

# PROGRAM BOOK

# 2017

*Glycobiology-Inside and Outside the Box:  
Collaborations Across Disciplines*

Annual Meeting • November 5-8, 2017

Portland, Oregon, USA • Hilton Portland Downtown

Chair: Karen J. Colley, Ph.D. • University of Illinois at Chicago



**SOCIETY for  
Glycobiology**

[www.glycobiology.org](http://www.glycobiology.org)

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# MOLECULAR & CELLULAR PROTEOMICS

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## About the Society for Glycobiology (SFG)

[www.glycobiology.org](http://www.glycobiology.org)

The Society for Glycobiology is a nonprofit scholarly society devoted to the pursuit of knowledge of glycan structures and functions, and to the sharing of that knowledge among scientists worldwide.

The society's mission is to research and stimulate personal communication in an inter-disciplinary sense, using as the common meeting ground an interest in the complex carbohydrates of glycoproteins, glycolipids, and glycosaminoglycans and the biological systems in which they are found.

# WELCOME LETTER



Dear Glycan Lovers, Wannabe Hipsters and Enthusiastic Sightseers – Welcome to the 2017 Society for Glycobiology Meeting in Portland, Oregon! I hope that during these next few days you will learn about cutting edge research, meet new investigators and potential collaborators, and take a little time to experience the lovely city of Portland and indulge in its inventive farm-to-table dining, renowned coffee culture, its craft beers, and Willamette Valley and Mt. Hood region wines.

Glycobiology research has expanded to touch most, if not all, biological fields, so it's a great time to be a glycobiologist or an aspiring glycobiologist! The Society for Glycobiology (SFG) has been in existence for 44 years and currently has 280 members from all around the world. In addition, the society is part of the Federation of American Societies for Experimental Biology, an organization that represents over 120,000 researchers. As a member of the SFG since the mid-1980's, as I planned this meeting my intention was to stay true to our long-standing tradition of collaboration and openness, and so....

The theme for this year's meeting is Glycobiology – Inside and Outside of the Box: Collaborations Across Disciplines. Our program is designed to highlight ground-breaking collaborations between glycobiologists and scientists in other fields, and to engage scientists using glycobiology in their research who have not previously attended or spoken at a SFG meeting. We have seven collaborative talks where two scientists share the stage to talk about their joint research, and several new faces in our speaker line-up.

This year we have two returning satellite meetings – Glyco-Bioinformatics organized by René Ranzinger and Glycoprotein Technologies organized by Parastoo Azadi. Our third satellite meeting is a Trainees Mentoring Session organized by myself and Lance Wells that will focus on next steps for all trainees. For undergraduates – what's needed to be competitive for graduate school, for graduate students – how to get that optimal postdoc position, and for all trainees – what glycobiology-friendly careers are available. The mentoring will continue to go on throughout the meeting with postdocs and more senior graduate students helping those newer to the field navigate the meeting and poster sessions. And, you established guys, don't be surprised if you are asked to meet with a junior scientist who admires your work!

# WELCOME LETTER

I want to congratulate the accomplished individuals who have won awards this year and who will be presenting award lectures during the meeting. In the opening session on Monday evening we will honor two truly outstanding awardees: Jamey Marth, the winner of the Karl Meyer Lectureship Award, and Gillian Air, the winner of the Rosalind Kornfeld Lifetime Achievement Award. On Monday evening, we will hear from Kevin Campbell, the winner of the 2017 President's Innovator Award, who has brought significant recognition to the field of glycobiology through his work on a-dystroglycan O-mannosylation and its connections to muscular dystrophy. Finally, on Tuesday evening we will honor the Molecular and Cellular Proteomics (MCP) Award winner, Stuart Haslam, and the Glycobiology Significant Achievement Award winner, H. Jafar Nejad. We are grateful to the American Society for Biochemistry and Molecular Biology (ASBMB) for sponsoring the MCP Award, and to Oxford University Press for sponsoring the Glycobiology Significant Achievement Award.

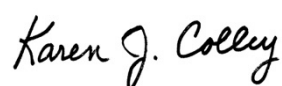
The Society also congratulates the 35 graduate student and postdoctoral trainees selected to receive travel awards and the 21 speakers selected from the abstract submissions. Finally, we would also like to thank Dr. Lawrence Tabak, Principal Deputy Director of the NIH, for agreeing to fill us in on the news from the NIH in one of our Wednesday morning sessions.

The support we receive from our sponsors is essential for the success of this meeting and all our meetings. Please visit their booths and tables, learn about their products and services, and let them know that the Society very much appreciates their sponsorships.

I also want to extend my heartfelt thanks to the Program Committee/Session Chairs for helping with the development of the program, the society officers and the Board of Directors who have provided important advice during the planning of the meeting, and Silvy Song and her staff at FASEB for their organizational support.

I look forward to sharing a memorable Society for Glycobiology Annual Meeting in Portland with you!

Sincerely,



Karen Colley

President of the Society for Glycobiology

## Meeting Venue

Hilton Portland Downtown  
921 SW 6th Ave, Portland, OR 97204 USA

## Awards

Those who have been notified that they are Student Travel Award recipients may pick-up their checks at the registration desk (signature required).

## Badges

In an effort to enhance security, we ask all attendees to please wear your badge for the duration of the conference. Badges will be required for admission to sessions and refreshment functions. Your badge not only indicates that you are fully registered for conference, but is also a courtesy to other registrants.

## Catering

Included in registration fees are the following catered events:

- Sunday night reception light hors d'oeuvres
- Monday, Tuesday, Wednesday light breakfast fare and coffee
- Daily coffee breaks

## Dress

Dress during the conference is business casual. Be sure to dress in layers and carry a sweater as temperature in the meeting rooms is difficult to regulate, and meeting rooms may be cold or warm.

## Exhibition

Please take time to visit the exhibit displays in the Plaza Foyer during the opening reception, breaks and poster sessions. See the exhibitor listing for detailed information regarding our sponsoring companies.

## Exhibit Hours

Sunday, November 5, 2017 | 7:30PM – 9:30PM

Monday, November 6, 2017 | 1:30PM - 4PM

Tuesday, November 7, 2017 | 1:30PM - 4PM

## Internet Access

Internet access is complimentary in the guest rooms for those staying on site at the hotel within the meeting block common areas of the hotel. Complimentary access is also provided by the conference for attendees in meeting spaces.

***Use password: glyco2017***

## Liability

Neither the host venue nor the organizers can be held responsible for any personal injury, loss, damage to private property or additional expense incurred as a result of delays or changes in air, rail, sea, road or other services. All participants are encouraged to make their own arrangements for health and travel insurance.

## Poster Sessions

Poster boards will be set-up in Atrium Ballroom. Organizers are not responsible for any materials posted. Posters will be presented in two separate sessions with an accompanying coffee break and will be up for the duration of the conference.

**Poster session 1:** Monday, November 6, 2017 @ 1:30 – 4:00PM

**Poster session 2:** Tuesday, November 7, 2017 @ 1:30 – 4:00PM

**Set-up:** Begin mounting posters starting Sunday, November 5, 2017 starting 1PM until any time before poster session 1.

**Break-down:** Tuesday, November 7, 2017 after poster session 2 (approx. 4PM)

## Registration

Registration fees exclude travel, accommodations, abstract submission, pre-conference satellites, and banquet tickets. These are separate from the main conference registration and must be purchased separately. On-site registration will be accepted with payment via checks and credit cards.

## Speakers

Presenters are asked to upload their presentations as soon as possible to: <https://goo.gl/PsQ9Fg> then visit the on-site technician in the general session room (Pavilion Ballroom) at least 2 hours prior to their sessions for final tech check. Please arrive in your session room at least 30 minutes prior to your start time.

## Special Needs

Registrants with special needs are invited to contact the Registration Desk or hotel concierge for assistance.

# GENERAL INFO

## **Social Events**

**Sunday, November 5, 2017**

**7:30PM – 9:30PM**

**Opening Reception & Exhibits @ Atrium Ballroom of the Hilton Portland Downtown**

This event will mark the opening of the conference. Exhibits will be open, light hors d'oeuvres will be served, along with a cash bar. Please come and join your fellow attendees to celebrate the official opening of the program.

**Tuesday, November 7, 2017**

**7:00PM – 10:00PM**

**Banquet @ Atrium Ballroom of the Hilton Portland Downtown**

Enjoy this banquet reception with full buffet dinner, cash bar, live band entertainment, and conversation with fellow professionals.

