center for Drug Discovery, College of Pharmacy, University of Georgia
- 2004 Chair of Search Committee for Assistant Professor of Chemistry, Chemistry Department, University of Georgia
- 2004 Chair of Search Committee for Assistant Professor, Complex Carbohydrate Research Center, University of Georgia
- 2004-present Editorial Board Member, *Advances in Carbohydrate Chemistry and Biochemistry*
- 2005-2008 Permanent Member, Synthetic and Biological Chemistry A NIH Study Section
- 2007-present Member of the University of Georgia Cancer Center
- 2007-2012 Steering Committee Member, Consortium for Functional Glycomics (CFG)
- 2008-present Member of the Nanoscale Science and Engineering Center (NanoSEC), University of Georgia
- 2008-present Editorial Board Member, *Glycoconjugate Journal*
- 2008-present Executive Committee Member, Complex Carbohydrate Research Center, University of Georgia
- 2008-2010 Member of the Lamar Dodd Creative Research Award Selection Committee, University of Georgia
- 2010-2011 Member of National Academies of Science (NAS) Task Group on Assessing the Importance of Glycomics and Glycosciences
- 2011-2014 International Advisory Board Member, *European Journal of Organic Chemistry*
- 2011-2017 Scientific Advisory Board Member, Alberta Ingenuity Centre for Carbohydrate Science (AICCS)
- 2011-2012 Member of National Academies of Science (NAS) Committee on Assessing the Importance and Impact of Glycomics and Glycosciences
(Report: *Transforming Glycoscience: A Roadmap for the Future*;
http://www.nap.edu/catalog.php?record_id=13446)
- 2011 Founder of ViaMune, Inc
- 2012-2014 Scientific Advisor, SCYNEXIS, Inc
- 2012-2018 Leader of the Subgroup ‘Glycan Synthesis and Microarrays’ of the Consortium for Functional Glycomics (CFG) and CFG Steering Committee member
- 2012-present Associate Director of External Affairs, Complex Carbohydrate Research Center, University of Georgia
- 2013-present Scientific Advisory Board Member, Institute for Chemical Immunology (ICI) (Netherlands)
- 2013-present Editorial Board Member, *Carbohydrate Research*
- 2014 & 2016 Member of the PE5–Synthetic Chemistry and Materials Starting Grant Evaluation Panel of the European Research Council (ERC)
- 2014-present Treasurer of the American Chemical Society (ACS) Carbohydrate (CARB) Division
- 2015-present Advisory Board Member, Amphastar Pharmaceuticals, Inc
- 2015-2019 Scientific Advisory Board Member, Kaleido Biosciences
- 2015-present Program Leader, Utrecht Institute of Pharmaceutical Sciences, Utrecht University
- 2015-present Executive Board Member, Bijvoet Center for Biomolecular Research, Utrecht University
- 2017-present Scientific Advisory Board Member, Multidisciplinary European Joint Doctorate in the Design and Development of Glyco Drugs (PhD4GlycoDrug ITN consortium)

- 2019-2020 Scientific Advisor, Mersana Therapeutics, Inc
2020-present Scientific Advisory Board Member, Aviceda Therapeutics
2021 Chemical Synthesis Program ‘SYN-Biomolecules’ Panel Member of the National Science Foundation (NSF)
2021-present Editorial Board Member, *Glycobiology*

Conferences/Symposia Organized

- RSC Symposium, New Directions in Organic and Bioorganic Chemistry, School of Chemistry, University of Birmingham (United Kingdom) December 10, 1996: Chair
RSC Spring Meeting of the Carbohydrate Group: Synthesis, Structure and Function, School of Chemistry, University of Birmingham (United Kingdom) March 29-April 1, 1998: Chair
Gordon Research Conference on Carbohydrates, Tilton School, NH (USA) June 19-24, 2005: Chair
Symposium ‘Carbohydrate Recognition Mechanisms and Applications’ at the 231st National Meeting of the American Chemical Society, Chemistry Division of Carbohydrates, Atlanta, GA (USA) March 26-27, 2006: Co-organizer
Georgia Glycoscience Symposia, Complex Carbohydrate Research Center, University of Georgia, Athens, GA (USA) May 12, 2005; May 18, 2006; May 8, 2007; May 16, 2008; April 28, 2015: Co-organizer
Symposium ‘Synthetic Oligosaccharides and Glycoconjugates for Preventing and Combating Disease’ at the 240th National Meeting & Exposition of the American Chemical Society, Boston, MA (USA) August 23, 2010: Co-organizer
Symposium ‘Carbohydrate Recognition in Health and Disease’ at the 2010 Pacificchem Conference, Honolulu, HI (USA) December 15-20, 2010: Co-organizer
Georgia Glycoscience Symposium and CFG Workshop, Paradigms for Glycan Action in Development and Disease, Complex Carbohydrate Research Center, University of Georgia, Athens, GA (USA) March 14-15, 2011: Co-organizer
Symposium ‘Glycoscience at the Crossroad of Health, Materials, and Energy’ at the 244th ACS National Meeting, Philadelphia, PA (USA) August 21-22, 2012: Co-organizer
2013 International Symposium on Chemical Glycobiology, Consortium for Functional Glycomics (CFG) and the Chinese Academy of Sciences (CAS), Shanghai (China) June 29-July 1, 2013: Co-organizer
The 27th International Carbohydrate Symposium, Indian Institute of Science, Bangalore (India) January 12-17, 2014: Scientific Programme Committee member
CFG Workshop in Molecular and Cellular Glycoscience, ‘Exploring the Frontiers of Chemical Glycoscience’, Bethesda, MD (USA) May 19-20, 2014: Co-organizer
Symposium ‘Carbohydrate Recognition in Health and Disease’ at Pacificchem 2015, Honolulu, HI (USA) December 15-20, 2015: Co-organizer
Symposium ‘Synthesis of Carbohydrates, Glycoconjugates & Glycan-Based Biomaterials’ at the XXVIII International Carbohydrate Symposium (ICS 2016), New Orleans, LA (USA) July 18-19, 2016: Co-organizer
Symposium ‘Enzymes in Glycoscience’ at the 256th ACS National Meeting & Exposition, Boston, MA (USA) Aug 19-23, 2018: Co-organizer
Eurocarb XX, Leiden (Netherlands) June 30-July 4, 2019: Local Organising Committee member

Professional Societies

- 1986-present Royal Dutch Society of Chemistry (KNCV)
2000-present American Chemical Society (ACS)
2001-present American Association for the Advancement of Science (AAAS)
2002-present Society for Glycobiology
2006-2016 American Society for Microbiology (ASM)

Teaching

- 1993-1994 Third Year Chemistry, Stereoselective Synthesis (7 Lectures)
Postgraduate Workshop, Modern Synthetic Methods (12 Lectures)
- 1994-1995 Third Year Chemistry, Stereoselective Synthesis (7 Lectures and 3 Tutorials)
Bioorganic Chemistry for Biochemistry Students (8 Lectures)
Natural Product Synthesis (3 Lectures)
Postgraduate Workshop, Modern Synthetic Methods (3 Lectures)
Demonstrator to Second Year Organic Practical (35 hours)
- 1995-1996 Third Year Chemistry, Stereoselective Synthesis (7 Lectures and 3 Tutorials)
Second Year Biochemistry, Bioorganic Chemistry (8 Lectures)
Third Year Chemistry, Protein Chemistry (7 Lectures and 2 Tutorials)
Third Year Chemistry, Carbohydrate Chemistry (13 Lectures and 2 Tutorials)
Third Year Chemistry, Natural Product Synthesis (3 Lectures and 1 Tutorials)
Postgraduate Workshop, Modern Synthetic Methods (3 Lectures)
Demonstrator to Second Year Organic Practical (35 hours)
- 1996-1997 Third Year Chemistry, Stereoselective Synthesis (12 Lectures and 3 Tutorials)
Second Year Biochemistry, Bioorganic Chemistry (11 Lectures)
Third Year Chemistry, Protein Chemistry (7 Lectures and 2 Tutorials)
Third Year Chemistry, Carbohydrate Chemistry (13 Lectures and 2 Tutorials)
- 1997-1998 Third Year Chemistry, Stereoselective Synthesis (12 Lectures and 3 Tutorials)
Second Year Biochemistry, Bioorganic Chemistry (11 Lectures)
Third Year Chemistry, Protein Chemistry (7 Lectures and 2 Tutorials)
Third Year Chemistry, Carbohydrate Chemistry (9 Lectures and 2 Tutorials)
Third Year Chemistry, Bioorganic chemistry (15 Lectures)
- 1998-1999 Organic Synthesis (Chemistry 8320), Graduate Course (3 credits)
- 1999-2000 Organic Spectroscopy (Chemistry 8340), Graduate Course (3 credits)
- 2000-2001 Organic Synthesis (Chemistry 8320), Graduate Course (3 credits)
- 2001-2002 Organic Chemistry Seminar (Chemistry 8130), Graduate Course (1 credit)
- 2002-2003 Organic Synthesis (Chemistry 8320), Graduate Course (3 credits)

- 2003-2004 Organic Chemistry Seminar (Chemistry 8130), Graduate Course (1 credit)
Organic Synthesis (Chemistry 8320), Graduate Course (3 credits)
- 2004-2005 Organic Chemistry Seminar (Chemistry 8130), Graduate Course (1 credit)
Organic Synthesis (Chemistry 8320), Graduate Course (3 credits)
- 2005-2006 Organic Chemistry Seminar (Chemistry 8130), Graduate Course (1 credit)
Organic Synthesis (Chemistry 8320), Graduate Course (3 credits)
- 2006-2007 Carbohydrate Chemistry and Biology (Chemistry 8390), Graduate Course (3 credits)
- 2008-2009 Carbohydrate Chemistry and Biology (Chemistry 8390), Graduate Course (3 credits)
- 2010-2011 Organic Synthesis (Chemistry 8320), Graduate Course (3 credits)
- 2011-2012 Carbohydrate Chemistry and Biology (Chemistry 8390), Graduate Course (3 credits)
- 2013-2014 Organic Synthesis (Chemistry 8320), Graduate Course (3 credits)
- 2015-2016 Carbohydrate Chemistry and Biology (Chemistry 8390), Graduate Course (3 credits)
- 2016-2017 Organic Chemistry 2 (Lectures and Tutorials)
- 2017-2018 Carbohydrate Chemistry and Biology (Chemistry 8390), Graduate Course (3 credits)
Organic Chemistry 2 (Lectures and Tutorials)
Future Medicine
- 2018-2019 Organic Chemistry 2 (Lectures and Tutorials)
Future Medicine
Advanced Organic Synthesis (Lectures and Tutorials)
- 2019-2020 Organic Chemistry 2 (Lectures and Tutorials)
Future Medicine
Advanced Organic Synthesis (Lectures and Tutorials)
- 2020-2021 Carbohydrate Chemistry and Biology (Chemistry 8390), Graduate Course (3 credits)
Organic Chemistry 2 (Lectures and Tutorials)
Future Medicine
Advanced Organic Synthesis (Lectures and Tutorials)
CPS Organic Chemistry

Postdoctoral Associates Supervised

Anita van Oijen	1994-1997	Maria Esther Arranz-Plaza	1998-2001
Alexei Demchenko	1995-2001	Richard Geurtsen	1998-2001
Barbra Heskamp	1995-1996	Andre Venot	1998-2015
Thomas Stauch	1995-1996	Edwin Yates	1998
Wallace Macindoe	1996-1998	Tong Zhu	1998-2002

