# Complex Carbohydrate Research Center at UGA

**Research Mission.** Since its founding in 1985, scientists at the Complex Carbohydrate Research Center (CCRC) have studied the structures and functions of the complex carbohydrates of plants, microbes and animals to determine the role of carbohydrates in growth and development, host-pathogen interactions and disease processes. The seventeen research groups at the CCRC use and develop diverse analytical techniques, including mass spectrometry, nuclear magnetic resonance (NMR) spectroscopy, computer modeling software, tissue culture, confocal microscopy, immunocytochemistry, molecular biology, and chemical and enzymatic synthesis techniques.

**Federal Centers.** The CCRC is the home of six federally designated centers: the Department of Energy-funded *Plant and Microbial Complex Carbohydrate Center*, the National Science Foundation-funded *Genomics Center: A Monoclonal Antibody Toolkit for Functional Genomics*, the National Institutes of Health/NCRR-funded *Research Resource for Integrated Glycotechnology*, the NIH/NCRR-funded *Integrated Technology Resource for Biomedical Glycomics*, the NIH/NIGMS-funded *Southeast Collaboratory for Biomolecular NMR* and DOE-funded *Bioenergy Science Center*.

**Facilities.** The CCRC occupies an approximately 140,000 sq.-ft. building specifically designed for the interdisciplinary and equipment-intensive nature of carbohydrate science. The center includes an analytical service facility that processes samples from researchers in both academia and industry. The building is organized to optimize cooperation and collaboration among disciplines, both within the CCRC and with scientists around the world. Completed in October 2003, this state-of-the-art facility contains 32 research laboratories; a 260-seat auditorium; a teaching laboratory; specialized rooms with NMR spectrometers (800-MHz and 900-MHz instruments) and mass spectrometers; plant and animal cell culture facilities; an animal holding facility; a computer center and specialized computer graphics facilities; a reading room; and rooms to house other widely used shared equipment.

Complex Carbohydrate Research Center
The University of Georgia
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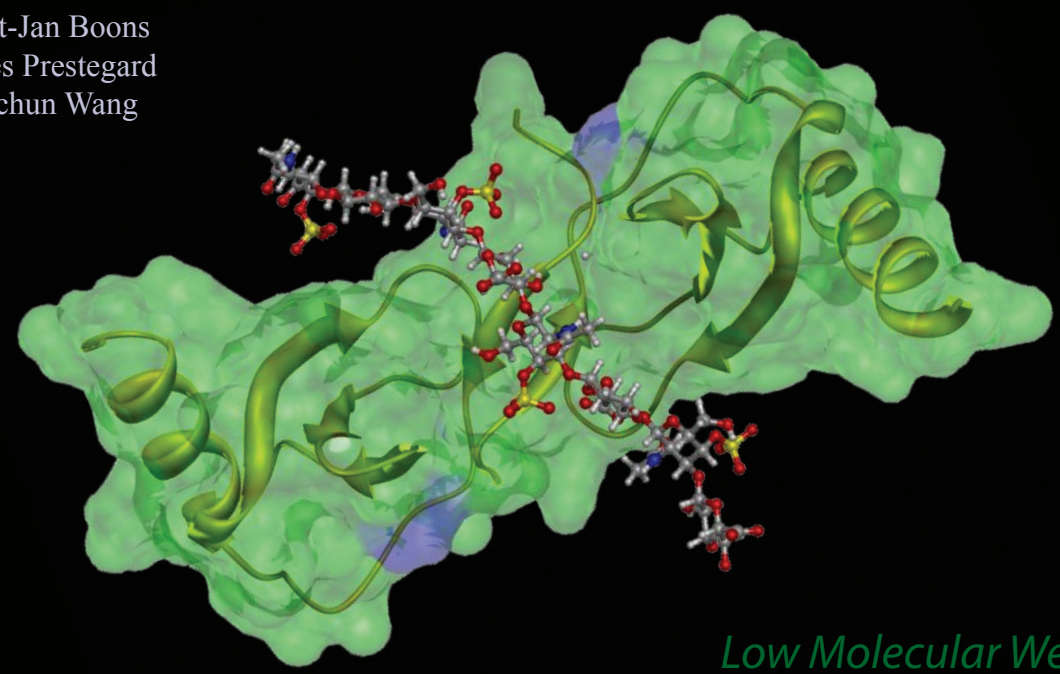
# Fourth Annual Georgia Glycoscience Symposium

*Symposium Organizers:*
Dr. Parastoo Azadi
Dr. Geert-Jan Boons
Dr. James Prestegard
Dr. Lianchun Wang



*Low Molecular Weight Heparins to Proteoglycans*

*For more information, contact:*
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## May 16, 2008

Complex Carbohydrate Research Center
The University of Georgia
Athens, Georgia, USA

Illustrated above is a glycosaminoglucan oligomer docked to the chemokine CCL5. The model was generated using the program Chimera, a crystal structure of CCL5 (PDB ID1U4L), and an oligosaccharide made with the GLYCAM web tool (http://glycam.ccrc.uga.edu).