\*\*\*ADVANCE TICKET PURCHASE REQUIRED. Limited availability, first come first served

## **Other Meetings**

**Sunday, November 5, 2017**

**Satellite I: Glyco-Bioinformatics (10-5PM; Broadway Room 1)**

Glycomics research has gained significant impact over the past decade due, in part, to technical advances that allow data to be generated with greater accuracy and throughput. However, computational methods for the analysis and interpretation of glycomics data have not kept pace with these advances in data generation. As a consequence, manual processing and interpretation of glycoanalytic data is still common practice, in spite of the recent development of many software programs and databases that provide tools and information that can significantly reduce data processing and interpretation time. The satellite meeting on Glyco-Bioinformatics brings software developers and database providers together with biological and biomedical scientists who can benefit from these informatics resources. The aim of the meeting is to provide these scientists with an overview of currently available tools and illustrate how these tools can benefit their research. The meeting consists of two sessions: (1) Databases, Tools and Standards – providing an overview of new databases, 3D structure tools and representation standards; and (2) Mass spectrometry software tools – providing an overview of software programs for the interpretation of glycomics and glycoproteomics data generated by mass spectrometry. Each tool is introduced by a short presentation followed by a brief discussion. A live software demonstration session is scheduled near the end of the meeting. Our hope is that this meeting will engender collaborations that will lead to improved technologies for both glycoanalysis and glycoinformatics.

**Satellite II: Glycoprotein Technologies (9AM-1PM; Broadway Room 2)**

This session strives to highlight recent advances in glycosciences that impact biopharmaceutical development; this is the junction at which glycobiology research meets the development of biotherapeutics. The scope of this session ranges from advances in bioprocess control and glyco-engineering to downstream analytical/ characterization techniques to product commercialization and life cycle management. Presentation topics often include new analytical techniques or systems for glycan



analysis, functional studies, pharmacokinetics/pharmacodynamics, glyco-optimization, the production of biosimilars, as well as glycosylation as a point of interest for regulatory agencies. The evolution of new methodologies in glycoprotein and glycoproteomics research will be highlighted with particular emphasis on importance and significance of glycosylation and tools to study glycoproteins from cells and tissue.

### **Satellite III: Trainee Mentoring Program (9AM-3PM; Broadway Rooms 3/4)**

Undergraduate, graduate, and postdoctoral trainees are encouraged to register for and attend the Trainee Mentoring Program that is intended to assist them in reaching the next stages in their training/careers, expose them to the wide array of career opportunities in glycobiology, and introduce them to senior scientists who could become their future research mentors. For those new to the field of glycobiology, one-on-one near peer mentoring and guidance will continue throughout the meeting via “big sibling” relationships with more experienced junior scientists. Participants will also be encouraged to attend sessions by leaders from the NIH on grant funding opportunities. This mentoring session is open to all student and postdoctoral meeting attendees, however we particularly encourage those individuals from groups underrepresented in the STEM disciplines to participate and to apply for the FASEB Mentored Poster/Platform Presenter Award being offered in conjunction with this meeting.

### **Board of Directors Meeting (3:30 – 5PM; Broadway Rooms 3/4)**

Annual in-person meeting of the SFG leadership. For invitees only.

### **Monday, November 6, 2017**

#### **Glycobiology Editorial Board Meeting (12:25-1:30PM; Broadway Rooms 3/4)**

Annual in-person meeting for the Glycobiology publications team. For invitees only.

### **Tuesday, November 7, 2017**

#### **SFG Business Meeting (3:30PM – 4:15PM; Pavilion Ballroom)**

Open to all attendees. The SFG leadership will report on the organization’s current overall status and announce any important updates relevant to the membership. The advice and guidance of the membership on current society issues are welcome in this “open forum” meeting. If you are not currently a member, applications are online and available at the Registration Desk.

# GENERAL INFO

# SOCIETY LEADERSHIP



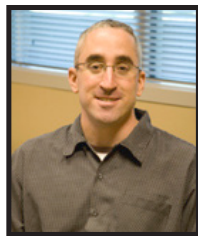
President  
**Dr. Karen Colley**  
University of Illinois at Chicago



Past-President  
**Dr. Christine Szymanski**  
CCRC, University of Georgia



President-Elect  
**Kelley Moremen**  
CCRC, University of Georgia



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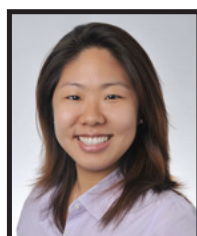
Board of Director  
**Dr. J. Michael Pierce**  
CCRC, University of Georgia



Board of Director  
**Dr. Nancy Dahms**  
Medical College of Wisconsin



Board of Director  
**Dr. Hans Wandall**  
University of Copenhagen



Business & Meetings Manager  
**Silvy Song**  
Federation of American Societies  
for Experimental Biology (FASEB)

## Invited Speakers

**Pablo Argüeso** (*Schepens Eye Research Institute/ Massachusetts Eye and Ear, Harvard*)

**Alisdair Boraston** (*University of Victoria*)

**Joy Burchell** (*Kings College London*)

**Joe Contessa** (*Yale University*)

**Richard Cummings** (*Beth Israel Deaconess Medical Center, Harvard Medical School*)

**Matthew DeLisa** (*Cornell University*)

**Jeff Esko** (*UCSD*)

**Tom Gerken** (*Case Western Reserve University*)

**Reid Gilmore** (*University of Massachusetts Medical School*)

**Robert Haltiwanger** (*CCRC, University of Georgia*)

**Jerry Hart** (*Johns Hopkins*)

**Stuart Haslam** (*Imperial College London*)

**Jennifer Kohler** (*UT Southwestern Medical Center*)

**Olof Lagerlöf** (*Karolinska Institute*)

**Clifford Lingwood** (*The Hospital for Sick Children, University of Toronto*)

**Adam Linstedt** (*Carnegie Mellon University*)

**Vincent Luca** (*Moffitt Cancer Center*)

**Chiara Manzini** (*George Washington University*)

**Pamela Marino** (*NIH*)

**Anant Menon** (*Weill Medical College, Cornell University*)

**Michelle Ozbun** (*University of New Mexico*)

**Colin Parrish** (*Cornell University College of Veterinary Medicine*)

**Maura Poli** (*University of Brescia, Brescia, Italy*)

**Natividad Ruiz** (*The Ohio State University*)

**Charles Schwartz** (*Greenwood Genetic Center*)

**Matthew Shoulders** (*MIT*)

**Herta Steinkellner** (*Universität für Bodenkultur Wien*)

**Christine Szymanski** (*CCRC, University of Georgia*)

**Lawrence Tabak** (*NIH*)

**Michael Tiemeyer** (*CCRC, University of Georgia*)

**Louis Weiss** (*Albert Einstein College of Medicine*)

**Lance Wells** (*CCRC, University of Georgia*)

**Christopher West** (*University of Georgia*)

**Lijun Xia** (*Oklahoma Medical Research Foundation*)

**Ulf Yrlid** (*University of Gothenburg, Sweden*)

## Session Chairs

**Parastoo Azadi** (*CCRC, University of Georgia*)

**Susan Bellis** (*University of Alabama at Birmingham School of Medicine*)

**Karen Colley** (*University of Illinois at Chicago*)

**Nancy Dahms** (*Medical College of Wisconsin*)

**Don Jarvis** (*University of Wyoming*)

**Anant Menon** (*Weill Medical College/Cornell University*)

**Kelley Moremen** (*CCRC, University of Georgia*)

**Rene Ranzinger** (*CCRC, University of Georgia*)

**Christine Szymanski** (*CCRC, University of Georgia*)

**Lance Wells** (*CCRC, University of Georgia*)

**Christopher West** (*University of Georgia*)

# INVITED SPEAKERS

## **President's Innovator Award**

Established in 2015, this award is given by the President of the Society for Glycobiology to a scientist who is responsible for an outstanding scientific innovation in the field of Glycoscience.

*2017 winner: Dr. Kevin Campbell (Howard Hughes Medical Institute, University of Iowa)*

## **Karl Meyer Lectureship Award**

In 1990 the Society established the Karl Meyer Lectureship Award was established "to honor the distinguished career of Karl Meyer and his outstanding contributions to the field of Glycobiology". This international award is now presented at the Annual Meeting of the Society to "well-established scientist with a currently active research program who has made widely recognized major contributions to the field of Glycobiology."

*2017 winner: Dr. Jamey Marth (Carbon Professor of Biochemistry & Molecular Biology, Mellichamp Professor of Systems Biology, and Director of the Center for Nanomedicine and the SBP Medical Discovery Institute, University of California Santa Barbara)*

## **Rosalind Kornfeld Award for Lifetime Achievement in Glycobiology**

The Rosalind Kornfeld Award for Lifetime Achievement in Glycobiology was established in 2008 to honor the distinguished scientific career and service to the Society by Dr Rosalind Kornfeld. The award is given by the Society to scientists who have, over their professional lifetimes, made significant contributions with important impact on the field.