Hailong Jiao	1999-2000	Bhahwal Ali Shah,	
Gregory Watt	1999-2002	Visiting 2011 Indo-US Research	
Therese Buskas	2000-2010	Fellow, Indian Institute of	
Nikrad Pandurang	2000-2001	Integrative Medicine (India)	2011-2012
Aloysius Siriwardena,		Lin Liu	2012-present
Visiting Professor, CNRS,		Rajib Panchadhayee	2012-2015
University of Paris (France)	2000-2002	Sourav Sarkar	2012-2014
Shaji George	2001-2002	Qi Gao	2012-2016
Hammad Hassan,		Min Huang	2013-2015
Visiting Profesor, University		Yongjiang Wang,	
of Cairo (Egypt)	2001-2002	Visiting Professor, Zhejiang	
Bing Li	2001-2004	University of Science and	
Jin-Hwan Kim	2002-2007	Technology (China)	2013
Quangbin Yang	2002-2005	Chantelle Capicciotti	2014-2018
Jun Guo	2003-2012	Anju Sirohiwal	2014-2015
Sanjay Kumar	2003-2005	Ning Ding,	
Hyi-Seung Lee	2004-2005	Visiting Professor, Fudan	
Hui Lui	2004-2005	University, Shanghai (China)	2014-2016
Jana Rauvolfova	2004-2008	Maria Jesus Moure Garcia	2015-2019
Margreet Wolfert	2004-present	Pradeep Chopra	2015-present
Xiangming Zhu	2005-2006	Tiehai Li	2015-2019
Michael DeCastro	2006-2008	Yukun Qin,	
Galal Elsayed,		Visiting Professor, IOCAS,	
Visiting Lecturer,		Qingdao, Shandong (China)	2015-2016
University of Cairo (Egypt)	2006	Oier Aizpurua Olaizola,	
Robert Scott McGavin	2006	Visiting Scientist, University	
Xiuru Li	2007-2020	Basque Country (Spain)	2016
Kaustabh Maiti	2007-2009	Postdoc	2017-2018
Floris van Delft,		Nuria Martínez Sáez	2016-2019
Visiting Professor, University		Victor Somovilla	2017-2019
of Nijmegen (Netherlands)	2008	Yugen Zhu	2016-2019
Frederic Friscourt	2008-2014	Anthony Prudden	2017-present
Chunxia Li,		Justin Ragains,	
Visiting Lecturer, Ocean		Visiting Professor, Louisiana	
University of China, Qingdao,		State University (USA)	2019
Shandong (China)	2008-2009	Luca Unione	2019-2020
Kai-For Mo	2009-2012	Julia Weber	2019-2020
Dinanath Fulse	2009-2010	Nino Trattinig	2019-2020
Zhen Wang	2009-2011	Shaofu Du	2019-2021
Abu-Baker Abdel-Aal El-Sayed	2010-2013	Jiabin Zhang	2020-2021
Nagesh Kolishetti	2010-2014	Qiang Liu	2020-2021
Ernest Nolen,		Ana Gimeno	2020-present
Visiting Professor, Colgate		Anna Ehlers	2021-present
University, Hamilton NY (USA)	2011	Cristina Bueno Diaz	2021-present
Sophon Kaeothip	2011		

Graduate Students Supervised

Steven Isles, Ph.D.	1993-1996	Yanghui Zhang, Ph.D.	2002-2007
Andrew Burton, Ph.D.	1994-1997	Wei Zhong, Ph.D.	2002-2007
Robert Eveson, Ph.D.	1994-1997	Vishal Khot, M.Sc.	2003-2007
Richard Geurtsen, Ph.D.	1994-1998	Alok Mehta, Ph.D.	2003-2008
Robin Gibson, Ph.D.	1994-1998	James Neves, M.Sc.	2003-2008
Tiina Kärkkäinen, M.Sc.	1994-1996	Xinghai Ning, Ph.D.	2003-2008
Anne Keromnes, M.Sc.	1994-1997	Mahalakshmi Vasani, Ph.D.	2003-2008
Nathalie Navarre, Ph.D.	1994-1998	Jinkeng Asong, Ph.D.	2004-2009
Simeon Bowers, Ph.D.	1995-1998	Jidnyasa Gaekwad, Ph.D.	2004-2009
Sander Henzing, Visiting Student	1995-1996	Monique Phillips, M.Sc.	2004-2008
Floris Hout, Visiting Student	1995-1996	Sailaja Arungundram, Ph.D.	2005-2010
Mathew Johnson, Ph.D.	1995-1998	Shailesh Ambre, Ph.D.	2005-2012
Frank Reichel, Ph.D.	1995-1998	Srinivasa Koutha, Ph.D.	2005-2013
Tong Zhu, Ph.D.	1995-1998	Yusuf Vohra, Ph.D.	2005-2010
Gianluca Belogi, Ph.D.	1996-2000	Thomas Boltje, Visiting Student	2005-2006
Christopher Clarke, Ph.D.	1996-2000	Ph.D.	2006-2011
Michael Haller, Ph.D.	1996-2001	Jessica Cardot, Ph.D.	2006-2011
Petri Setälä, M.Sc.	1996	Matthew Foote, M.Sc.	2006-2010
Nicolas Amiot, Ph.D.	1997-2001	Pamela Thompson, Ph.D.	2006-2011
Christelle Arles, M.Sc.	1997	Qinghui Wang, Visiting Student	2007-2008
Yu Bai, Ph.D.	1997-2000	Kanar Al-Mafraji, Technician	2007-2011
Martin McWatt, Ph.D.	1997-2000	Roshan Baliga, Ph.D.	2007-2013
Cristina De Meo, Ph.D.	1998-2001	Omkar Dhamale, Ph.D.	2007-2013
Galal Elsayed, Ph.D.	1998-2003	Petr Ledin, Ph.D.	2007-2013
Carmen Galan-Hurtado, Ph.D.	1998-2002	Ngalle Eric Mbua, Ph.D.	2007-2012
Smita Thobhani, Ph.D.	1998-2001	Radha Sardar, Ph.D.	2007-2012
Paul Dietzel, M.Sc.	1999-2002	Krajang Talabnin, Visiting Student	2007-2008
Brian Ember, Ph.D.	1999-2006	Abu-Baker Abdel-Aal El-Sayed, Visiting Student	2008
Debatosh Majumdar, Ph.D.	1999-2004	Zoeisha Chinoy, Ph.D.	2008-2014
Malene Ryborg Jørgensen, Visiting Student	1999-2000	Tao Fang, Ph.D.	2008-2014
Balaji Santhanam, Ph.D.	1999-2004	Brian Sanders, Postgraduate	2008-2010
Christopher Dodson, M.Sc.	2000-2005	Huiquig Li, Technician	2009-2012
Yanhong Li, Ph.D.	2000-2004	Ye Ji, Postgraduate	2009-2012
Abhijit Roychowdhury, Ph.D.	2000-2005	Josette Wilkes, Ph.D.	2009-2016
Charles Stanton, M.Sc.	2000-2004	Wei Huang, Ph.D.	2010-2016
David Cato, M.Sc.	2001-2005	Anthony Prudden, Ph.D.	2010-2016
Sameer Kawatkar, Ph.D.	2001-2006	Nitin Supekar, Ph.D.	2010-2016
Douglas Miller, Ph.D.	2001-2008	Chengli Zong, Ph.D.	2010-2016
Arati Prabhu, M.Sc.	2001-2004	Loek Eggermont, Visiting Student	2011
Hai Yang, M.Sc.	2001-2006	Qi Gao, Visiting Student	2011-2012
Sampat Ingale, Ph.D.	2002-2007	Robert Chapman, Ph.D.	2011-2017
Jin Park, Ph.D.	2002-2009	Manish Hudlikar, Ph.D.	2011-2017
Yu Rao, Ph.D.	2002-2007		

Apoorva Joshi, Ph.D.	2011-2018	Xianke Meng, Ph.D.	2016-present
Tiantian Sun, Ph.D.	2011-2017	Lifeng Sun, Ph.D.	2016-present
Nuria Martínez Sáez, Visiting Student	2012	Liangwei Zhang, Ph.D.	2016-present
Apoorva Srivastava, Ph.D.	2012-2021	Ashley Carter, Ph.D.	2017-present
Melanie Edlin, Postgraduate	2013-2015	Gerlof Bosman, Ph.D.	2017-present
Weiyu Li, Postgraduate	2013-2015	Gael Vos, Ph.D.	2017-present
Zeshi Li, Ph.D.	2013-present	Sayani Chowdhury, Postgraduate	2017-2019
Weigang Lu, Ph.D.	2013-2018	Yanyan Liu, Ph.D.	2017-present
Ivan Gagarinov, Ph.D.	2014-2020	Xiufen Liu, Technician	2017-2020
Alexandra Walker, M.Sc.	2014-2016	Yunfei Wu, Ph.D.	2018-present
Kun Yuan, Ph.D.	2014-2020	Pengfei Xuan, PhD	2019-present
Huzi Sun, Ph.D.	2014-2019	Shengzhou Ma, Visiting CSC student	2019-2021
Mehman Bunyatov, Ph.D.	2015-present	Francesco Palmieri, Ph.D.	2019-present
Ingrid t' Hart, Ph.D.	2015-2020	Zhiyong Zhang, Ph.D.	2019-present
Fan Yi, Visiting Student	2015	Yujie Ma, Ph.D.	2019-present
Frederik Broszeit, Visiting Student	2015-2016	Igor Sweet, Ph.D.	2020-present
Ph.D.	2016-2021	Kyle Minder, Ph.D.	2020-present
Shubham Sharma, Postgraduate	2015-2017	Dahai Ding, PhD	2020-present
Enrico Verpalen, M.Sc.	2016-2018	Elif Uslu, Technician	2020-present
Ph.D.	2018-present	Jelle Fok, Ph.D.	2021-present
Na Wei, Technician	2016-2019	Hans Bastiaansen, Technician	2021
Dushen Chen, Ph.D.	2016-present	Bart Straten	2022-present
Minglong Liu, Ph.D.	2016-2021	Patrycja Lenartowicz	2022-present

Lectures/Seminars (from 1993, in reverse chronological order)

- 319 November 18-19, 2021 New Frontiers Symposium on Translational Glycoscience, Radboud University, Nijmegen (Netherlands)
Invited lecture **Synthetic *O*-acetylated sialosides facilitate functional receptor identification for human respiratory viruses**
- 318 October 26, 2021 IMM colloquium, Institute for Molecules and Materials, Radboud University, Nijmegen (Netherlands)
Seminar **Chemo-enzymatic synthesis of complex glycans to probe host-guest interactions**
- 317 September 27-29, 2021 INNOGLY "GlycosAminoGlycans: What remains to be solved?", Hybrid Symposium, University of Crete, Heraklion (Greece)
Invited lecture **3-*O*-Sulfation of heparan sulfate modulates protein binding and lyase degradation**
- 316 August 24, 2021 ACS Fall 2021 National Meeting & Exposition, Atlanta, GA (USA)
Invited lecture **Synthetic HS oligosaccharides to dissect the importance of 3-*O*-sulfation to modulates protein binding and lyase degradation**
- 315 July 6-7, 2021 NIH Common Fund Glycoscience Program, via Zoom, Bethesda, MD (USA)
Presentation **Chemoenzymatic synthesis of *Campylobacter jejuni* lipooligosaccharide core domains to examine Guillain-Barré syndrome serum antibody specificities**

