

# Alexei V. Demchenko, Ph.D.

## One-page summary

### PROFESSIONAL EXPERIENCE AND APPOINTMENTS

2014- Appointed Curators' Distinguished Professor of Chemistry and Biochemistry, UM – St. Louis  
2011-2014 Professor of Chemistry and Biochemistry, UM – St. Louis  
2007-2011 Associate Professor and Director of Graduate Studies in Chemistry and Biochemistry, UM – St. Louis  
2001-2007 Assistant Professor of Chemistry and Biochemistry, University of Missouri – St. Louis, USA  
1998-2001 Research Associate (Boons), Complex Carbohydrate Research Center, University of Georgia, USA  
1995-1998 BBSRC Post-Doctoral Research Fellow (Boons), University of Birmingham, UK  
1993-1995 Research Associate (Kochetkov), Zelinsky Institute of Organic Chemistry, Moscow, Russia

### EDUCATION, DEGREES

1988-1993 Ph.D. in Organic Chemistry (Kochetkov), Zelinsky Institute of Organic Chemistry, Moscow, Russia  
1982-1988 Diploma (M.S.T.) in Chemical Engineering, Mendeleev University of Chemical Technology of Russia

### RESEARCH INTERESTS

- Stereocontrol and other mechanistic aspects of chemical glycosylation; orthogonality of modern building blocks
- Expeditious strategies for the synthesis of complex oligosaccharides and glycoconjugates
- Metal complexes in synthetic carbohydrate chemistry: stereoselectivity, regioselectivity, activation, deactivation
- Fully synthetic glycotherapeutics (anti-cancer, anti-bacterial, anti-septic, etc.)
- Human milk oligosaccharides and other food additives and ingredients
- Solid phase and surface chemistry: application to the automated oligosaccharide synthesis

### SELECTED RECENT AWARDS

2020 Co-Investigators of the Year Award (with K. J. Stine), UM – St. Louis Office of Research  
2020 Academy of Science - St. Louis, Outstanding Scientists Awards - Fellows Award  
2017 Senior Investigator of the Year Award, UM – St. Louis Office of Research  
2014 American Chemical Society St. Louis Award  
2013 Chancellor's Award for Excellence in Research and Creativity  
2013 Mizutani Foundation for Glycoscience Award  
2007 New Investigator Award, American Chemical Society, Division of Carbohydrate Chemistry  
2005 CAREER Award, National Science Foundation

### SELECTED RECENT PROFESSIONAL ACTIVITIES AND HONORS

2020- Fellow of the Academy of Science – St. Louis  
2020-21 Chair, Division of Carbohydrate Chemistry, American Chemical Society  
2019- The National Representative of the USA for the International Carbohydrate Organization  
2019- President of the US Advisory Committee for the International Carbohydrate Symposia  
2015 Chair, Gordon Research Conference on Carbohydrates  
2012- Associate Editor, Journal of Carbohydrate Chemistry

### CURRENT RESEARCH SUPPORT

08/19-07/22 UM System Research and Creative Works Strategic Investment Program  
08/18-07/21 National Science Foundation (CHE-1800350)  
07/16-06/20 National Institutes of Health; NIGMS (U01GM120673)  
08/14-12/23 National Institutes of Health; NIGMS (2R01GM111835)

### REPRESENTATIVE PUBLICATIONS (SELECTED FROM 190+; SCOPUS H-INDEX 41)

S. A. Geringer, Y. Singh, D. J. Hoard, A. V. Demchenko. *Chem. Eur. J.*, **2020**, 26, in press  
M. P. Mannino, A. V. Demchenko. *Chem. Eur. J.*, **2020**, 26, 2927-2937 and 2938–2946  
Y. Singh, A. V. Demchenko. *Chem. Eur. J.*, **2020**, 26, 1042-1051  
M. Panza, M. Civera, J. P. Yasomanee, L. Belvisi, A. V. Demchenko. *Chem. Eur. J.*, **2019**, 25, 11831-11836  
Y. Singh, A. V. Demchenko. *Chem. Eur. J.*, **2019**, 25, 1461-1465 (Top downloaded paper 2018-2019)  
M. Panza, S. G. Pistorio, K. J. Stine, A. V. Demchenko. *Chem. Rev.*, **2018**, 118, 8105-8150

### BOOKS EDITED

*Handbook of Chemical Glycosylation*, A. V. Demchenko Ed., Wiley-VCH, **2008**  
*Frontiers in Modern Carbohydrate Chemistry*, A. V. Demchenko Ed., ACS Symp. Ser., **960**, **2007**