*2017 winner: Dr. Gillian Air (George Lynn Cross Professor and Interim Chair of Biochemistry & Molecular Biology, Associate Dean of the Graduate College, University of Oklahoma Health Sciences Center, Oklahoma City, OK)*

## **Glycobiology Significant Achievement Award**

Oxford University Press (publisher of Glycobiology) and the Society for Glycobiology established this award for new and mid-career scientists that have made a key discovery during their early careers with the potential to have a substantial impact on the glycoscience community.

*2017 winner: Dr. Hamed Jafar-Nejad (Department of Molecular and Human Genetics at Baylor College of Medicine)*

## **The Molecular and Cellular Proteomics (MCP) / American Society for Biochemistry and Molecular Biology (ASBMB) Lectureship Award**

*Molecular & Cellular Proteomics*, an official publication of the American Society for Biochemistry and Molecular Biology, introduced its sponsored lectureship series as part of its 10th anniversary celebration in 2011. Each lecturer is a leader in the field of proteomics who presents his or her particular research and interests, with the intent to expand on proteomics' potential to ask (and answer) increasingly complex questions associated with health, energy, food supply and the environment. The lectureships are given at germane meetings and symposia throughout the year, and the lecturers are chosen by the organizers of those meetings. Each lecturer is presented with a crystal plaque to commemorate the occasion.

*2017 winner: Dr. Stuart Haslam (Imperial College London)*

## **Society for Glycobiology Student/ Post-Doctoral Fellow Travel Award**

Student travel awards are given to help students and post-docs gain the experience and exposure that comes from attending and presenting at SFG conferences. The travel awards are intended to help students defray some of the costs of their attendance.

## 2017 Travel Award Winners

**Kavita Agarwal**

*(Washington University in St. Louis)*

**Yukie Akune**

*(Imperial College London)*

**Gaurang Bhide**

*(University of Illinois at Chicago)*

**Katarzyna Brzezicka**

*(Open University)*

**Thais Canassa De Leo**

*(University of Sao Paulo)*

**Daniela Janevska Carroll**

*(Northwestern University Feinberg School of Medicine)*

**Ishita Chandel**

*(Texas A&M University)*

**Kai Cheng**

*(University at Buffalo)*

**Charles Fermaintt**

*(UT-Southwestern Medical Center)*

**Matthew Foley**

*(University of Michigan)*

**Chao Gao**

*(Beth Israel Deaconess Medical Center)*

**Huilin Hao**

*(University of Georgia)*

**Audra Hargett**

*(University of Alabama at Birmingham)*

**Masae Hosoda**

*(Soka University)*

**Brooke Howell**

*(Texas A&M University)*

**Peter Hsueh**

*(Michigan State University)*

**Simone Kurz**

*(University of Georgia)*

**Masaaki Matsubara**

*(University of Georgia)*

**Kenjiro Matsumoto**

*(University of Georgia)*

**Nicole Nischan**

*(University of Texas Southwestern Medical Center)*

**Douglas Oswald**

*(Case Western Reserve University)*

**Earnest James Paul Daniel**

*(Case Western Reserve University)*

**Yeni Perez-Gelvez**

*(University of Georgia – CCRC)*

**Nicholas Riley**

*(University of Wisconsin-Madison)*

**Lilian Cataldi Rodrigues**

*(University Of São Paulo)*

**Asif Shajahan**

*(University of Georgia)*

**M. Osman Sheikh**

*(University of Georgia)*

**Adrienne Stefanski**

*(University of Colorado)*

**Tyler Stewart**

*(University of Alabama at Birmingham)*

**Mitali Tambe**

*(Sanford Burnham Prebys Medical Discovery Institute (SBP))*

**Jonathan Viola**

*(University of Georgia)*

**Mohui Wei**

*(Harvard Medical School)*

**Ryan Weiss**

*(University of California, San Diego)*

**Han Wu**

*(University of Texas Southwestern Medical Center)*

**Kun Yang**

*(UT Southwestern Medical Center)*

# SOCIETY AWARDS

## President's Innovator Award Winner

The purpose of the Society for Glycobiology President's Innovator Award is to acknowledge the contributions of one scientist each year that has made a significant impact on society. This year, the award will be presented to **Dr. Kevin Campbell**, National Academy of Science Member and Investigator of the Howard Hughes Medical Institute, from the University of Iowa where he is currently the Department Head and Roy J. Carver Chair of Molecular Physiology and Biophysics and the Director of the Paul D. Wellstone Muscular Dystrophy Cooperative Research Center. Dr. Campbell did his undergraduate studies in the Bronx of New York at Manhattan College receiving his B.S. in Physics. He then did both his M.S. and Ph.D. in Biophysics at the University of Rochester. His studies continued as a post-doctoral fellow at the University of Toronto with Dr. David MacLennan. He joined the faculty at the University of Iowa where he has spent his entire career to date. Dr. Campbell has been the mentor of ~70 trainees including post-doctoral fellows as well as Ph.D. and M.D./Ph.D. students. Together, they have pioneered our understanding of the mechanisms underlying congenital muscular dystrophy. His team's early work defined and established the role of the Dystrophin-Glycoprotein (alpha-dystroglycan) Complex in muscle integrity. They went on to establish the essential role of O-glycosylation on dystroglycan for the protein to function as an extracellular matrix receptor and established how defects in glycosyltransferases involved in the O-mannosylation pathway are causal for muscular dystrophy. They have led the field in delineating the essential O-mannose glycan structure



that is responsible for binding LG domain-containing proteins of the extracellular matrix and the properties of the enzymes that facilitate synthesis of this crucial, complex O-glycan.

By identifying and defining disease mechanisms that cause muscular dystrophy, they are currently working to develop therapeutic strategies for these diseases. The quality and impact of Dr. Campbell's research is of the highest caliber and the respect for his work is perhaps best reflected by the fact that his publications have been cited by others over 60,000 times (generating a mind-boggling h-index of 135 and an i10-index of 423). In addition to his appointment as an HHMI investigator and a member of the National Academy of Sciences, Dr. Campbell is a fellow of the American Academies of Arts and Sciences and Microbiology and a fellow of the Biophysical Society and Institute of Medicine of the National Academy of Sciences. Just a few of his awards include the American Academy of Neurology Decade of the Brain Award, G. Conte Prize for Basic Research, S. Mouchly Small MDA Scientific Achievement Award, the March of Dimes Prize in Developmental Biology, and the A. Ross McIntyre Award.

## The 2017 Karl Meyer Lectureship Award and the Rosalind Kornfeld Award for Lifetime Achievement in Glycobiology

The Society for Glycobiology is pleased to announce Dr. Jamey Marth as the recipient of the 2017 Karl Meyer Lectureship Award and Dr. Gillian Air as the recipient of the 2017 Rosalind Kornfeld Award for Lifetime Achievement in Glycobiology<sup>2</sup>. The Karl Meyer Award was established in 1990 to honor the distinguished career of Karl Meyer and his outstanding contributions to the field of Glycobiology. This international award is given to well-established scientists with currently active research programs who have made widely recognized major contributions to the field of Glycobiology. The Rosalind Kornfeld Award was established in 2008 to honor the distinguished scientific career and service to the Society by Dr. Rosalind Kornfeld. The award is given by the Society to scientists who have made significant contributions with an important impact on the field of Glycobiology over their professional

lifetimes.

**Dr. Jamey Marth** (Carbon Professor of Biochemistry & Molecular Biology, Mellichamp Professor of Systems Biology, and Director of the Center for Nanomedicine and the SBP Medical Discovery Institute, University of California Santa Barbara) was a student in the mid-sixties in St. Petersburg, Florida, where each year he attended one of the nation's first science immersion summer camps, which still exist today. During the Vietnam war era, as a young American serviceman stationed at Clark Airbase in the Philippines, Jamey reflected on the need to be better educated after returning to the USA and civilian life. He chose to focus on the then new science of molecular biology at the University of Oregon. After earning his Bachelor's degree, Jamey earned his PhD at the University of Washington under the supervision of then future Nobel laureate Edwin G. Krebs and current Merck VP Roger M. Perlmutter. His thesis project dealt with cloning and characterization of the proto-oncogene *lck*, which was found to encode a T-cell specific tyrosine kinase. Protein kinases were a hot topic in the eighties and Jamey managed to eclipse other teams who started earlier in making this discovery. At the time, p56<sup>lck</sup> was only the second src-like tyrosine kinase to be identified from normal mammals, thus allowing the first comparisons of what became the src family of tyrosine kinases. Jamey later showed p56<sup>lck</sup> is regulated by translational mechanisms that are usurped by viral mutagenesis, which earned the then young graduate student multiple high impact publications and the recognition of the kinase and signal transduction research communities.