- 314 June 17, 2021
Seminar Summer Course ‘Glycoscience’, Wageningen (Netherlands)
Enzymes for the synthesis of glycans and glycoconjugates
- 313 June 16, 2021
Presentation European Glycoscience Community (EGC) meeting
Glycoscience a new frontier in drug discovery: Scalable manufacturing and synthesis aspects
- 312 April 5, 2021
Invited lecture ACS Spring 2021 National Meeting & Exposition via Zoom (USA)
Chemo-enzymatic synthesis of N-glycans for host-guest interactions
- 311 March 18, 2021
Seminar Drug Innovation Master course, Utrecht (Netherlands)
Complex glycans in health and disease
- 310 February 26, 2021
Invited lecture Indian/International Carbohydrate E-Meeting (ICarE) via Zoom (India)
Functional glycomics through chemoenzymatic synthesis
- 309 January 29, 2021
Invited lecture NIH Common Fund Glycoscience Program symposium ‘Frontiers in Carbohydrate Synthesis’ via Zoom, Bethesda, MD (USA)
Chemo-enzymatic synthesis of O-acetylated sialosides for host-guest interactions
- 308 January 26, 2021
Seminar National Institute of Standards and Technology (NIST), via WebEx (USA)
Complex glycans in health and disease
- 307 January 6, 2021
Seminar Canadian Glycomics Network (GlycoNet) and ACS Carbohydrate Division, Joint Webinar
Probing receptor and co-receptor specificities of coronaviruses using chemo-enzymatic synthesis and glycoarray technology
- 306 November 9-12, 2020
Keynote lecture 2020 Annual Meeting of the Society For Glycobiology, Online (USA)
Automated chemo-enzymatic synthesis of complex glycans offers opportunities for flu surveillance
- 305 October 23, 2020
Seminar Hunter College (via Zoom) NY (USA)
Functional glycomics through chemoenzymatic synthesis
- 304 September 18, 2020
Invited lecture NIH Common Fund Glycoscience Program workshop ‘The Biology of Glycosaminoglycans in Health & Disease’ via WebEx, Bethesda, MD (USA)
3-O-Sulfation of heparan sulfate modulates protein binding and lyase degradation
- 303 August 17-20, 2020
Invited lecture ACS Fall 2020 Virtual Meeting & Expo, San Francisco, CA (USA)
Automated chemo-enzymatic synthesis of complex glycans offering opportunities for flu surveillance
- 302 June 16-17, 2020
Presentation NIH Common Fund Glycoscience Program, via WebEx, Bethesda, MD (USA)
Streamlining the chemoenzymatic synthesis of asymmetrical glycans of biological importance
- 301 May 1, 2020
Invited lecture NIH CF-GSP Workshop ‘Coronaviruses, SARS-CoV-2, & Glycans’ via WebEx, Bethesda, MD (USA)
Probing receptor and co-receptor specificities of betacoronaviruses using glycoarrays

- 300 January 22-24, 2020 2020 International Symposium on Chemical Biology, Geneva (Switzerland)
Invited lecture **Complex glycans in health and disease**
- 299 December 11, 2019 Session ‘Glycans: Structure, Analysis and Synthesis’ at Dutch Chemistry meeting CHAINS, Veldhoven (Netherlands)
Invited lecture **An automated platform for the chemoenzymatic assembly of complex oligosaccharides**
- 298 December 10, 2019 Bossche Chemische Kring, Den Bosch (Netherlands)
Invited lecture **Cell surface glycans and glycoconjugates: from cancer vaccine development to flu surveillance**
- 297 December 9, 2019 Emil Fischer Symposium, Berlin (Germany)
Invited lecture **Making complex glycan synthesis easy**
- 296 November 12, 2019 Symposium "Next Challenge – Impact of Glycosylation", Lund (Sweden)
Invited lecture **Making complex glycan synthesis easy**
- 295 September 26, 2019 Celebration of the 90th birthday of Prof. Miloslav Cerny, Charles University, Prague (Czech Republic)
Invited lecture **Complex glycans in health and disease**
- 294 September 25, 2019 Czech Academy of Science, Prague (Czech Republic)
Invited lecture **Deconstructing and reconstructing heparan sulfate**
- 293 September 12, 2019 University of Twente, Enschede (Netherlands)
Seminar **Glycan complexity and biological recognition**
- 292 August 29, 2019 Center for Biotechnology and Genomic Medicine, Medical College of Georgia, Augusta University, Augusta, GA (USA)
Seminar **Functional glycomics through chemical approaches**
- 291 July 3-5, 2019 55th International Conference on Medicinal Chemistry (RICT), Nantes (France)
Plenary lecture **Complex glycans in health and disease**
- 290 June 23-28, 2019 Gordon Research Conference 2019 Carbohydrates, Hongkong (China)
Invited lecture **Streamlining the chemoenzymatic synthesis of highly complex branched glycans**
- 289 June 9-13, 2019 ISOS 2019 - "A. Corbella" International Summer School on Organic Synthesis, Gargnano (Italy)
Lecture **Enzymes for the synthesis of glycans and glycoconjugates**
- 288 May 29-30, 2019 NIH Common Fund Glycoscience Program, Bethesda, MD (USA)
Presentation **Streamlining the chemoenzymatic synthesis of asymmetrical glycans of biological importance**
- 287 March 31-April 4, 2019 ACS Spring 2019 National Meeting & Exposition, Orlando, FL (USA)
Invited lecture **Streamlining the chemoenzymatic synthesis of complex N-glycans by a stop-and-go strategy**
- 286 March 10-15, 2019 Glycobiology Gordon Research Conference, Lucca-Barga (Italy)
Invited lecture **Chemical ways to complex glycans**
- 285 January 28-30, 2019 GlycoBioTec2019, Berlin (Germany)
Keynote lecture **Chemo-enzymatic approaches for the preparation of highly complex glycans of biological importance**

- 284 December 5, 2018 Mersana Therapeutics, Cambridge, MA (USA)
Seminar **Glycan complexity and biological recognition**
- 283 November 12-16, 2018 14th International Kyoto Conference on New Aspects of Organic Chemistry (IKCOC-14), Kyoto (Japan)
Invited lecture **Automation of enzymatic mediated synthesis of complex oligosaccharides of biological importance**
- 282 October 3-6, 2018 Joint 2nd GlycoCom 2018 and 1st Human Glycome Project Meeting, Dubrovnik (Croatia)
Plenary lecture **Functional glycomics through cell surface glyco-editing**
- 281 September 10, 2018 Symposium: Human Milk Oligosaccharides “Mama’s Sweet Immunological Secrets”, Utrecht (Netherlands)
Lecture **Complexity of human milk oligosaccharides and biological function**
- 280 August 21, 2018 256th ACS National Meeting & Exposition, Boston, MA (USA)
Invited lecture **Glycan complexity and biological recognition**
- 279 July 2, 2018 NIH Common Fund Glycoscience Program, Bethesda, MD (USA)
Presentation **Streamlining the chemoenzymatic synthesis of asymmetrical glycans of biological importance**
- 278 June 27, 2018 GLYCOTREAT consortium annual meeting, Oegstgeest (Netherlands)
Keynote lecture **Deconstructing and reconstructing heparan sulfate**
- 277 June 7-8, 2018 CarboMet workshop ‘The Role of Carbohydrates in the Gut Microbiome’, Brussels (Belgium)
Presentation **Chemoenzymatic synthesis of human milk oligosaccharides**
- 276 May 29, 2018 InnoSyn, Geleen (Netherlands)
Seminar **Streamlining complex carbohydrate synthesis through enzymatic procedures**
- 275 May 23, 2018 Leiden University Medical Center (LUMC), Leiden (Netherlands)
Seminar **Functional glycomics using synthetic glycans**
- 274 May 3, 2018 1st International Symposium on Glycovirology 2018, Schöntal (Germany)
Keynote lecture **Cell-surface glyco-engineering to reveal functional receptors for Lassa virus**
- 273 April 23, 2018 12th Georgia Glycoscience Symposium, Georgia State University, Atlanta, GA (USA)
Invited lecture **Functional glycomics through cell surface glyco-editing**
- 272 March 20, 2018 Session ‘Recent Advances in Catalytic Carbohydrate Reaction Development’ at the 255th ACS National Meeting, New Orleans, LA (USA)
Invited lecture **Cell-surface glyco-engineering using sialyl transferases and modified CMP-Neu5Ac derivatives**
- 271 March 19, 2018 Session ‘Frontiers in Glycoscience, Bridging the Gap Between Carbohydrate & Polysaccharide Chemistries’ at the 255th ACS National Meeting, New Orleans, LA (USA)
Invited lecture **Streamlining complex carbohydrate synthesis through enzymatic procedures**

- 270 March 7, 2018
Seminar Center for Vaccines and Immunology, UGA, Athens, GA (USA)
Chemical approaches to develop carbohydrate-based vaccines and immune modulators
- 269 February, 9, 2018
Seminar CIC bioGUNE, Bilbao (Spain)
Functional glycomics through chemical synthesis
- 268 January 24, 2018
Seminar Max Planck Institute, Potsdam (Germany)
Glycan complexity and biological recognition
- 267 January 23, 2018
Seminar Freie Universität Berlin, Dahlem (Germany)
Deconstructing and reconstructing heparan sulfate: from polymers to monomers to multivalent materials
- 266 December 1, 2017
Seminar Aspen Pharma, Oss (Netherlands)
Chemical synthesis of heparan sulfate oligosaccharides
- 265 November 30, 2017
Keynote lecture Carbohealth 2017 Symposium, Carbohydrate Competence Center, Zwolle (Netherlands)
Functional glycomics through chemical synthesis
- 264 November 10, 2017
Keynote lecture 2017 Southeast Regional Meeting ACS (SERMACS), Charlotte, NC (USA)
Functional glycomics through chemical synthesis
- 263 October 23, 2017
Seminar Pfizer Inc, Chesterfield, MO (USA)
Functional glycomics through chemical synthesis
- 262 October 11, 2017
Seminar Radboud UMC, Nijmegen (Netherlands)
Glycan complexity and biological recognition
- 261 October 9, 2017
Seminar Institute of Microbiology, ETH Zürich (Switzerland)
Functional glycomics through chemoenzymatic synthesis
- 260 September 27, 2017
Invited lecture MMD mini-symposium: Chemical Immunology, Radboud UMC, Nijmegen (Netherlands)
Immune modulation through protein glycosylation
- 259 September 7, 2017
Plenary lecture RSC Carbohydrate Group Meeting 2017, Dublin (Ireland)
Functional glycomics through chemical synthesis
- 258 August 30-31, 2017
Presentation NIH Common Fund Glycoscience Program, Bethesda, MD (USA)
Streamlining the chemoenzymatic synthesis of asymmetrical glycans of biological importance
- 257 Juli 6, 2017
Plenary lecture European Symposium of Organic Chemistry (ESOC) 2017, Köln (Germany)
Complex glycans in health and disease
- 256 Juli 3, 2017
Plenary lecture European Carbohydrate Symposium - EUROCARB 2017, Barcelona (Spain)
Functional glycomics through chemical synthesis
- 255 June 6, 2017
Invited lecture IBC's 5th Annual Bioconjugates - From Targets to Therapeutics, San Diego, CA (USA)
Synthetic approaches to glycoconjugate vaccine development
- 254 May 2, 2017
Seminar Stratingh Institute for Chemistry, University of Groningen (Netherlands)
Functional glycomics through chemical synthesis
- 253 April 14, 2017
Seminar University of Wisconsin, Madison, WI (USA)
Fully synthetic carbohydrate-based vaccines and immune modulators

- 252 April 5, 2017 Symposium ‘Advances in Polysaccharides: Practice and Applications’ at the 253rd ACS National Meeting & Exposition 2017, San Francisco, CA (USA)
Invited lecture **Chemo-enzymatic synthesis and functional properties of well-defined human milk oligosaccharides**
- 251 April 4, 2017 Symposium 'Biogenesis, Biochemistry, Synthesis and Application of Lipopolysaccharides' at the 253rd ACS National Meeting & Exposition 2017, San Francisco, CA (USA)
Invited lecture **Differential induction of innate immune responses by synthetic lipid A derivatives**
- 250 April 3, 2017 Anselme Payen Symposium at the 253rd ACS National Meeting & Exposition 2017, San Francisco, CA (USA)
Invited lecture **Precision biomaterials based on synthetic heparin sulfate oligosaccharides**
- 249 March 17, 2017 KNCV Medicinal Chemistry Spring Meeting 2017 ‘Small Molecules and Biologicals in Cancer Immunotherapy’, Utrecht (Netherlands)
Invited lecture **Synthetic vaccines and immune modulators for cancer**
- 248 March 10, 2017 3rd Chemical Immunology Conference, Amsterdam (Netherlands)
Invited lecture **Carbohydrate-based cancer vaccine**
- 247 March 7, 2017 David de Wied Colloquium, Utrecht University, Utrecht (Netherlands)
Seminar **Deconstructing and reconstructing heparin sulfate**
- 246 January 20, 2017 13th Aarhus Winter Meeting on Modern Trends in Chemistry, Aarhus (Denmark)
Invited lecture **Metal free click reactions for site-specific modification of proteins and glycoproteins**
- 245 January 6, 2017 4th International Conference on Cellular & Molecular Bioengineering (ICCMB4), Singapore (Singapore)
Plenary lecture **Deconstructing and reconstructing heparan sulfate**
- 244 December 2, 2016 College of Chemistry and Engineering, Peking University, Beijing (China)
Xingda lecture **Functional glycomics through chemical synthesis**
- 243 December 1, 2016 Tsinghua University, Beijing (China)
Invited lecture **Fully synthetic vaccines and immune modulators**
- 242 November 14, 2016 Pierre and Marie Curie University (UPMC), Paris (France)
Seminar **A fully synthetic carbohydrate-based vaccine for cancer**
- 241 August 25, 2016 Pfizer Inc, Chesterfield, MO (USA)
Seminar **Site specific conjugations for the development of vaccines and immuno-therapeutics**
- 240 August 23, 2016 Cope Award Symposium at the 252nd ACS National Meeting & Exposition, Philadelphia, PA (USA)
Arthur C. Cope mid career scholars award lecture **Functional glycomics through chemical synthesis**
- 239 July 25, 2016 Gordon Research Conference on Stereochemistry, Newport, RI (USA)
Invited lecture **Carbohydrate complexity and molecular recognition**