**www.ccrc.uga.edu**

# The Georgia Glycoscience Symposium

**Invitation.** The faculty of the Complex Carbohydrate Research Center invite you to attend the Fourth Annual Georgia Glycoscience Symposium to be held at our facility on the banks of the Oconee River. The symposium will be held in conjunction with the advisory committee meeting for the National Institutes of Health /National Center for Research Resources-funded *Research Resource for Integrated Glycotechnology,* also taking place at the CCRC.

**Registration.** A registration fee of $30.00 is payable on-site and will be waived for the first 25 registrants. To register, please follow the Fourth Annual Georgia Glycoscience Symposium registration link on the CCRC Website (www.ccrc.uga.edu). Cash and check are accepted. Please make checks payable to "The University of Georgia."

**Posters.** Posters highlighting research of the glycoscience community will be available throughout the day. Poster abstracts should be submitted for consideration by April 18 to Karen Howard at *khoward@ccrc.uga.edu*.

**Directions and Parking.** Directions to the CCRC can be viewed or downloaded at *http://www.ccrc.uga.edu/location/locationframe.html*. Free parking will be available on site. Non-university attendees should see the receptionist for a parking permit.

**Accommodations.** For those planning to stay a night or two, we suggest making reservations at the following locations as soon as possible:

Holiday Inn and Holiday Inn Express- Athens
*www.hi-athens.com*
1-800-HOLIDAY

The Foundry Park Inn
*www.foundryparkinn.com*
(706) 549-7020 or 1-866-9ATHENS

Hilton Garden Inn - Athens
*www.stayhgi.com*
(706) 353-6800 or 1-877-STAY HGI

Please contact these establishments for room rates and reservations or visit *www.visitathensga.com* for additional options.

# Program

## *Low Molecular Weight Heparins to Proteoglycans*

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| 9:00 a.m. | **Introduction** |
| 9:10 a.m. | **Dr. Jeffrey Esko**, Professor of Cellular and Molecular Medicine, University of California, San Diego School of Medicine, "***Interrogating Heparan Sulfate with Small Molecules.***" |
| 9:45 a.m. | **Dr. Steven Rosen**, Professor and Vice Chair of Anatomy, University of California, San Francisco, "***The Sulfs As Extracellular Regulators of Heparan Sulfate Proteoglycans.***" |
| 10:20 a.m. | **Coffee Break** |
| 10:45 a.m. | **Dr. T.H. van Kuppevelt**, Professor of Biochemistry, Radboud University Nijmegen Medical Centre, Nijmegen Centre for Molecular Life Sciences, The Netherlands, "***Single Chain Antibodies to Heparan Sulfates: Looking at Saccharide Sequences Through the Microscope?***" |
| 11:20 a.m. | **Dr. Alan Rapraeger**, Professor of Pathology and Laboratory Medicine, School of Medicine and Public Health, University of Wisconsin-Madison, "***Syndecan-1 Regulation of Integrins in Tumorigenesis and Angiogenesis.***" |
| 11:55 a.m. | **Dr. Vincent Hascall**, Professor, Cleveland Clinic Lerner College of Medicine at Case Western Reserve University, "***Hyaluronan is an Inflammatory Proteoglycan.***" |
| 12:30 p.m. | **Lunch / Poster Viewing** |
| 1:45 p.m. | **Dr. Robert Linhardt**, Senior Constellation Professor of Biocatalysis and Metabolic Engineering, Rensselaer Polytechnic Institute, "***Advances in Glycosaminoglycan Synthesis and Analysis.***" |
| 2:20 p.m. | **Dr. Jeremy Turnbull**, Professor and Chair of Biochemistry, School of Biological Sciences, University of Liverpool, United Kingdom,"***Decoding the Structure-Activity Relationships of Heparan Sulfates.***" |
| 2:55 p.m. | **Coffee Break** |
| 3:20 p.m. | **Dr. Paul DeAngelis**, Professor of Biochemistry and Molecular Biology, University of Oklahoma Health Sciences Center, "***Glycoengineering Glycosaminoglycans by Chemoenzymatic Synthesis.***" |
| 3:55 p.m. | **Dr. Joseph Zaia**, Associate Director of Mass Spectrometry Resource and Associate Research Professor of Biochemistry, Boston University School of Medicine,"***Quantification of Functionally Relevant Glycosaminoglycan Domains.***" |
| 4:30 p.m. | **Discussion - *Challenges in Glycosaminoglycan Characterization*** |
| 5:00 p.m. | **Reception / Poster Viewing** |

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