After completing his PhD, Jamey continued working on hemopoietic tyrosine kinases with Roger Perlmutter in Seattle and acquired expertise in mouse transgenesis at the Cold Spring Harbor Laboratory. After a brief stint in the biopharmaceutical industry at Oncogen Corp., in 1989 Jamey was recruited to a position at the Biomedical Research Centre and became and as an Assistant Professor at the University of British Columbia. He continued to study the mechanisms of T-lymphocyte maturation



and activation, and produced the first transgenic and gene-targeted mouse models in British Columbia. Jamey's laboratory laid the groundwork for conditional gene targeting by applying the Cre-loxP recombination system to mouse transgenesis for the first time. This technique was further validated as a way to control gene mutagenesis among specific tissues and cells of intact animals and continues to be an essential experimental approach enabling groundbreaking discoveries by many laboratories in disparate fields.

In Canada, John Schrader introduced Jamey to Harry Schachter, who sparked Jamey's interest in glycobiology. This led to a close collaboration on the study of complex *N*-glycans, which was tackled by investigating multiple mouse models harboring dysfunctional *Mgat1*, *Mgat2*, *Mgat3*, *Mgat4a*, and *Man2a1* genes. This demonstrated the essential contributions of complex *N*-glycans not just in embryogenesis, but also in unexpected physiological processes including disease mechanisms. For example, a consensus had prevailed in diabetic physiology that glucose uptake and retention in pancreatic beta cells is controlled by glucokinase, not glucose transport. However, characterization of *Mgat4a*-null mice and their overlap with the mechanism of obesity-induced diabetes in multiple publications elegantly demonstrated the single complex *N*-glycan decorating the glucose transporter GLUT2 regulates its stability at the cell surface, thereby regulating glucose uptake. Thus, it was found glucose uptake determines the appropriate rate and timing of glucose-6-phosphate formation in regulating insulin secretion. This seminal contribution from Jamey and his team established the importance of *N*-glycosylation and its regulation in a disease for which gene variation is not the primary cause. In other studies, Jamey's laboratory discovered a novel mechanism of autoimmune disease that is induced by immune recognition

# AWARDEEMERS

of aberrant protein glycosylation, thereby identifying the unexpected origin of another common disease.

In 1995, Jamey returned to the United States with the support of Nobel laureate Dr. George Palade, as well as Marilyn Farquhar, Ajit Varki, and other colleagues, and was appointed as a Howard Hughes Investigator and Professor of Cellular and Molecular Medicine at UCSD. By then, his research group was entirely dedicated to the biology of protein glycosylation. During the next decade, his investigations of additional glycosylation defects in mouse models, such as the disruptions of various sialyltransferase genes, further demonstrated the significance of glycosylation in hemostasis and sepsis. Those studies enabled his laboratory's subsequent remarkable finding that the Ashwell-Morell receptor operates in a recognition mechanism involving endogenous protein aging and turnover by desialylation, as was first suggested by Gilbert Ashwell and Anatol Morell almost five decades earlier. The large collection of mouse strains generated by Jamey's laboratory, which he has deposited with JAX, is now a valuable resource for the scientific community, and should lead to other important discoveries of the biological roles of specific glycans and their receptors.

Since 2009, Jamey has been at the University of California Santa Barbara, where he took leadership of the newly founded Center for Nanomedicine. In addition to his ongoing research, he developed and implemented a new curriculum in Cell Biology and Bioengineering at UCSB that introduced the fascinating world of glycobiology to undergraduate students and future life scientists of high school age, as Jamey himself experienced during his early immersion into science. The 2017 Karl Meyer Lectureship Award recognizes Jamey's enduring dedication to glycobiology and seminal contributions, which have highlighted the functional roles of glycans across

the broad biomedical community.

**Dr. Gillian Air** (*George Lynn Cross Professor and Interim Chair of Biochemistry & Molecular Biology, Associate Dean of the Graduate College, University of Oklahoma Health Sciences Center, Oklahoma City, OK*) trained as a protein biochemist during graduate school in Australia before moving to Cambridge to sequence phage proteins with Fred Sanger and colleagues at a time when women were infrequently found working as biochemists. She returned to Australia to transition to the study of influenza viruses, eventually focusing on the major surface glycoproteins, which are the hemagglutinin and the neuraminidase. The significance of their interactions with terminal sialic acids for viral virulence was known at the time and continues to be of profound interest to this day. Upon moving to the University of Alabama, Gillian implemented new methods in cDNA and protein sequencing to pioneer studies on the evolution of influenza antigenic drift and selection, in collaboration with Robert Webster and Graeme Laver. Both topics were and are highly relevant to vaccine development. Gillian also brought expertise in molecular biology to a highly fruitful collaboration with X-ray crystallographer Ming Luo and chemist Wayne Brouillette to develop a structure-based approach for discovering new neuraminidase inhibitors. Their best inhibitor had sub-nanomolar affinity and, after further medicinal chemistry at Biocryst Pharmaceuticals Inc., it was approved by the FDA and commercialized as injectable RapiVab (Peramivir). Gillian also used the inhibitors to investigate the role of the neuraminidase in infection, and found a role in depleting sialic acid from virus might be more pertinent than a role in host cell surface remodeling to inhibit reinfection.

Gillian's move to the University of Oklahoma Health Sciences Center and the Oklahoma Center for Medical Glycobiology in 1996 enabled a new focus on the influenza viral hemagglutinin. She applied her vast knowledge of flu virus lineages to correlate evolutionary changes in serology and sialic acid specificity with pathophysiology. Expanded through the use of the Consortium for Functional Glycomics (CFG) Core H glycan microarray, her research revealed many glycan features beyond the linkage of terminal sialic acids contribute to recognition. She also found specificity changes can be better explained as a loss of promiscuity than a gain of novel recognition. She established herself as a thoughtful and respected authority



on the multifactorial basis of host cell glycan involvement in virulence, viewed through the lens of evolutionary variation. She also expanded her studies to include parainfluenza viruses, which have a combined neuraminidase/hemagglutinin, and characterized the balance between the two activities of the single active site.

Gillian has contributed foundational and penetrating ‘basic science’ thinking and objectivity that will be essential for the future development of advanced inhibitors and vaccines that might someday control influenza pandemics.

Her 187 publications document a remarkably productive >50 year career. Her work in viral glycobiology was supported by an NIH R01 grant entitled “Glycoconjugates in viral pathogenesis” from 1982 to 2008 and she held an R37 Merit Award and additional NIH grants during most of that period and beyond. Though she recently closed her lab, Gillian continues to serve as a consultant and mentor on NIH grants. In addition, she was and is a community builder. While at Alabama, she directed two training grants and directed a protein core laboratory. She has been a perennial grant reviewer for NIH, where she tirelessly defended the importance of discovery in addition to translational research at NIAID. She was Subgroup 1 (Microorganism recognition of host glycans) leader in the CFG and helped organize three NIH and CFG workshops/symposia on glycan arrays. She was on the editorial boards of *Virology* and the *Journal of Virology* for many years and continues to serve for *Glycobiology* and *BMC Virology*. She was elected a Fellow of the AAAS and now serves as Secretary of the AAAS Medical Sciences Section. She has been highly sought for advice on various national and international advisory boards and committees for NIH, FDA, hospitals, and companies. She has had no less positive impact at home, where she was appointed as George Lynn Cross Research Professor – the highest research honor that can be bestowed on OUHSC faculty.

Gillian has been a tenacious yet superlatively fair-minded investigator, courageously forging her way as a woman scientist across three continents to leave an enviable



record, which has moved the field forward in many ways. The 2017 Rosalind Kornfeld Award for Lifetime Achievement in Glycobiology recognizes Gillian’s monumental accomplishments and tireless advocacy for glycobiology, which are excellent reflections of the spirit of Rosalind Kornfeld.