- 238 July 20, 2016 XXVIII International Carbohydrate Symposium (ICS 2016), New Orleans, LA (USA)
Claude S. Hudson award lecture
An integrated approach to uncover ligands of heparan sulfate binding proteins
- 237 July 11, 2016 Gordon Research Conference on Proteoglycans, Andover, NH (USA)
Invited lecture
An integrated approach to uncover ligands of heparan sulfate binding proteins
- 236 July 4, 2016 27th European Colloquium on Heterocyclic Chemistry (ECHC 2016), Amsterdam (Netherlands)
Invited lecture
Metal free click reactions for glycoconjugate modification
- 235 June 28, 2016 NIH Common Fund Glycoscience Program, Bethesda, MD (USA)
Presentation
Streamlining the chemoenzymatic synthesis of asymmetrical glycans of biological importance
- 234 June 22, 2016 XV Meeting-School on Carbohydrate Chemistry (CSCC15), Certosa di Pontignano, Siena (Italy)
Plenary lecture
An integrated approach to uncover ligands for heparan sulfate binding proteins
- 233 June 15, 2016 Advanced Functional Polymers for Medicine 2016 seminar, University of Twente, Enschede (Netherlands)
Invited lecture
Deconstructing en reconstructing heparan sulfate
- 232 April 22, 2016 Glycoscience Japan - The Netherlands, 4th bilateral NWO-JSPS ‘Glycobiology in Health and Disease’, Leiden (Netherlands)
Invited lecture
An integrated approach to uncover ligands for heparan sulfate binding proteins
- 231 March 16, 2016 CARB Symposium ‘From mAb to ADCs: Tailored Antibodies & Dedicated Chemistry Technologies for Site Specific ADCs’ at the 251st ACS National Meeting & Exposition, San Diego, CA (USA)
Invited lecture
Preparation of well-defined antibody-drug conjugates through glycan remodeling and strain promoted azidealkyne cycloadditions
- 230 March 16, 2016 CARB Symposium ‘Click Chemistry in Carbohydrate, Materials Science & Biomedicine: Symposium in honor of Prof. Sharpless’s 75th birthday’ at the 251st ACS National Meeting & Exposition, San Diego, CA (USA)
Invited lecture
Metal free click reactions for glycoconjugate modification
- 229 January 22, 2016 M&M 2016 Symposium, Utrecht University (Netherlands)
Invited lecture
Functional glycomics through chemical synthesis
- 228 December 17, 2015 Symposium ‘Carbohydrate Recognition in Health and Disease’ at Pacificchem 2015, Honolulu, HI (USA)
Invited lecture
Functional glycomics through chemical synthesis
- 227 September 25, 2015 Tongji University, Shanghai (China)
Invited lecture
A fully synthetic carbohydrate-based vaccine for cancer
- 226 September 22, 2015 Nanjing Pharmaceutical University, Nanjing (China)
Invited lecture
Therapeutic cancer vaccine
- 225 September 22, 2015 ANP Conference Technology, Nanjing (China)
Invited lecture
An integrated approach to identify ligands for heparin sulfate binding proteins

- 224 September 8, 2015 University of Georgia, Athens, GA (USA)
Norman L. Allinger lecture
Adventures with complex carbohydrates
- 223 August 7, 2015 Georgia Institute of Technology, Atlanta, GA (USA)
Seminar
Functional glycomics
- 222 July 19-24, 2015 FASEB Science Summer Conference ‘Origins and Benefits of Biologically Active Components in Human Milk’, Big Sky, MT (USA)
Invited lecture
Unraveling functions of milk oligosaccharides using chemo-enzymatic synthesis
- 221 July 16, 2015 Symposium marking the accomplishments of Professor David R. Bundle, University of Alberta, Edmonton (Canada)
Invited lecture
An integrated approach to uncover ligands for heparan sulfate binding proteins
- 220 June 26, 2015 Utrecht Chemistry Day 2015, Utrecht (Netherlands)
Keynote lecture
An integrated approach to uncover ligands for heparan sulfate binding proteins
- 219 June 15, 2015 Gordon Research Conference on Carbohydrates, West Dover, VT (USA)
Invited lecture
Functional glycomics through chemical synthesis
- 218 May 28, 2015 NIH-FDA Glycoscience Research Day, NIH, Bethesda, MD (USA)
Invited lecture
An integrated approach to uncover ligands for heparan sulfate binding proteins
- 217 April 18, 2015 1st Southeast Glycobiology Symposium, Georgia Consortium of Glycoscience, Georgia State University, Atlanta, GA (USA)
Invited lecture
An integrated approach to uncover ligands for heparan sulfate binding proteins
- 216 March 23, 2015 CARB Symposium ‘Glycomimetic Compounds: An Untapped Source of Novel Therapeutics’ at the 249th ACS National Meeting, Denver, CO (USA)
Invited lecture
Well-defined antibody-drug conjugates (ADCs) through site-specific conjugation
- 215 March 23, 2015 Symposium on ‘Frontiers in Glycoscience’ at the 249th ACS National Meeting, Denver, CO (USA)
Keynote lecture
Integrated approach to uncover ligands for heparan sulfate binding proteins
- 214 March 2-3, 2015 2015 Suddath Symposium - Immunology & ImmunoEngineering, Georgia Tech, Atlanta, GA (USA)
Invited lecture
Synthetic approaches for rationale vaccine development
- 213 October 28-31, 2014 15th Tetrahedron Symposium - Asia Edition ‘Challenges in Bioorganic and Organic Medicinal Chemistry’, Singapore (Singapore)
Keynote lecture
Functional glycomics through chemical synthesis
- 212 October 18, 2014 American Chemical Society St. Louis Award Symposium, MO (USA)
Invited lecture
Functional glycomics through chemical synthesis

- 211 September 22, 2014 Pennsylvania State University, College of Medicine, Hershey, PA (USA)
Seminar **Functional glycomics through chemical synthesis**
- 210 August 10-11, 2014 Session ‘Glycoconjugates: Design, Chemistry, Characterization, and Manufacturing’ at the 248th ACS National Meeting, San Francisco, CA (USA)
Invited lecture **Development of fully synthetic self-adjuvanting cancer vaccines**
- 209 June 24-27, 2014 15th Tetrahedron Symposium ‘Challenges in Bioorganic and Organic Medicinal Chemistry’, London (United Kingdom)
Plenary lecture **Functional glycomics through chemical synthesis**
- 208 June 5-7, 2014 37th Steenbock Symposium ‘The Future of Chemical Biology’, University of Wisconsin, Madison (USA)
Invited lecture **Functional glycomics through chemical synthesis**
- 207 June 4-6, 2014 IBC’s 2nd Annual, Bioconjugates: From Targets to Therapeutics, San Francisco, CA (USA)
Featured presentation **Metal free click reactions for site-specific protein and glycoprotein modification**
- 206 May 28-30, 2014 XI Carbohydrate Symposium, Logroño, La Rioja (Spain)
Plenary lecture **Functional glycomics through chemical synthesis**
- 205 May 19-20, 2014 CFG Workshop in Molecular and Cellular Glycoscience, ‘Exploring the Frontiers of Chemical Glycoscience’, Bethesda, MD (USA)
Invited lecture **Asymmetric synthesis for complex N-linked glycans**
- 204 April 14, 2014 University of Colorado, Boulder (USA)
Seminar **A carbohydrate-based therapeutic vaccine for cancer**
- 203 March 17, 2014 Symposium ‘New Directions in Carbohydrate Synthesis’ at the 247th ACS National Meeting, Dallas, TX (USA)
Invited lecture **General approach for the synthesis of libraries of symmetrical and asymmetrical N-glycans**
- 202 March 11, 2014 Tufts University, Medford, MA (USA)
Seminar **Functional glycomics through chemical synthesis**
- 201 January 25, 2014 2nd Annual Physician Oncology Symposium ‘Connections that Cure’, Athens Regional Medical Center, Athens, GA (USA)
Invited lecture **Carbohydrates, cancer, and vaccines**
- 200 January 12-17, 2014 The 27th International Carbohydrate Symposium, Indian Institute of Science, Bangalore (India)
Roy Whistler 2014 award lecture **Functional glycomics through chemical synthesis**
- 199 December 9, 2013 Department of Infectious Diseases, UGA, Athens, GA (USA)
Seminar **Functional glycomics through chemical synthesis**
- 198 November 29, 2013 Utrecht University (Netherlands)
Seminar **Functional glycomics through chemical synthesis**
- 197 November 17-20, 2013 Annual Conference of the Society for Glycobiology, St. Petersburg, FL (USA)
Invited lecture **Context dependent glycan recognition through the next generation of glycan microarray**

- 196 November 17, 2013 Consortium for Functional Glycomics (CFG) Satellite Symposium ‘Development and Application of Transformative Technologies in Glycobiology’, St. Petersburg, FL (USA)
Invited lecture
Selective labeling strategies for glycoconjugates of living cells
- 195 November 1, 2013 UGA-GRU Cancer Research Retreat, Lake Oconee, GA (USA)
Seminar
A fully synthetic, multi-component cancer vaccine
- 194 October 11, 2013 ICB&DD 7th Annual Symposium ‘Frontiers in Glycosciences and Chemical Biology’, Stony Brook University, NY (USA)
Plenary lecture
Glycoscience: downsizing or oversizing
- 193 October 9, 2013 University of North Carolina, Chapel Hill, NC (USA)
Seminar
Glycoscience: downsizing or oversizing
- 192 September 19, 2013 Molecular Basis of Disease Area of Focus (MBDAF), Georgia State University, Atlanta, GA (USA)
MBD distinguished lecture
Glycoscience: downsizing or oversizing
- 191 September 8-9, 2013 Session ‘Current Topics in Glycobiology’ at the 246th ACS National Meeting, Indianapolis, IN (USA)
Invited lecture
Chemo-enzymatic synthesis of asymmetrically substituted multi-antennary glycans for microarray development
- 190 July 7-11, 2013 17th European Carbohydrate Symposium, Tel Aviv (Israel)
Plenary lecture
Glycoscience oversized
- 189 June 29-July 1, 2013 2013 International Symposium on Chemical Glycobiology, Consortium for Functional Glycomics (CFG) and the Chinese Academy of Sciences (CAS), Shanghai (China)
Invited lecture
Chemo-enzymatic synthesis of asymmetrically substituted multi-antennary glycans for probing structure activity relationships
- 188 April 19, 2013 Colgate University, Hamilton, NY (USA)
Jean Dreyfus Boissevain lecture
A fully synthetic multicomponent vaccine for cancer
- 187 April 16-18, 2013 World Vaccine Congress & Expo, Washington, DC (USA)
Invited lecture
Harnessing the power of the immune system to build stronger cancer vaccines
- 186 April 8-9, 2013 Symposium ‘Heparin: Challenges and Opportunities for a Biological Drug’ at the Spring 2013 ACS National Meeting, New Orleans, LA (USA)
Invited lecture
Identification of ligands for chemokines and cytokines using a heparin sulfate microarray
- 185 March 22, 2013 TEDxUGA, University of Georgia, Athens (USA)
Invited lecture
Carbohydrates – Cancer – Vaccines
- 184 February 21-22, 2013 NICHD Workshop on Bioactive Glycans in Human Milk, Bethesda, MD (USA)
Invited lecture
Chemo-enzymatic synthesis of asymmetrically substituted multi-antennary glycans for probing structure activity relationships
- 183 January 7, 2013 Pfizer, Chesterfield, MO (USA)
Invited lecture
Fully synthetic vaccines and immune modulators
- 182 November 11, 2012 Joint meeting of the Society for Glycobiology (SFG) & American Society for Matrix Biology (ASMB), San Diego, CA (USA)