## Glycobiology Significant Achievement Award

The Glycobiology Significant Achievement Award is given annually by Oxford University Press (publisher of *Glycobiology*) to honor a new or mid-career scientist that has made a key discovery during their early careers with the potential to have a substantial impact on the glycoscience community. This year, Oxford is delighted to present the Glycobiology Significant Achievement Award to **Dr. Hamed Jafar-Nejad**, Associate Professor in the Department of Molecular and Human Genetics at Baylor College of Medicine. The award will be given to Dr. Jafar-Nejad at the Society for Glycobiology Annual meeting this November in Portland, Oregon. Dr. Jafar-Nejad has made significant contributions in multiple areas, including our understanding of O-glycosylation of the Notch receptor and of molecular mechanisms affected in patients with NGLY1 deficiency. Regarding O-glycosylation of Notch, Dr. Jafar-Nejad demonstrated that the enzyme which adds O-glucose to EGF repeats in the extracellular domain of the Notch receptor (Rumi in flies, POGlut1 in mice) is essential for development in both flies and mice, and that addition of O-glucose is not only essential for Notch activity, but for proper function of other proteins as well (e.g. a fly protein called Eyes shut, mutations in whose human homolog cause autosomal recessive retinitis pigmentosa). His lab has generated a mouse model of the human disease Alagille syndrome, an autosomal dominant disorder caused by mutations in the Notch ligand Jagged1,

AWARDS WINNERS

# AWARD WINNERS



and shown that reducing the gene dosage of *Poglut1* can rescue some phenotypes, suggesting a role for O-glycosylation in this disease. His lab has gone on to demonstrate that elongation of O-glucose residues with xylose on Notch is inhibitory, raising the possibility that Notch activity can be increased or decreased by alterations in the O-glucose glycan structures. Regarding NGLY1, Dr. Jafar-Nejad's group has studied *Ngly1*-mutant flies and has recently reported that *Ngly1* is required in the fly mesoderm to regulate BMP signaling. They are using these mutants to identify relevant targets of NGLY1 that could lead to therapies for this disease. Thus, Dr. Jafar-Nejad has made several notable contributions that have significantly impacted the glycoscience community, and have the potential to benefit families suffering from Alagille Syndrome and NGLY1 deficiency. For these reasons, Oxford is proud to honor him with this year's Glycobiology Significant Achievement Award.

## **Molecular and Cellular Proteomics/ American Society for Biochemistry and Molecular Biology Lectureship Award**

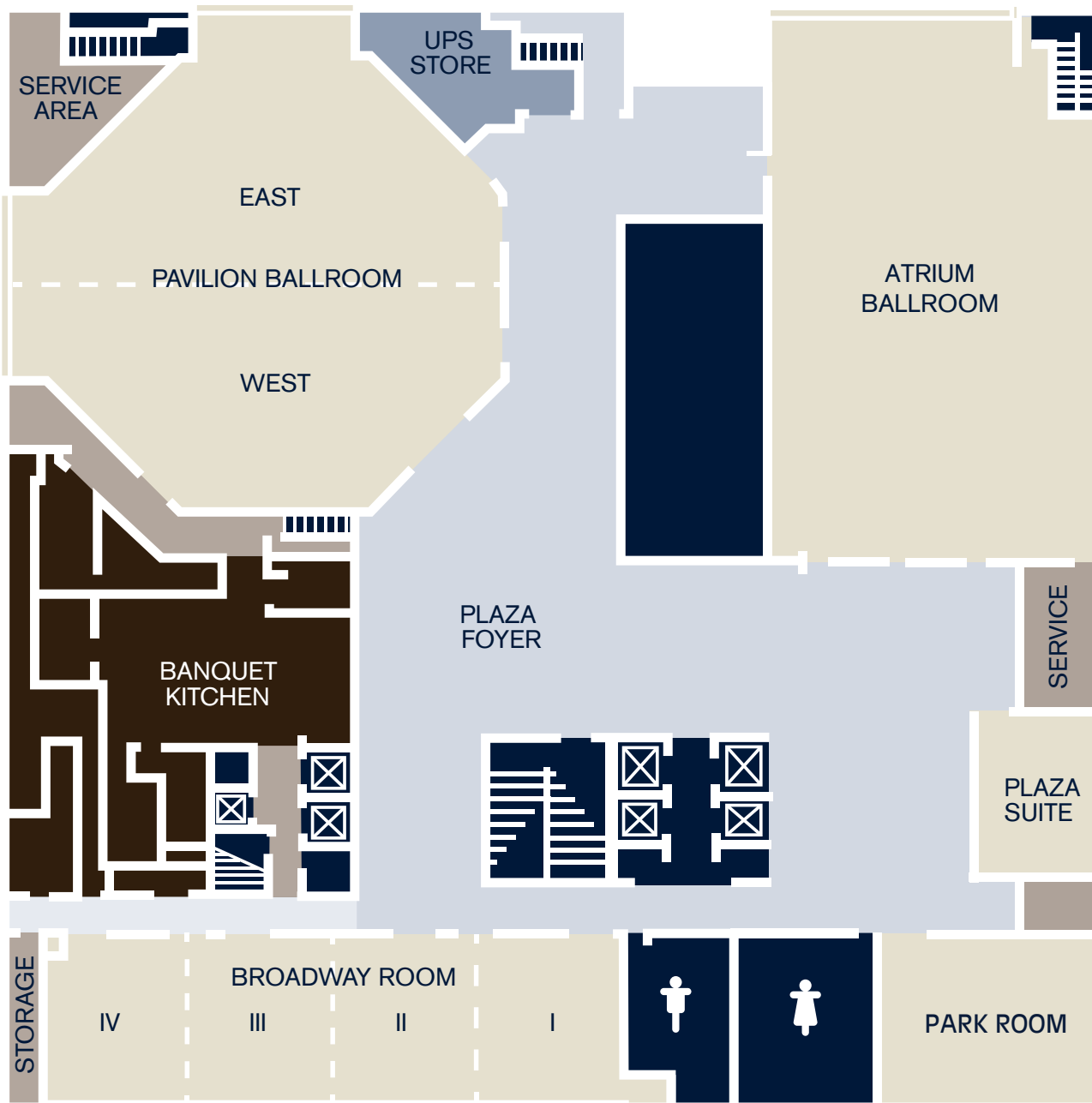
The Molecular and Cellular Proteomics (MCP) / American Society for Biochemistry and Molecular Biology (ASBMB) Lectureship Award will be presented to **Stuart Haslam** at the Society for Glycobiology Annual meeting in Portland, Oregon. The MCP Journal was created in 2001

to address the growing needs of the proteomics community. Subsequently the MCP/ASBMB award was established in 2013 to honor scientists that have been at the forefront of the emerging field of glycomics and glycoproteomics. This year's recipient, who is currently a Reader in Structural Glycobiology at Imperial College London, has made seminal contributions in the glycosciences. Dr. Haslam's research is focused on the development and application of high sensitivity mass spectrometry techniques to determine the structures of glycoconjugates from diverse biological origins ranging from bacteria to humans. His methodological developments in this area have been fundamental to the establishment of the scientific field of glycomics.



A particular focus area is the structural characterization of glycoconjugates involved in host pathogen interactions. His contributions and knowledge of the field are highly regarded not only by his peers, but also by MCP who has renewed Stuart for another 3-year term on the Editorial Board of the journal.

# Plaza Level



# HOTEL MAP

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ABS= abstract number  
B= poster board number  
PS= poster session

## Sunday, November 5, 2017

8:00 a.m. – 6:00 p.m.

### Registration

Plaza Foyer

9:00 a.m. – 3:00 p.m.

### Satellite 3: Trainee Mentoring Program

Chairs: Lance Wells (CCRC, University of Georgia) and Karen Colley (University of Illinois at Chicago)  
Broadway 3/4

9:00 a.m. – 1:00 p.m.

### Satellite 2: Glycoprotein Technologies

Chair: Parastoo Azadi (CCRC, University of Georgia)  
Broadway 2

10:00 a.m. – 5:00 p.m.

### Satellite 1: Bioinformatics

Chair: Rene Ranzinger (CCRC, University of Georgia)  
Broadway 1

3:30 p.m. – 5:00 p.m.

### Board of Directors Meeting

Broadway 3/4

5:30 p.m. – 7:15 p.m.

### Session 1: Meyer and Kornfeld Awards Lectures

Chair: Karen Colley (University of Illinois at Chicago)  
Pavilion Ballroom

5:30 p.m. – 5:45 p.m.

### Conference Opening Remarks

Abstract #



5:45 p.m. – 6:30 p.m.

#### Karl Meyer Award Lecture

Jamey Marth (University of California, Santa Barbara)

Introduced by Jeff Esko (University of California, San Diego)



6:30 p.m. – 7:15 p.m.

#### Rosalind Kornfeld Award Lecture

Gillian Air (University of Oklahoma)

Introduced by Christopher West (University of Georgia)

7:30 p.m. – 9:30 p.m.

### Welcome Reception & Exhibits

Plaza Foyer and Atrium Ballroom

## Monday, November 6, 2017

7:30 a.m. – 4:00 p.m.

### Registration

Plaza Foyer

7:30 a.m. – 8:30 a.m.

### Continental Breakfast

Plaza Foyer

8:30 a.m. – 10:00 a.m.

### Session 2: Glycans in metabolic regulation and development

Chair: Kelley Moremen (CCRC, University of Georgia)

Pavilion Ballroom

Abstract #

8:30 a.m. – 9:00 a.m.

- 1** “Heparan sulfate in lipid and iron homeostasis”;  
Jeff Esko (UCSD), Maura Poli (University of Washington University)

9:00 a.m. – 9:20 a.m.

- 2** “Studying atypical dystroglycanopathies using zebrafish models”; Chiara Manzini (George Washington University)

9:20 a.m. – 9:50 a.m.

- 3** “Cell-specific regulation and roles of O-GlcNAc: key to understanding brain function”; Jerry Hart (Johns Hopkins), Olof Lagerlöf (Karolinska Institute)

9:50 a.m. – 9:55 a.m.

- 4** Poster talk (#B1)(PS1): “Structures of human O-GlcNAcase and its complexes reveal a new substrate recognition mode”; Jiaoyang Jiang (University of Wisconsin-Madison)

9:55 a.m. – 10:00 a.m.

- 5** Poster talk (#B2)(PS2): “Dynamic splicing of a glycosyltransferase modulates enzyme activity and secretory granule morphology”; Leslie Revoredo (NIH/NIDCR, Developmental Glycobiology Section)

10:00 a.m. – 10:30 a.m.

### Coffee Break

Plaza Foyer

10:30 a.m. – 12:30 p.m.

### Session 3: Glycan biosynthesis and function

Chair: Nancy Dahms (Medical College of Wisconsin)

Pavillion Ballroom

Abstract #

10:30 a.m. – 11:00 a.m.

- 6** “Stress, glycomics, and disease-A combined perspective”; Stuart Haslam (Imperial College London), Matthew Shoulders (MIT)

11:00 a.m. – 11:05 a.m.

- 7** Poster talk (#B22)(PS2): “Siglec-8 is an activating receptor on human eosinophils mediating integrin-dependent adhesion, ROS generation and apoptosis”; Daniela J. Carroll (Northwestern University Feinberg School of Medicine)

11:05 a.m. – 11:25 a.m.

- 8** “Orchestration of mucin type O-glycosylation by the multiple activities of the ppGalNAc-T family of transferases”; Tom Gerken (Case Western Reserve University)

Abstract #

- 9** 11:25 a.m. – 11:45 a.m.  
**“Targeting site-specific O-glycosylation for novel therapeutics”**; Adam Linstedt (Carnegie Mellon University)
- 10** 11:45 a.m. – 11:50 p.m.  
 Poster talk (#B23)(PS1): **“Bone marrow macrophage galectin-3 regulates platelet production through recognition of O-glycans on megakaryocytes”**; Melissa M. Lee-Sundlov (Blood Research Institute, BloodCenter Wisconsin and Brigham & Women’s Hospital & Harvard Medical School)
- 11** 11:50 p.m. – 12:20 p.m.  
**“Structural and functional perspectives on the glycan-mediated tuning of Notch activity”**; Robert Haltiwanger (CCRC, University of Georgia), Vincent Luca (Moffitt Cancer Center)
- 12** 12:20 p.m. – 12:25 p.m.  
 Poster talk (#B24)(PS2): **“C-mannosylation of thrombospondin repeats”**; Hans Bakker (Hannover Medical School)
- 47** 12:25 p.m. – 12:30 p.m.  
 Poster talk (#B69)(PS1): **“Mapping sites and molecular functions of O-glycosylation”**  
 Katrine T. Schjoldager (University of Copenhagen)

12:30 p.m. – 1:30 p.m.

**Lunch on your own**

12:30 p.m. – 1:30 p.m.

**Glycobiology Editorial Board Meeting (Invitees only)**  
 Broadway 3/4

1:30 p.m. – 4:00p.m.

**Poster Session I and Exhibits**

Coffee break provided  
 Plaza Foyer and Atrium Ballroom

3:00 p.m. – 3:55 p.m.

**“NIH Listens, Discussion with NIH Program Staff”**

Pamela Marino (NIH)  
 Broadway 3/4

4:00 p.m. – 5:30 p.m.

**Session 4: Glycan related diseases and disorders I**

Chair: Susan Bellis (University of Alabama at Birmingham School of Medicine)  
 Pavilion Ballroom

Abstract #

- 13** 4:00 p.m. – 4:30 p.m.  
**“Genetic and pharmacologic regulation of the oligosaccharyltransferase”**; Reid Gilmore (University of Massachusetts Medical School), Joe Contessa (Yale University)
- 14** 4:30 p.m. – 4:35 p.m.  
 Poster talk (#B63)(PS1): **“Anti-inflammatory functions of Siglec-E and Siglec-9 and alteration of their ligands in mouse airway inflammation and lung emphysema”**;  
 Zhou Zhu (Yale University School of Medicine)

Abstract #

- 15** 4:35 p.m. – 4:55 p.m.  
**“Glycans and their binding proteins in ocular surface disease”**; Pablo Argüeso (Schepens Eye Research Institute/Massachusetts Eye and Ear, Harvard)
- 16** 4:55 p.m. – 5:00 p.m.  
 Poster talk (#B64)(PS2): **“Regulatory functions of heparan sulfate in prostate stem/progenitor cell activities and prostatic tumorigenesis”**; Lianchun Wang (CCRC, University of Georgia)
- 17** 5:00 p.m. – 5:20 p.m.  
**“Mucin-type O-glycans in intestinal mucus barrier homeostasis and disease”**; Lijun Xia (Oklahoma Medical Research Foundation)
- 18** 5:20 p.m. – 5:25 p.m.  
 Poster talk (#B65)(PS1): **“IgA Nephropathy: An autoimmune kidney disease involving the clustered O-glycans of IgA1 as autoantigens”**; Matthew B. Renfrow (University of Alabama at Birmingham)
- 19** 5:25 p.m. – 5:30 p.m.  
 Poster talk (#B66)(PS2): **“A semantic approach to Molecular Glycophenotype classification for disease diagnostics”**; Jean-Philippe F. Gourdine (Oregon Health and Science University and Undiagnosed Diseases Network)



5:30 p.m. – 6:30 p.m.

**Session 5: Innovator Award Lecture**

Kevin Campbell (Howard Hughes Medical Institute, University of Iowa)  
 Introduced by Lance Wells (CCRC, University of Georgia)  
 Pavilion Ballroom

## Tuesday, November 7, 2017

7:30 a.m. – 8:30 a.m.

**Continental Breakfast**

Plaza Foyer

8:00 a.m. – 4:00 p.m.

**Registration**

Plaza Foyer

8:30 a.m. – 10:00 a.m.

**Session 6: Glycolipids in health and disease**

Chair: Anant Menon (Weill Medical College, Cornell University)  
 Pavilion Ballroom

Abstract #

- 20** 8:30 a.m. – 8:55 a.m.  
**“ABC transporters as glucosyl ceramide flippases in glycosphingolipid biosynthesis”**; Clifford Lingwood (The Hospital for Sick Children, University of Toronto)
- 21** 8:55 a.m. – 9:20 a.m.  
**“Transport of lipopolysaccharides across the bacterial cell envelope”**; Natividad Ruiz (The Ohio State University)

Abstract #

- 22** 9:20 a.m. – 9:45 a.m.  
**“Glycolipid scramblases for protein glycosylation in the endoplasmic reticulum”**; *Anant Menon (Weill Medical College, Cornell University)*
- 23** 9:45 a.m. – 9:55 a.m.  
 Poster talk (#B100)(PS2): **“A new hypothesis for Lec5”**; *Mark Lehrman (UT Southwestern Medical Center)*
- 24** 9:55 a.m. – 10:00 a.m.  
 Poster talk (#B101)(PS1): **“LmeA, a periplasmic membrane-bound protein, is critical for lipomannan biosynthesis and cell envelope integrity in mycobacteria”**; *Yasu S. Morita (University of Massachusetts, Amherst)*

10:00 a.m. - 10:30 a.m.

**Coffee Break**

*Plaza Foyer*

10:30 a.m. – 12:15 p.m.