- 181 **Invited lecture**
November 6, 2012 **A rational approach to synthetic vaccines**
SWRM Glycochemistry Symposium at the 68th Southwest Regional Meeting (SWRM) of the ACS, Baton Rouge, LA (USA)
- 180 **Invited lecture**
October 4, 2012 **Chemical methods for biomarker discovery**
Clemson University, SC (USA)
- 179 **Seminar**
August 21, 2012 **A fully synthetic carbohydrate-based vaccine for cancer**
Session ‘Glycoscience at the Crossroad of Health, Materials, and Energy’ at the 244th ACS National Meeting & Exposition, Philadelphia, PA (USA)
- 178 **Invited lecture**
July 26, 2012 **Fully synthetic immune modulators and tripartite vaccines for cancer**
26th International Carbohydrate Symposium, Madrid (Spain)
- 177 **Invited lecture**
July 21, 2012 **Chemo-enzymatic synthesis of asymmetrically substituted multi-antennary glycans for microarray development**
CIC biomaGUNE, Workshop ‘Increasing the Impact of Glycoscience through New Tools and Technologies’, San Sebastian (Spain)
- 176 **Keynote lecture**
June 1, 2012 **Fully synthetic vaccines and immune modulators**
SCYNEXIS, Durham, NC (USA)
- 175 **Seminar**
April 23, 2012 **Fully synthetic immune modulators**
University of North Carolina, Charlotte (USA)
- 174 **Seminar**
March 31, 2012 **A fully synthetic carbohydrate-based vaccine for cancer**
1st CDT Conference, Center for Diagnostics & Therapeutics, Georgia State University, Atlanta (USA)
- 173 **Invited lecture**
March 15, 2012 **Chemical methods for biomarker discovery**
Academia Sinica, Taipei (Taiwan)
- 172 **Invited lecture**
January 23, 2012 **Glycomics through synthetic oligosaccharides**
College of Veterinary Medicine, UGA, Athens, GA (USA)
- 171 **Seminar**
November 9-12, 2011 **Carbohydrate-based vaccines and immune modulators**
2011 Annual Conference of the Society for Glycobiology, Seattle, WA (USA)
- 170 **Invited lecture**
November 10, 2011 **Chemical methods for biomarker discovery**
Infectious Disease Research Institute, Seattle, WA (USA)
- 169 **Seminar**
November 1, 2011 **Self-adjuvanting vaccines**
Cellular Biology, UGA, Athens, GA (USA)
- 168 **Seminar**
October 3-4, 2011 **Carbohydrate-based cancer vaccines and immune modulators**
Carbohydrate Moieties as Vaccine Candidates Workshop, NIAID, Rockville, MD (USA)
- 167 **Invited lecture**
September 4-7, 2011 **A fully synthetic multi-component carbohydrate-based cancer vaccine**
9th International Meeting of the Portuguese Carbohydrate Chemistry Group/5th Iberian Carbohydrate Meeting, Vila Real (Portugal)
- 166 **Plenary lecture**
June 28, 2011 **Modulation of biological responses with synthetic glycoconjugates**
Pfizer, BioTherapeutics Unit CovX, San Diego, CA (USA)
- Invited lecture**
New approaches for metal-free click reactions: applications to glycoscience

- 165 June 27, 2011 22nd American Peptide Symposium, Bioconjugation Session, San Diego, CA (USA)
Keynote lecture **Metal-free click reactions for protein labeling and glycoproteomics**
- 164 June 19-24, 2011 Gordon Research Conference on Carbohydrates, Waterville, ME (USA)
Invited lecture **Carbohydrate-based multicomponent vaccines**
- 163 June 7, 2011 94th Canadian Chemistry Conference and Exhibition, Carbohydrate and Glycobiology Symposium, Montréal, Quebec (Canada)
Invited lecture **Beyond metal- and azide-mediated click reaction: application to glycoscience**
- 162 May 26, 2011 Shandong University, College of Life Science, Jinan (China)
Seminar **Carbohydrate-based vaccines and immuno-modulators**
- 161 May 25, 2011 Nankai University, College of Chemistry and College of Pharmacy, Beijing (China)
Seminar **Towards a fully synthetic carbohydrate-based vaccine for cancer**
- 160 May 24, 2011 Tsinghua University, Beijing (China)
Seminar **Towards a fully synthetic carbohydrate-based vaccine for cancer**
- 159 April 28, 2011 Momenta Pharmaceuticals, Cambridge, MA (USA)
Invited lecture **An integrated approach for ligand identification for heparan sulfate binding proteins**
- 158 April 25, 2011 Research Collaboration Symposium ‘Hot Topics in Next-Generation Vaccines R&D’, Georgia Research Alliance/Centers for Disease Control and Prevention/CDC Foundation, CDC, Atlanta, GA (USA)
Invited lecture **Self-adjuvanting cancer vaccines**
- 157 March 28, 2011 Session ‘Click Chemistry Approaches in Carbohydrate Chemistry’ at the 241st National Meeting & Exposition of the American Chemical Society, Anaheim, CA (USA)
Invited lecture **Beyond metal- and azide-mediated click reaction: application to glycoscience**
- 156 March 27, 2011 Claude S. Hudson Award in Carbohydrate Chemistry Symposium at the 241st National Meeting & Exposition of the American Chemical Society, Anaheim, CA (USA)
Invited lecture **Combinatorial carbohydrate synthesis for glycomics**
- 155 March 25, 2011 Hunter College, New York, NY (USA)
Seminar **A fully synthetic multi-component carbohydrate-based cancer vaccine**
- 154 March 23, 2011 Expanding the Chemical Space for Carbohydrates: Roadmap to Automated Synthesis, NIH, Bethesda, MD (USA)
Invited lecture **Modular synthesis of heparan sulfate oligosaccharides for array development**
- 153 March 7, 2011 Pharmaceutical and Biomedical Sciences, UGA, Athens, GA (USA)
Seminar **Towards a fully synthetic carbohydrate-based vaccine for cancer**
- 152 Jan 24, 2011 MedImmune, Gaithersburg, MD (USA)
Invited lecture **Synthetic carbohydrate-based diagnostics, vaccines and immune modulators**

- 151 Dec 15-20, 2010 2010 International Chemical Congress of Pacific Basin Societies (Pacifichem), Honolulu, HI (USA)
Invited lecture Fully synthetic three-component carbohydrate-based vaccine for cancer
- 150 Nov 30-Dec 4, 2010 Joint 66th Southwest and 62nd Southeastern Regional Meeting of the American Chemical Society, New Orleans, LA (USA)
Invited lecture New approaches for metal-free click reactions: applications to glycoscience
- 149 Sept 19-21, 2010 Consortium for Functional Glycomics Workshop on Glycan Array / Bioinformatics, Atlanta, GA (USA)
Invited lecture Glycosylaminoglycan arrays and label-free detection
- 148 Sept 2, 2010 Novartis Vaccines Workshop - Moving Conjugate Vaccines Into The Future, Siena (Italy)
Invited lecture Fully synthetic carbohydrate-based vaccines and immuno-modulators
- 147 August 23, 2010 Session ‘Synthetic Oligosaccharides and Glycoconjugates for Preventing and Combating Disease’ at the 240th National Meeting & Exposition of the American Chemical Society, Boston, MA (USA)
Invited lecture Modular synthesis of heparin sulfate oligosaccharides for array development
- 146 August 22, 2010 Session ‘Wolfrom-Isbell-New Investigator Award Symposium’ at the 240th National Meeting & Exposition of the American Chemical Society, Boston, MA (USA)
Invited lecture Development of a fully synthetic three-component carbohydrate-based cancer vaccine
- 145 August 1-6, 2010 25th International Carbohydrate Symposium (ICS2010), Tokyo (Japan)
Invited lecture Modular synthesis of heparan sulfate oligosaccharides for array development
- 144 June 14, 2010 Mayo Clinic College of Medicine, Scottsdale, AZ (USA)
Seminar Towards a fully synthetic carbohydrate-based vaccine for cancer
- 143 January 28, 2010 University of Auburn, AL (USA)
Seminar A fully synthetic carbohydrate-based vaccine for cancer
- 142 December 2, 2009 20th International Symposium on Glycoconjugates - Glycans: From Molecules to Structures to Therapeutics, San Juan, PR (USA)
Plenary lecture Modulation of biological functions with synthetic carbohydrate-based macromolecules
- 141 October 22-23, 2009 NIH/NIGMS Workshop, Levering Glycan Array Screens with Biological, Computational and Structural Data, Bethesda, MD (USA)
Invited lecture Unraveling motif recognition by heparan sulfate binding proteins
- 140 October 5, 2009 PennState University, PA (USA)
Seminar Towards a fully synthetic carbohydrate-based vaccine for cancer
- 139 September 8, 2009 University of Iowa, Iowa City (USA)
Seminar Towards a fully synthetic carbohydrate-based vaccine for cancer

- 138 August 17, 2009 238th National Meeting of the American Chemical Society, Washington, DC (USA)
Invited lecture **Synthetic oligosaccharides as vaccine candidates for microbes classified as bioterrorism agents**
- 137 July 19-23, 2009 Mucins in Health and Disease - 10th International Workshop on Carcinoma-associated Mucins, Cambridge (United Kingdom)
Invited lecture **Overcoming the poor immunogenicity of tumor-associated glycopeptides**
- 136 April 6-7, 2009 Bijvoet Tutorial Symposium 2009, Soesterberg (Netherlands)
Invited lecture **Modulation of biological functions with synthetic carbohydrate-based macromolecules**
- 135 March 29 - April 2, 2009 67th Harden - Decoding the Biology of Heparan Sulphate Proteoglycans, Cambridge (United Kingdom)
Invited lecture **Probing biological functions of heparan sulfate using synthetic compounds**
- 134 March 22-26, 2009 237th National Meeting of the American Chemical Society, Salt Lake City, Utah (USA)
Invited lecture **Chemical synthesis and immunological properties of synthetic vaccine candidates and immune modulators**
- 133 March 14-16, 2009 CFG/NIH Workshop, Glycan Microarray Technology and Applications, La Jolla, CA (USA)
Invited lecture **Parallel combinatorial synthesis of heparan sulfate derivatives for array development**
- 132 January 22, 2009 Gordon Research Conference on Glycobiology, Ventura, CA (USA)
Invited lecture **Chemical tools for glycoproteomics: novel click reagent and glycopeptide specific antibodies**
- 131 November 13, 2008 **Seminar** University of California, Davis (USA)
Modulation of biological functions with synthetic glycoconjugates
- 130 October 10, 2008 **Seminar** Kemisk Institute, University of Copenhagen (Denmark)
Glycosidase inhibitors as novel cancer therapeutics
- 129 October 9, 2008 **Seminar** University of Southern Denmark, Odense (Denmark)
Modulation of biological functions with synthetic glycoconjugates
- 128 October 8, 2008 **Seminar** Faculty of Life Sciences, University of Copenhagen (Denmark)
Modulation of biological functions with synthetic glycoconjugates
- 127 October 6, 2008 **Seminar** University of Bristol (United Kingdom)
Modulation of biological functions with synthetic glycoconjugates
- 126 September 16, 2008 **Invited lecture** FDA CBER DBPAP, Bethesda, MD (USA)
Fully synthetic vaccines and immune modulators
- 125 July 27-Aug 1, 2008 **Lecture** XXIV International Carbohydrate Symposium, Oslo (Norway)
Fast click reactions for labeling of living cells and nano-particles
- 124 June 17, 2008 **Invited lecture** Bio2008, San Diego, CA (USA)
Chemical approaches for protein glycosylation
- 123 April 25, 2008 **Seminar** Shanghai Institute of Organic Chemistry (China)
Fully synthetic carbohydrate-based cancer vaccines and immune modulators