**Session 7: Glycans in pathogenesis and infection**

*Chair: Christopher West (University of Georgia)*

*Pavilion Ballroom*

Abstract #

- 25** 10:30 a.m. – 10:55 a.m.  
**“Making home sweet and sturdy: Investigations into the roles of glycosylation in the cyst wall of *Toxoplasma gondii*”**; *Louis Weiss (Albert Einstein College of Medicine)*
- 26** 10:55 a.m. – 11:10 a.m.  
**“Elucidating glycomic contributions to *Toxoplasma* biology and virulence”**  
*Christopher West (University of Georgia)*
- 27** 11:10 a.m. – 11:15 a.m.  
 Poster talk (#B106)(PS2): **“Neoglycoproteins as biomarkers for cutaneous leishmaniasis”**  
*Katja Michael (University of Texas at El Paso)*
- 28** 11:15 a.m. – 11:20 a.m.  
 Poster talk (#B107)(PS1): **“Identifying the in vitro Arginine-GlcNAcylation targets of the NleB/SseK family of effectors”**  
*Nicholas E. Scott (University of Melbourne)*
- 29** 11:20 a.m. – 11:40 a.m.  
**“Active roles for heparan sulfonated proteoglycans and growth factors in human papillomavirus infectious entry: A Trojan horse mechanism”**  
*Michelle Ozbun (University of New Mexico)*
- 30** 11:40 a.m. – 11:45 a.m.  
 Poster talk (#B108)(PS2): **“Changes in cell surface glycans in women with bacterial vaginosis and impact on *Fusobacterium* vaginal colonization”**  
*Kavita Agarwal (Washington University in St. Louis)*
- 31** 11:45 a.m. – 11:50 a.m.  
 Poster talk (#B109)(PS1): **“Antibody fucosylation restricts Fc gamma receptor IIIA (CD16A)N-glycan motion to reduce affinity”**  
*Dan Falconer (Iowa State University)*

Abstract #

- 32** 11:50 a.m. – 12:10 a.m.  
**“Sialic acid structures and linkages - variation within animals and effects on virus interactions”**  
*Colin Parrish (Cornell University College of Veterinary Medicine)*
- 33** 12:10 p.m. – 12:15 p.m.  
 Poster talk (#B110)(PS2): **“Inhibition of O-glycan biosynthesis using hexosamine analogs”** *Sriram Neelamegham (State University of New York Buffalo)*

12:15 p.m. – 1:30 p.m.

**Lunch on your own**

1:30 p.m. – 4:00 p.m.

**Poster Session II and Exhibits**

*Coffee break provided*

*Plaza Foyer and Atrium Ballroom*

4:00 p.m. – 4:45 p.m.

**SFG Business Meeting (open to all attendees)**

*Pavilion Ballroom*


4:45 p.m. – 6:15 p.m.

**Session 8: MCP and Glycobiology Significant Achievement Award Lectures**

*Chair: Kelley Moremen (CCRC, University of Georgia)*

*Pavilion Ballroom*

Abstract #

- 4:45 p.m. – 5:30 p.m.  
 **Molecular and Cellular Proteomics Award Lecture**  
*Stuart Haslam (Imperial College London)*  
*Introduced by Richard Cummings (Beth Israel Deaconess Medical Center, Harvard Medical School)*
- 5:30 p.m. – 6:15 p.m.  
 **Glycobiology Significant Achievement Award Lecture**  
*Hamed Jafar-Nejad (Baylor College of Medicine)*  
*Introduced by Robert Haltiwanger (CCRC, University of Georgia)*

6:15 p.m. – 7:00 p.m.

**Break**

7:00 p.m. – 11:00 p.m.

**Banquet**

*Atrium Ballroom*

*Ticket purchase required. Extra tickets for guests may be ordered.*

## Wednesday, November 8, 2017

8:00 a.m. – 8:30 a.m.

**Continental Breakfast**

*Plaza Foyer*

8:30 a.m. – 1:00 p.m.

**Registration**

*Plaza Foyer*

8:30 a.m. – 9:50 a.m.

**Session 9: Expect the unexpected from microbes**

*Chair: Christine Szymanski (CCRC, University of Georgia)*

*Pavilion Ballroom*

Abstract #

- 34** 8:30 a.m. - 9:00 a.m.  
**“New insights into glycoconjugate receptors for cholera toxin”**  
*Jennifer Kohler (UT Southwestern Medical Center) and Ulf Yrlid (University of Gothenburg)*
- 35** 9:00 a.m. - 9:05 a.m.  
 Poster talk (#B145)(PS1): **“Understanding influenza A specificity: An evolution of paradigms”**  
*Robert J. Woods (CCRC, University of Georgia)*
- 36** 9:05 a.m. - 9:25 a.m.  
**“Unique features of the machinery that pathogenic and commensal microbes use to attack host glycans”**  
*Alisdair Boraston (University of Victoria)*
- 37** 9:25 a.m. - 9:30 a.m.  
 Poster talk (#B146)(PS2): **“Nascent microbiome and early metabolism are perturbed by pre-and post-natal exposure to artificial sweeteners”**  
*Stephanie Olivier-Van Stichelen (NIH/NIDDK)*
- 38** 9:30 a.m. - 9:50 a.m.  
**“Who will win? The endless battle between campylobacters and bacteriophages in the gut”**  
*Christine Szymanski (CCRC, University of Georgia)*

9:50 a.m. - 10:15 a.m.

**Coffee Break**

*Plaza Foyer*

10:15 a.m. - 11:45 a.m.

**Session 10: Glycoengineering and glycan related therapeutics**

*Chair: Don Jarvis (University of Wyoming)*

*Pavilion Ballroom*

Abstract #

- 39** 10:15 a.m. - 10:35 a.m.  
**“Plant based glycan engineering for the production of therapeutic proteins”**  
*Herta Steinkellner (Universität für Bodenkultur Wien)*
- 40** 10:35 a.m. - 10:55 a.m.  
**“Rapid mapping of glycoprotein structure-activity relationships by shotgun scanning glycomutagenesis”**  
*Matthew DeLisa (Cornell University)*
- 41** 10:55 a.m. - 11:15 a.m.  
**“Developing anti-inflammatory drugs targeting selectins”**  
*Richard Cummings (Beth Israel Deaconess Medical Center, Harvard Medical School)*

11:15 a.m. - 11:45 a.m.

**News from the NIH: Information and Q&A**

*Lawrence Tabak, Principal Deputy Director (NIH)*

11:45 a.m. - 1:00 p.m.

**Lunch on your own**

1:00 p.m. - 2:20 p.m.

**Session 11: Glycan related diseases and disorders II**

*Chair: Stuart Haslam (Imperial College London)*

*Pavilion Ballroom*

Abstract #

- 42** 1:00 p.m. - 1:30 p.m.  
**“Mutations in the gene for O-GlcNAc transferase are causal for X-linked intellectual disability”**  
*Lance Wells (CCRC, University of Georgia) and Charles Schwartz (Greenwood Genetic Center)*
- 43** 1:30 p.m. - 1:50 p.m.  
**“Aberrant glycosylation in breast cancer results in modulation of the immune micro-environment”**  
*Joy Burchell (Kings College London)*
- 44** 1:50 p.m. - 2:10 p.m.  
**“The consequences of human ganglioside deficiency”**  
*Michael Tiemeyer (CCRC, University of Georgia)*
- 45** 2:10 p.m. - 2:20 p.m.  
 Poster talk (#B67)(PS1): **“A family of carbohydrate tumor antigens with a proposed common mechanism of action”**  
*Fred Brewer (Albert Einstein College of Medicine)*
- 46** 2:20 p.m. - 2:25 p.m.  
 Poster talk (#B68)(PS2): **“Fut2 is required for methacholine-induced airway hyperreactivity in a mouse model of allergic asthma”**  
*Dorota S. Raclawska (University of Colorado Denver)*

2:25 p.m. - 2:40 p.m.