- 122 April 23, 2008
Invited lecture PepCon 2008, Shenzhen (China)
Increasing the antigenicity of tumor-associated glycopeptides by targeting Toll-like receptors
- 121 April 15, 2008
Seminar Northwestern University, Evanston, IL (USA)
Modulation of biological functions with synthetic carbohydrate-based macromolecules
- 120 February 11, 2008
Seminar Tulane University, New Orleans, LA (USA)
The development of a fully synthetic carbohydrate-based cancer vaccine
- 119 February 8, 2008
Seminar University of Cincinnati, OH (USA)
Towards a fully synthetic carbohydrate-based cancer vaccine
- 118 November 15, 2007
Seminar Temple University, Philadelphia, PA (USA)
Towards a fully synthetic carbohydrate-based cancer vaccine
- 117 November 11-14, 2007
Invited lecture Society for Glycobiology 2007 Conference, Boston, MA (USA)
Chemical glycobiology and vaccine development
- 116 September 7, 2007
Invited lecture National Chiao-Tung University, Taipei (Taiwan)
Glycosidase inhibitors as novel anticancer therapeutics
- 115 September 5, 2007
Invited lecture National Tsing-Hua University, Taipei (Taiwan)
Towards a fully synthetic vaccine for cancer
- 114 September 3, 2007
Invited lecture Academia Sinica, Taipei (Taiwan)
Synthetic cancer vaccines and immune modulators
- 113 June 17-22, 2007
Invited lecture Gordon Research Conference on Carbohydrates, Tilton, NH (USA)
Synthetic compounds to probe biological functions of complex carbohydrates
- 112 June 6-10, 2007
Plenary lecture The Young(-ish!) Giants of Chemistry, Edinburgh (United Kingdom)
Towards a fully synthetic three-component cancer vaccine
- 111 March 27, 2007
Seminar University of Glasgow (United Kingdom)
The development of a fully synthetic carbohydrate-based cancer vaccine
- 110 March 7-9, 2007
Invited lecture Indian Institute of Chemical Biology, Kolkata (India)
The development of a three-component carbohydrate-based cancer vaccine
- 109 February 6, 2007
Seminar University of Michigan, Ann Arbor (USA)
The development of a three-component carbohydrate-based cancer vaccine
- 108 February 5, 2007
Seminar Wayne State University, Detroit, MI (USA)
The development of a three-component carbohydrate-based cancer vaccine
- 107 January 22, 2007
Seminar University of Illinois, Urbana-Champaign (USA)
The development of a three-component carbohydrate-based cancer vaccine
- 106 November 10, 2006
Seminar University of Tennessee, Chattanooga (USA)
The development of a three-component carbohydrate-based cancer vaccine
- 105 October 17, 2006
Seminar Tufts University, Boston, MA (USA)
A fully synthetic three-component cancer vaccine

- 104 September 10-14, 2006 232nd National Meeting of the American Chemical Society, San Francisco, CA (USA)
Invited lecture **Towards a fully synthetic carbohydrate-based anti-cancer vaccine**
- 103 August 22-23, 2006 Cambridge Healthtech Institute, Boston, MA (USA)
Invited lecture **A fully synthetic three-component cancer vaccine**
- 102 August 6-9, 2006 2nd International Symposium on Biomolecular Chemistry, Konan University, Kobe (Japan)
Invited lecture **Increasing the antigenicity of tumor associated carbohydrates by targeting Toll-like receptors**
- 101 August 4, 2006 Tokyo Institute of Technology (Japan)
Seminar **Stereoselective glycosylations using chiral auxiliaries**
- 100 July 23-28, 2006 23rd International Carbohydrate Symposium, Whistler, British Columbia (Canada)
Keynote lecture **A fully synthetic three-component cancer vaccine**
- 99 June 28, 2006 Ventana Medical Systems, Inc., Tucson, AZ (USA)
Seminar **Synthetic tumor associated carbohydrate antigens for imaging and cancer vaccine development**
- 98 June 12, 2006 Duke University, Durham, NC (USA)
Seminar **Increasing the antigenicity of tumor associated carbohydrates by targeting Toll-like receptors**
- 97 May 31, 2006 CERMAV-CNRS, Grenoble (France)
Seminar **Glycosidase inhibitors as novel anti-cancer therapeutics**
- 96 May 29, 2006 Université Claude Bernard, Lyon (France)
Seminar **Glycosidase inhibitors as novel anti-cancer therapeutics**
- 95 May-June, 2006 Université de Picardie Jules Vernes, Amiens (France)
Seminar **Glycosidase inhibitors as novel anti-cancer therapeutics**
- 94 **Seminar** **Stereoselective glycosylations using chiral auxiliaries**
- 93 April 17-20, 2006 22nd Conference on Combinatorial Chemistry (JCCF 22), Osaka (Japan)
Invited lecture **Glycosidase inhibitors as novel anti-cancer therapeutics**
- 92 April 5, 2006 Institute of Human Virology, Baltimore, MD (USA)
Seminar **Increasing the antigenicity of tumor associated carbohydrates by targeting Toll-like receptors**
- 91 March 26-30, 2006 231st National Meeting of the American Chemical Society, Atlanta, GA (USA)
Invited lecture **Glycosidase inhibitors as novel cancer therapeutics**
- 90 February 19-25, 2006 GLYCANS 2006, Indian Institute of Science, Bangalore (India)
Invited lecture **Glycosidase inhibitors as novel cancer therapeutics**
- 89 January 23, 2006 Albert Einstein College of Medicine, Bronx, NY (USA)
Seminar **Telling glycosidase inhibitors what to do**
- 88 November 21, 2005 The Royal Swedish Academy of Science, Stockholm (Sweden)
Invited lecture **Telling glycosidase inhibitors what to do**
- 87 November 4, 2005 University of Virginia, Charlottesville (USA)
Seminar **Telling glycosidase inhibitors what to do**
- 86 October 14, 2005 van Boom Symposium, Leiden Institute of Chemistry (Netherlands)
Invited lecture **Smart molecules inspired by Jacques van Boom**

- 85 October 12, 2005 Utrecht University (Netherlands)
Seminar **Glycosidase inhibitors as novel cancer therapeutics**
- 84 August 28-Sept. 1, 2005 230th National Meeting of the American Chemical Society, Washington, DC (USA)
Invited lecture **Stereoselective glycosylations using chiral auxiliaries**
- 83 May 25-June 1, 2005 Annual Meeting of the Canadian Society for Chemistry, Saskatoon, SK (Canada)
Invited lecture **Stereoselective glycosylations using chiral auxiliaries**
- 82 April 29-30, 2005 2nd Annual Carbohydrate Symposium, Alberta Ingenuity Centre for Carbohydrate Science, Lake Louise, AB (Canada)
Plenary lecture **Complex glycoconjugates: new synthetic methods and exploring biological functions**
- 81 March 13-17, 2005 229th National Meeting of the American Chemical Society, San Diego, CA (USA)
Invited lecture **Stereoselective glycosylations using chiral auxiliaries**
- 80 March 6-11, 2005 Gordon Research Conference on Glycobiology, Ventura, CA (USA)
Invited lecture **Telling glycosidase inhibitors what to do**
- 79 December 21, 2004 University of Nijmegen (Netherlands)
Seminar **Complex carbohydrates and the fight between host and pathogens**
- 78 November 17-20, 2004 Joint Meeting of the Society for Glycobiology and the Japanese Society for Carbohydrate Research, Honolulu, HI (USA)
Invited lecture **Synthetic lipopolysaccharides and peptidoglycan derivatives as novel therapeutics for septic shock**
- 77 November 12, 2004 Iowa State University, Ames (USA)
Seminar **Complex glycoconjugates: new synthetic methods and exploring biological functions**
- 76 August 22-26, 2004 American Chemical Society National Meeting, Philadelphia, PA (USA)
Invited lecture **Synthesis and biological evaluation of lipopolysaccharide and peptidoglycan derivatives**
- 75 June 23-27, 2004 22nd International Carbohydrate Symposium, Glasgow (United Kingdom)
Seminar **The use of chiral auxiliaries for stereoselective glycosylations**
- 74 May 12, 2004 University of California, Los Angeles (USA)
Seminar **Unraveling cellular activation using chemical genomics**
- 73 March 18, 2004 University of St. Andrews (United Kingdom)
Seminar **Synthetic glycoconjugates in infection and immunity**
- 72 March 17, 2004 University of Dundee (United Kingdom)
Seminar **Synthetic glycoconjugates in infection and immunity**
- 71 March 15, 2004 GlaxoSmithKline, Stevenage (United Kingdom)
Seminar **Synthetic glycoconjugates in infection and immunity**
- 70 February 12, 2004 Case Western Reserve University, Cleveland, OH (USA)
Seminar **Complex glycoconjugates: new synthetic approaches and probing biological functions**

- 69 February 11, 2004
Seminar University of Toledo, OH (USA)
Complex glycoconjugates: new synthetic approaches and probing biological functions
- 68 January 16, 2004
Seminar Georgia State University, Atlanta, GA (USA)
Complex synthetic carbohydrates and infection and immunity
- 67 December 17, 2003
Seminar University of Lund (Sweden)
Complex glycoconjugates: new synthetic approaches and probing biological functions
- 66 December 16, 2003
Seminar Stockholm University (Sweden)
Complex glycoconjugates: new synthetic approaches and probing biological functions
- 65 December 15, 2003
Seminar University of Gothenburg (Sweden)
Glycoconjugates and the fight between host and pathogen
- 64 December 11, 2003
Seminar University of Oxford (United Kingdom)
Complex glycoconjugates: new synthetic approaches and probing biological functions
- 63 October 20, 2003
Seminar National Cancer Institute, NIH, Bethesda, MD (USA)
Selective mannosidase inhibitors as cancer therapeutics
- 62 October 6, 2003
Seminar University of Missouri, St. Louis (USA)
Complex glycoconjugates: new synthetic approaches and probing biological functions
- 61 Sept. 7-11, 2003
Invited lecture Glycobiology Symposium, ACS Meeting, New York, NY (USA)
Multivalency and the mode of action of bacterial sialidases
- 60 July 7, 2003
Carbohydrate research award lecture Eurocarb12 meeting, Grenoble (France)
Complex glycoconjugates: new synthetic approaches and probing biological functions
- 59 May 15, 2003
Seminar Carlsberg Institute, Copenhagen (Denmark)
Synthesis and biological properties of neoglycoproteins
- 58 May 14, 2003
Seminar University of Copenhagen (Denmark)
Multivalency and modular proteins
- 57 April 29, 2003
Invited lecture UCLA NanoSystems Seminar Series, UCLA, Los Angeles, CA (USA)
Modulating biological properties with carbohydrate-based macromolecules and nanoparticles
- 56 March 3, 2003
Invited lecture Gordon Research Conference on Glycobiology, Ventura, CA (USA)
Chemical approaches to glycobiology
- 55 January 17, 2003
Seminar Indian Institute of Science, Bangalore (India)
Synthesis and biological properties of neoglycoproteins
- 54 January 14, 2003
Invited lecture XVII International Symposium on Glycoconjugates, Bangalore (India)
Synthesis and proinflammatory effects of peptidoglycan-derived neoglycopeptide polymers
- 53 November 10, 2002
Invited lecture Society for Glycobiology Annual Meeting, Boston, MA (USA)
Synthetic oligosaccharides and glycoprotein remodeling
- 52 October 16, 2002
Seminar Wayne State University, Detroit, MI (USA)
Synthetic glycoconjugates and the innate and adaptive immune system

- 51 September 16, 2002 University of Alberta, Edmonton (Canada)
Seminar **Synthetic oligosaccharides and glycoprotein remodeling**
- 50 July 14, 2002 Third Pan-Pacific Conference on Sialoglycoscience and Other Novel Forms of Glycosylation, Brisbane (Australia)
Invited lecture **Chemistry & biochemistry of sialic acids and associated proteins**
- 49 July 8, 2002 XX1st International Carbohydrate Symposium, Cairns (Australia)
Plenary lecture **Synthetic glycoconjugates and the innate and adaptive immune system**
- 48 February 18, 2002 8th Ibn Sina Conference of Heterocyclic Chemistry, Luxor (Egypt)
Invited lecture **Synthetic lipopolysaccharides and peptidoglycan derivatives as novel therapeutics for septic chock**
- 47 October 17, 2001 Synthesis towards Bioactive Compounds Autumn Graduate School, Arnhem (Netherlands)
Invited lecture **Synthetic oligosaccharides and glycoconjugates in drug discovery**
- 46 August 28, 2001 ACS National Meeting, Chicago, IL (USA)
Invited lecture **Novel methods for liquid polymer-supported synthesis of well-defined oligosaccharides and chemical libraries**
- 45 April 3, 2001 Ibis, Carlsbad, CA (USA)
Seminar **Combinatorial carbohydrate chemistry**
- 44 March 21, 2001 University of Lund (Sweden)
Seminar **Synthetic glycoconjugates and the innate and adoptive immune system**
- 43 March 20, 2001 University of Konstanz (Germany)
Seminar **Synthetic glycoconjugates and the innate and adoptive immune system**
- 42 March 4-5, 2001 Elementis Specialties, Hightstown, NJ (USA)
Seminar **Carbohydrate-based polymers**
- 41 April 10-12, 2000 Bio-Organic Chemistry Series, Molecular Pharmacology & Therapeutics Program Research, Sloan-Kettering Institute, New York, NY (USA)
Invited lecture **Semi-synthetic and fully synthetic carbohydrate-based vaccines**
- 40 March 25-28, 2000 7th Ibn Sina International Conference on Pure and Applied Heterocyclic Chemistry, Alexandria (Egypt)
Invited lecture **The synthesis of oligosaccharides of biological importance by polymer supported approaches**
- 39 December 3, 1999 Umea University (Sweden)
Seminar **Semi-synthetic and fully-synthetic carbohydrate-based vaccines**
- 38 November 30, 1999 University of Glasgow (United Kingdom)
Seminar **Synthetic saccharides to probe carbohydrate-protein interactions**
- 37 October 18-21, 1999 Regional ACS meeting, Knoxville, TN (USA)
Invited lecture **The preparation well-defined saccharides and chemical libraries**
- 36 September 10-12, 1999 Bioorganic Conference, Fribush (United Kingdom)
Invited lecture **Synthesis of conformationally constrained trisaccharides and complexation properties with concanavalin A**
- 35 January 18, 1999 University of Alberta, Edmonton (Canada)
Seminar **The preparation well-defined saccharides and chemical libraries**

- 34 July 10, 1998 Johnson & Johnson, New Jersey (USA)
Seminar **Carbohydrates for drug delivery**
- 33 July 1-5, 1998 XVII – French National Carbohydrate Meeting (France)
Invited lecture **The preparation well-defined saccharides and chemical libraries**
- 32 April 14, 1998 University of Bristol (United Kingdom)
Seminar **Combinatorial carbohydrate chemistry**
- 31 March 26-28, 1998 WEB-Meeting, Munich (Germany)
Invited lecture **The preparation of homogenous glycoforms of IgG**
- 30 March 11, 1998 University of Sheffield (United Kingdom)
Seminar **Combinatorial carbohydrate chemistry**
- 29 November 26, 1997 University of Liverpool (United Kingdom)
Seminar **Combinatorial carbohydrate chemistry**
- 28 November 12, 1997 University of London, King's College (United Kingdom)
Seminar **Combinatorial carbohydrate chemistry**
- 27 October 13, 1997 University of Cambridge (United Kingdom)
Seminar **Combinatorial carbohydrate chemistry**
- 26 September 30, 1997 University of Oxford (United Kingdom)
Seminar **Combinatorial carbohydrate chemistry**
- 25 September 12, 1997 University of Grenoble (France)
Seminar **Combinatorial carbohydrate chemistry**
- 24 July 6-11, 1997 Eurocarb, Utrecht (Netherlands)
Keynote lecture **A latent-active glycosylation strategy for the preparation of oligosaccharide libraries**
- 23 June 22-27, 1997 Gordon Research Conference on Carbohydrates, Tilton, NH (USA)
Invited lecture **Combinatorial carbohydrate chemistry**
- 22 June 20, 1997 CCRC, University of Georgia, Athens, GA (USA)
Seminar **The preparation of well-defined oligosaccharides and chemical libraries**
- 21 April 17, 1997 RSC Meeting, University of Nottingham (United Kingdom)
Invited lecture **The preparation of well-defined oligosaccharides and chemical libraries**
- 20 April 3, 1997 University of Lund (Sweden)
Seminar **The preparation of well-defined oligosaccharides and chemical libraries**
- 19 February 27, 1997 SmithKline Beecham Biologicals, Rixensart (Belgium)
Seminar **Synthetic carbohydrate-based vaccines**
- 18 February 21, 1997 National Institute for Public Health, Bilthoven (Netherlands)
Seminar **Synthetic carbohydrate-based vaccines**
- 17 February 12, 1997 University of Durham (United Kingdom)
Seminar **New methods for convergent oligosaccharide synthesis**
- 16 October 10, 1996 University of East Anglia (United Kingdom)
Seminar **Combinatorial carbohydrate chemistry**
- 15 September 9, 1996 RSC Carbohydrate Group Autumn Meeting, UCL (United Kingdom)
Invited lecture **Combinatorial carbohydrate chemistry**
- 14 July 21-26, 1996 XVIII International Carbohydrate Symposium, Milan (Italy)
Lecture **Combinatorial carbohydrate chemistry**

- 13 May 14, 1996 Imperial College, London (United Kingdom)
Seminar **New methods for convergent oligosaccharide synthesis**
- 12 March 20, 1996 University of Southampton (United Kingdom)
Seminar **New methods for convergent oligosaccharide synthesis**
- 11 March 25, 1996 RSC Carbohydrate Group Spring Meeting, St. Andrews (United Kingdom)
Invited lecture **Synthetic oligosaccharides as tools in glycobiology**
- 10 February 20, 1996 University of Nottingham (United Kingdom)
Seminar **New methods for convergent oligosaccharide synthesis**
- 9 November 29, 1995 University of Leicester (United Kingdom)
Seminar **Recent advances in oligosaccharide synthesis**
- 8 November 22, 1995 UMIST, Manchester (United Kingdom)
Seminar **New methods for convergent oligosaccharide synthesis**
- 7 September 15-17, 1995 Bioorganic Conference, Fribush (United Kingdom)
Invited lecture **Carbohydrate chemistry and biochemistry**
- 6 September 5-8, 1995 RCS Autumn Meeting, Sheffield (United Kingdom)
Invited lecture **Synthetic oligosaccharides as tools in glycobiology**
- 5 July 2-7, 1995 Eurocarb VIII, Sevilla (Spain)
Lecture **New chemoselective glycosylation**
- 4 April 2, 1994 Pfizer Central Research, Sandwich (United Kingdom)
Seminar **Towards carbohydrate-based drugs**
- 3 March 31, 1994 SmithKline Beecham Pharmaceuticals, Harlow (United Kingdom)
Seminar **New methods for oligosaccharide synthesis**
- 2 February 4, 1994 The Wellcome Foundation Limited, Beckenham (United Kingdom)
Seminar **Towards carbohydrate-based drugs**
- 1 October 24, 1993 Glaxo Group Research, Greenford (United Kingdom)
Seminar **New methods for oligosaccharide synthesis**

Publications (in reverse chronological order)

- 342 Spruit, C.M., X. Zhu, I. Tomris, M. Rios Carrasco, A.X. Han, F. Broszeit, R. van der Woude, K.M. Bouwman, M.M.T. Luu, K. Matsuno, Y. Sakoda, C.A. Russell, I.A. Wilson, G.J. Boons, and R.P. de Vries. 2021. N-glycolylneuraminic acid binding of avian and equine H7 influenza A viruses. *J. Vir.* Accepted for publication.
- 341 Gaide, N., M.N. Lucas, M. Delpont, G. Croville, K.M. Bouwman, A. Papanikolaou, R. van der Woude, I. Gagarinov, G.J. Boons, R.P. de Vries, R. Volmer, A. Teillaud, T. Vergne, C. Bleuart, G. Le Loc'h, M. Delverdier, and J.L. Guérin. 2021. Pathobiology of highly pathogenic H5 avian influenza viruses in naturally infected Galliformes and Anseriformes in France during winter 2015-2016. *Vet. Res.* Accepted for publication.
- 340 Li, Z., L. Unione, L. Liu, Y. Lang, R.P. de Vries, R.J. de Groot, and G.J. Boons. 2021. Synthetic *O*-acetylated sialosides and their acetamido-deoxy analogs as probes for coronaviral hemagglutinin-esterase recognition. *J. Am. Chem. Soc.* In press (DOI: 10.1021/jacs.1c10329).
- 339 Verheyen S, J. Blatterer J, M.R. Speicher, G.S. Bhavani, G.J. Boons, M.B. Ilse, D. Andrae, J. Sproß, F.M. Vaz, S.G. Kircher, L. Posch-Pertl, D. Baumgartner, T. Lübke, H. Shah, A. Al Kaissi, K.M. Girisha, and B. Plecko. 2021. Novel subtype of mucopolysaccharidosis caused by arylsulfatase K (ARSK) deficiency. *J. Med. Gen.* In press (DOI: 10.1136/jmedgenet-2021-108061).

- 338 Wu, J., P. Chopra, G.J. Boons, and J. Zaia. 2021. Influence of saccharide modifications on heparin lyase III substrate specificities. *Glycobiology*. In press (DOI: 10.1093/glycob/cwab023).
- 337 Nguyen, L., K.A. McCord, D.T. Bui, K.M. Bouwman, E.N. Kitova, M. Elaish, D. Kumawat, G.C. Daskhan, I. Tomris, L. Han, P. Chopra, T.-J. Yang, S.D. Willows, A.L. Mason, L.K. Mahal, T.L. Lowary, L.J. West, S.D. Hsu, T. Hobman, S.M. Tompkins, G.J. Boons, R.P. de Vries, M.S. Macauley, and J.S. Klassen. 2022. Sialic acid-dependent binding and viral entry of SARS-CoV-2. *Nat. Chem. Biol.* **18**(1): 81-90.
- 336 Karlsson, R., P. Chopra, A. Joshi, Z. Yang, S.Y. Vakhrushev, T. Mandel Clausen, C.D. Painter, G.P. Szekeres, Y.-H. Chen, D.R. Sandoval, L. Hansen, J.D. Esko, K. Pagel, D.P. Dyer, J.E. Turnbull, H. Clausen*, G.J. Boons*, and R.L. Miller*. 2022. Dissecting structure-function of 3-O-sulfated heparin and engineered heparan sulfates. *Sci. Adv. Sci. Adv.* **7**(52): eabl6026.
- 335 Meng, X., M.M.S.M. Wösten, G.J. Boons, and T. Wennekes. 2021. Metabolic labeling of legionaminic acid in flagellin glycosylation of *Campylobacter jejuni* identifies Maf4 as a putative legionaminyl transferase. *Angew. Chem. Int. Ed.* **60**(47): 24811-24816.
- 334 Arunkumar, G.A., D. Bhavsar, T. Li, S. Strohmeier, V. Chromikova, F. Amanat, M. Bunyatov, P.C. Wilson, A.H. Ellebedy, G.J. Boons, V. Simon, R.P. de Vries, and F. Krammer. 2021. Functionality of the putative surface glycoproteins of the Wuhan spiny eel influenza virus. *Nat. Commun.* **12**(1): 6161.
- 333 Schuurmans, C.C.L., A.J. Brouwer, J.A.W. Jong, G.J.P.H. Boons, W.E. Hennink, and T. Vermonden. 2021. Hydrolytic (in)stability of methacrylate esters in covalently cross-linked hydrogels based on chondroitin sulfate and hyaluronic acid methacrylate. *ACS Omega* **6**(40): 26302-26310.
- 332 Broszeit, F., R.J. van Beek, L. Unione, T.M. Bestebroer, D. Chapla, J.-Y. Yang, K.W. Moremen, S. Herfst, R.A.M. Fouchier, R.P. de Vries, and G.J. Boons. 2021. Glycan remodeled erythrocytes facilitate antigenic characterization of recent A/H3N2 influenza viruses. *Nat. Commun.* **12**(1): 5449.
- 331 Huang, J., P. Chopra, L. Liu, T. Nagy, J. Murray, R.A. Tripp, G.J. Boons, and J.J. Mousa. 2021. Structure, immunogenicity, and conformation-dependent receptor binding of the postfusion human metapneumovirus F protein. *J. Virol.* **95**(18): e00593-21.
- 330 Srivastava, A.D., L. Unione, M. Bunyatov, I.A. Gagarinov, S. Delgado, N.G.A. Abrescia, A. Ardá, and G.J. Boons. 2021. Chemoenzymatic synthesis of complex N-glycans of the parasite *S. mansoni* to examine the importance of epitope presentation on DC-SIGN recognition. *Angew. Chem. Int. Ed.* **60**(35): 19287-19296.
- 329 Moure, M.J., A. Gimeno, S. Delgado, T. Diercks, G.J. Boons, J. Jimenez-Barbero, and A. Arda. 2021. Selective ¹³C-labels on repeating glycan oligomers to reveal protein binding epitopes through NMR: polylactosamine binding to galectins. *Angew. Chem. Int. Ed.* **60**(34): 18777-18782.
- 328 Liu, L., P. Chopra, X. Li, K.M. Bouwman, S.M. Tompkins, M.A. Wolfert, R.P. de Vries, and G.J. Boons. 2021. Heparan sulfate proteoglycans as attachment factor for SARS-CoV-2. *ACS Cent. Sci.* **7**(6): 1009-1018.
- 327 Li, Z., Y. Lang, L. Liu, M.I. Bunyatov, A. Isaza Sarmiento, R.J. de Groot, and G.J. Boons. 2021. Synthetic O-acetylated sialosides facilitate functional receptor identification for human respiratory viruses. *Nat. Chem.* **13**(5): 496-503.
- 326 Spruit, C.M., N. Nemanichvili, M. Okamatsu, H. Takematsu, H., G.J. Boons, and R.P. de Vries. 2021. N-glycolylneuraminic acid in animal models for human influenza A virus. *Viruses* **15**(5): 815.

- 325 Bouwman, K.M., I. Tomris, H.L. Turner, R. van der Woude, T.M Shamorkina, G.P. Bosman, S. Herfst, B. Rockx, J. Snijder, B.L. Haagmans, A.B. Ward, G.J. Boons, and R.P. de Vries. 2021. Multimerization- and glycosylation-dependent receptor binding of SARS-CoV-2 spike proteins. *PLoS Pathog.* **17**(2): e1009282.
- 324 Sastre Toraño, J., O. Aizpurua-Olaizola, N. Wei, T. Li, L. Unione, G. Jiménez-Osés, F. Corzana, V.J. Somovilla, J.M. Falcon-Perez, and G.J. Boons. 2021. Identification of isomeric *N*-glycans by conformer distribution fingerprinting using ion mobility-mass spectrometry. *Chem. Eur. J.* **26**(6): 2149-2154.
- 323 Chopra, P., A. Joshi, J. Wu, W. Lu, T. Yadavalli, M.A. Wolfert, D. Shukla, J. Zaia, and G.J. Boons. 2021. 3-*O*-Sulfation of heparan sulfate modulates protein binding and lyase degradation. *Proc. Natl. Acad. Sci. U. S. A.* **118**(3): e2012935118.
- 322 Overeem, N.J., P.H.E. Hamming, O.C. Grant, D. Di Iorio, M. Tieke, M.C. Bertolino, Z. Li, G. Vos, R.P. de Vries, R.J. Woods,* N.B. Tito, G.J.P.H. Boons,* E. van der Vries,* and J. Huskens*. 2020. Hierarchical multivalent effects control influenza host specificity. *ACS Cent. Sci.* **6**(12): 2311–2318.
- 321 Sun, L., P. Chopra, and G.J. Boons. 2020. Modular synthesis of heparan sulfate oligosaccharides having *N*-acetyl and *N*-sulfate moieties. *J. Org. Chem.* **85**(24): 16082-16098.
- 320 Boruah, B.M., R. Kadirvelraj, L. Liu, A. Ramiah, C. Li, G. Zong, G.P. Bosman, J.-Y. Yang, L.-X. Wang, G.J. Boons, Z.A. Wood, and K.W. Moremen. 2020. Characterizing human α -1,6-fucosyltransferase (FUT8) substrate specificity and structural similarities with related fucosyltransferases. *J. Biol. Chem.* **295**(50): 17027-17045.
- 319 Verpalen, E.C.J.M., A.J. Brouwer, and G.J. Boons. 2020. Synthesis of monophosphoryl lipid A using 2-naphthylmethyl ethers as permanent protecting groups. *Carbohydr. Res.* **498**: 108152.
- 318 Srivastava, A.D., L. Unione, M.A. Wolfert, P. Valverde, A. Ardá, J. Jiménez-Barbero, and G.J. Boons. 2020. Mono- and di-fucosylated glycans of the parasitic worm *S. mansoni* are recognized differently by the innate immune receptor DC-SIGN. *Chem. Eur. J.* **26**(67): 15605-15612. **Selected as "Hot Paper"**.
- 317 Li, T., M.A. Wolfert, N. Wei, R. Huizinga, B.C. Jacobs, and G.J. Boons. 2020. Chemoenzymatic synthesis of *Campylobacter jejuni* lipo-oligosaccharide core domains to examine Guillain-Barré syndrome serum antibody specificities. *J. Am. Chem. Soc.* **142**(46): 19611-19621.
- 316 Williams, C.R., L. Chen, E.S. Sheppard, P. Chopra, J. Locklin, G.J. Boons, and D.C. Krause. 2020. Distinct *Mycoplasma pneumoniae* interactions with sulfated and sialylated receptors. *Infect. Immun.* **88**(11): e00392-20.
- 315 Lang, Y., W. Li, Z. Li, D. Koerhuis, A.C.S. van den Burg, E. Rozemuller, B.-J. Bosch, F.J.M. van Kuppeveld, G.J.P.H. Boons, E.G. Huizinga, H.M. van der Schaar, and R.J. de Groot. 2020. Coronavirus hemagglutinin-esterase and spike proteins co-evolve for functional balance and optimal virion avidity. *Proc. Natl. Acad. Sci. U. S. A.* **117**(41): 25759-25770.
- 314 Trabszo, C. B. Ramms, P. Chopra, R. Lüllmann-Rauch, S. Stroobants, J. Sproß, A. Jeschke, T. Schinke, G.J. Boons, J.D. Esko, T. Lübke, and T. Dierks. 2020. Arylsulfatase K inactivation causes mucopolysaccharidosis due to deficient glucuronate desulfation of heparan and chondroitin sulfate. *Biochem. J.* **477**(17): 3433-3451.
- 313 Du, W. M.A. Wolfert, B. Peeters, F.J.M. van Kuppeveld, G.J. Boons, E. de Vries, and C.A.M. de Haan. 2020. Mutation of the second sialic acid-binding site of influenza A virus neuraminidase drives compensatory mutations in hemagglutinin. *PloS Pathog.* **16**(8): e1008816.

- 312 Lettow, M., M. Grabarics, K. Greis, E. Mucha, D. Thomas, P. Chopra, G.J. Boons, R. Karlsson, J. Turnbull, G. Meijer, R. Miller, G. von Helden, and K. Pagel. 2020. Cryogenic infrared spectroscopy reveals structural modularity in the vibrational fingerprints of heparan sulfate diastereomers. *Anal. Chem.* **92**(15): 10228-10232.
- 311 Jansen, A.J.G., T. Spaan, H.Z. Low, D. Di Iorio, J. van den Brand, M. Tieke, A. Barendrecht, K. Rohn, G. van Amerongen, K. Stittelaar, W. Baumgärtner, A. Osterhaus, T. Kuiken, G.J. Boons, J. Huskens, M. Boes, C. Maas, and E. van der Vries. 2020. Influenza-induced thrombocytopenia is dependent on the subtype and sialoglycan receptor and increases with virus pathogenicity. *Blood Adv.* **4**(13): 2967-2978.
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Carbohydrate Recognition: Biological Problems, Methods, and Applications (B. Wang and G.J. Boons, eds.) 2011. John Wiley & Sons, Inc. (Wiley Series in Drug Discovery and Development).

Patents Issued (in reverse chronological order)

Boons, G.J., A.R. Prudden, and L. Liu: U.S. Publication Number 20210171562, titled “*Oligosaccharide Analytical Standards*” publication date June 10, 2021. Assignee: University of Georgia Research Foundation, Inc. (UGARF Case 2019-178).

- Boons, G.J.; US Utility Patent Serial Number 10,905,678, titled “*Site-specific Antibody-Drug Glycoconjugates and Methods*”, issued on February 2, 2021. Assignee: University of Georgia Research Foundation, Inc. (UGARF Case 2162).
- Digiandomenico, A., Q. Wang, C.K. Stover, G.J. Boons, K.-F. Mo, H. Li: US Utility Patent Number 10,870,710, titled “*Synthetic Oligosaccharide Subunits of the PSL Exopolysaccharide of Pseudomonas Aeruginosa and Uses Thereof*”, issued on December 22, 2020. Assignees: MedImmune, LLC.; University of Georgia Research Foundation, Inc. (UGARF Case 2350).
- Boons, G.J., A.P. Venot, K. Al-Mafraji, and S. Arungundram; US Utility Patent Number 10,174,132, titled “*Heparan Sulfate Synthesis*” issued on January 8, 2019. Assignee: University of Georgia Research Foundation, Inc. (UGARF Case 1509).
- Boons, G.J. and Z. Wang; US Utility Patent Number 9,938,312, titled “*Compounds and Methods for Chemical and Chemo-Enzymatic Synthesis of Complex Glycans*” issued on April 10, 2018. Assignee: University of Georgia Research Foundation, Inc. (UGARF Case 1678).
- Boons, G.J., J. Guo, X. Ning, and M.A. Wolfert; US Utility Patent Number 9,932,297, titled “*Alkynes and Methods of Reacting Alkynes with 1,3-Dipole-functional Compounds*” issued on April 3, 2018. Assignee: University of Georgia Research Foundation, Inc. (UGARF Case 1388).
- Boons, G.J., T. Buskas, S. Ingale, and M.A. Wolfert; U.S. Letters Patent Serial Number 9,446,144, titled “*Glycolipopeptide and Uses Thereof*” issued on September 20, 2016. Assignee: University of Georgia Research Foundation, Inc. (UGARF Case 1229).
- Boons, G.J., F. Friscourt, P.A. Ledin, and N.G. Mbuu; US Utility Patent Serial Number 9,315,468, titled “*Methods Including Latent 1,3-Dipole-Functional Compounds and Materials Prepared Thereby*”, issued on April 19, 2016. Assignee: University of Georgia Research Foundation, Inc. (UGARF Case 1695).
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- Boons, G.J. and J. Guo: US Utility Patent Serial Number 8,796,229, titled “*Feedback Prodrug*” issued on August 5, 2014. Assignee: University of Georgia Research Foundation, Inc. (UGARF Case 1231).
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Patents Pending (in reverse chronological order)

- Boons, G.J., R.J. van Beek, F. Broszeit, and R.P. de Vries: European Patent Application Number EP20179197.7, titled “*Means and methods for detecting, producing, isolating or characterizing*”

influenza” filed on June 10, 2020. Assignee: Universiteit Utrecht Holding B.V. (UU Case P126899EP00).

Boons, G.J. and X. Li; U.S. Provisional Patent Application Number 62/865,692, titled “*Dual Drug Antibody-Drug Conjugates*”, filed on June 22, 2019. Assignee: University of Georgia Research Foundation, Inc. (UGARF Case 2019-192).

Boons, G.J., P.A. Cohen, S.J. Gendler, V. Lakshminarayanan, and M.A. Wolfert: U.S. Continuation Patent Application Serial Number 14/695,413, titled “*Immunogenic Vaccine*” filed on April 24, 2015. Assignees: University of Georgia Research Foundation, Inc. (UGARF Case 1596); Mayo Foundation Medical Education & Research (Mayo Case 2010-246).