**Closing Remarks**



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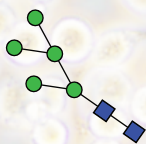
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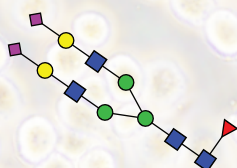
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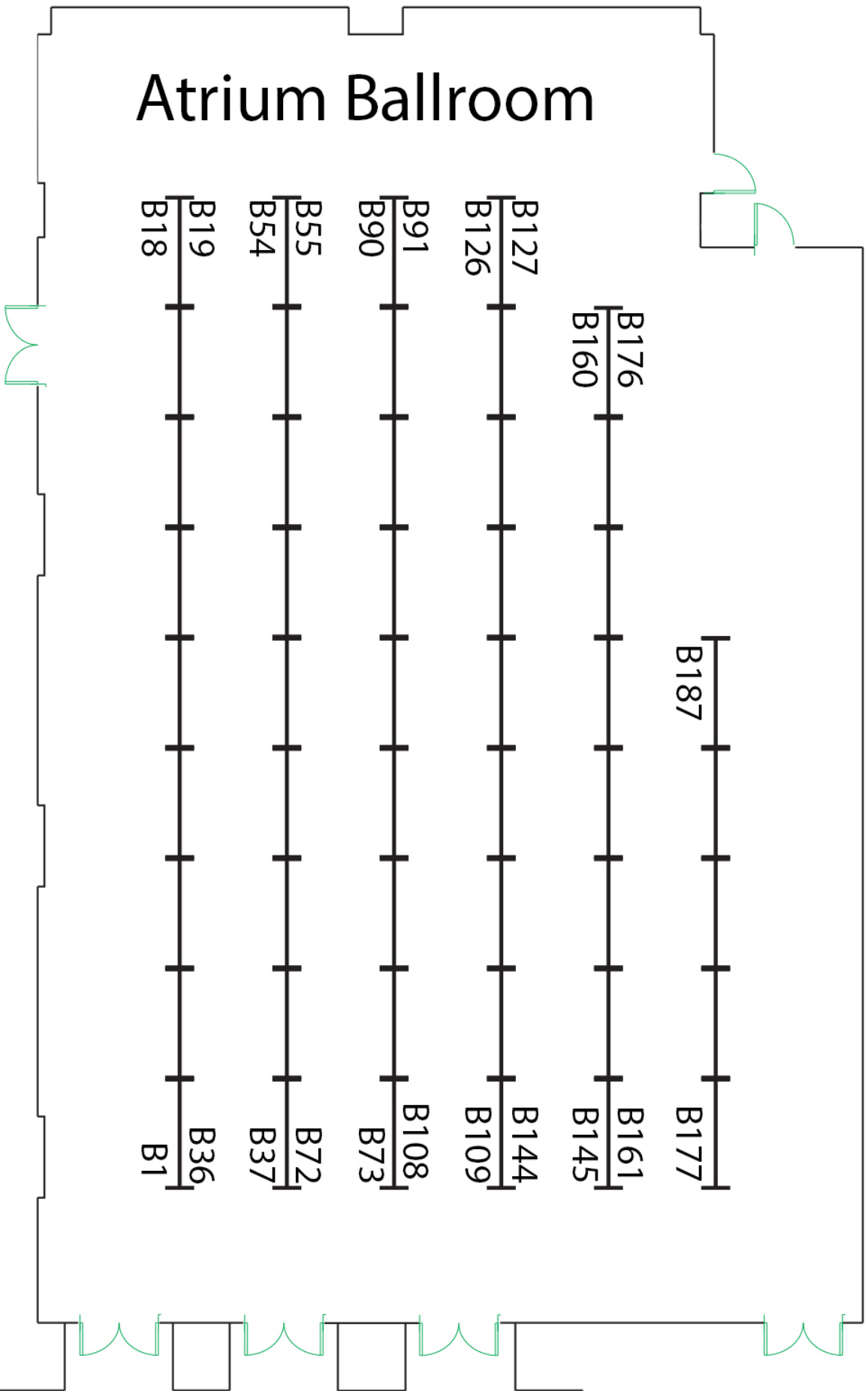
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# POSTER BOARD LAYOUT



## Poster Session 1 (PS1)

Monday, November 6, 2017 @ 1:30 – 4:00PM

All posters will be on display for the duration of the conference.

### Glycans in metabolic regulation and development

Poster #: B1 (presented @ PS1) || Abstract #: 4  
**“Structures of human O-GlcNAcase and its complexes reveal a new substrate recognition mode”;** Jiaoyang Jiang

*School of Pharmacy, University of Wisconsin-Madison*

Poster #: B2 (presented @ PS2) || Abstract #: 5  
**“Dynamic splicing of a glycosyltransferase modulates enzyme activity and secretory granule morphology”;** Suena Ji<sup>1,2</sup>, Leslie Revoredo<sup>1,2</sup>, Adina L. Milac<sup>3</sup>, Duy T. Tran<sup>1,2</sup> and Kelly G. Ten Hagen<sup>1,2</sup>

*<sup>1</sup>NIH/NIDCR; <sup>2</sup>Developmental Glycobiology Section; <sup>3</sup>Institute of Biochemistry of the Romanian Academy*

Poster #: B3 (presented @ PS1) || Abstract #: 48  
**“Essential roles of O-GlcNAcylation in B cell activation”;** Kuo-I Lin<sup>1</sup>, Jung-Lin Wu<sup>1</sup>, Pan-Hung Hsu<sup>2</sup>, Yu-Ju Chen<sup>3</sup> and Takashi Angata<sup>4</sup>

*<sup>1</sup>Genomics Research Center, Academia Sinica, Taipei 115, Taiwan; <sup>2</sup>Department of Life Science and Institute of Bioscience and Biotechnology, National Taiwan Ocean University, Keelung 202, Taiwan; <sup>3</sup>Institute of Chemistry, Academia Sinica, Taipei 115, Taiwan; <sup>4</sup>Institute of Biological Chemistry, Academia Sinica, Taipei 115, Taiwan*

Poster #: B4 (presented @ PS2) || Abstract #: 49  
**“Drosophila N-glycanase 1 (Pngl) regulates BMP autoregulation in the Drosophila intestine “;** Antonio Galeone<sup>1</sup>, Seung-Yeop Han<sup>1</sup>, Chengcheng Huang<sup>2</sup>, Akira Hosomi<sup>2</sup>, Tadashi Suzuki<sup>2</sup> and Hamed Jafar-Nejad<sup>1</sup>

*<sup>1</sup>Department of Molecular and Human Genetics, Baylor College of Medicine, Houston, United States; <sup>2</sup>Glycometabolome Team, RIKEN Global Research Cluster, Saitama, Japan*

Poster #: B5 (presented @ PS1) || Abstract #: 50  
**“Identification of Siglec-15 ligands using proximity labeling method”;** Yi-Hsiu Chen<sup>1</sup>, Penk-Yeir Low<sup>1</sup>, Yi-Ju Chen<sup>2</sup>, Yu-Ju Chen<sup>2</sup> and Takashi Angata<sup>1,3</sup>

*<sup>1</sup>Institute of Biological Chemistry, Academia Sinica, Taipei, Taiwan; <sup>2</sup>Institute of Chemistry, Academia Sinica, Taipei, Taiwan; <sup>3</sup>Institute of Biochemical Sciences, National Taiwan University, Taipei, Taiwan*

## Poster Session 2 (PS2)

Tuesday, November 7, 2017 @ 1:30 – 4:00PM

Poster #: B6 (presented @ PS2) || Abstract #: 51  
**“LNFPIII-Dex conjugates function in vivo to normalize metabolic function in High-Fat Diet Obese mice”;** Donald Harn<sup>1</sup>, Jessica Ramadhin<sup>1</sup>, Richard Meagher<sup>5</sup>, Suresh Ambati<sup>5</sup>, Nikolay Filipov<sup>2</sup>, Lisa Shollenberger<sup>1</sup> and Thomas Norberg<sup>4</sup>

*<sup>1</sup>Department of Infectious Diseases, University of Georgia; <sup>2</sup>Dept. of Physiology And Pharmacy, University of Georgia; <sup>3</sup>College of Family and Consumer Sciences, University of Georgia; <sup>4</sup>Dept. of Chemistry, Uppsala University, Uppsala Sweden; <sup>5</sup>Dept. of Genetics, University of Georgia*

Poster #: B7 (presented @ PS1) || Abstract #: 52  
**“Siglec-9 Recognizes Sialylated Keratan Sulfate Glycoproteins on Human Airways”;** Steve M. Fernandes<sup>1</sup>, Ryan N. Porell<sup>1</sup>, Anabel Gonzalez Gil<sup>1</sup>, Simone Kurz<sup>2</sup>, Kazu Aoki<sup>2</sup>, Michael Tiemeyer<sup>2</sup> and Ronald L. Schnaar<sup>1</sup>

*<sup>1</sup>Department of Pharmacology and Molecular Sciences, Johns Hopkins University School of Medicine, Baltimore, MD; <sup>2</sup>Complex Carbohydrate Research Center, University of Georgia, Athens, GA*

Poster #: B8 (presented @ PS2) || Abstract #: 53  
**“An actin-related trafficking protein modulates neural-specific glycosylation in the Drosophila embryo”;** Simone Kurz, Kazuhiro Aoki, Sarah Baas Robinson and Michael Tiemeyer

*CCRC, University of Georgia*

Poster #: B9 (presented @ PS1) || Abstract #: 54  
**“Development of a Rapid 2-AB Sample Preparation Workflow for N-Glycan Release and Labeling “;** Andres Guerrero, Vaishali Sharma, John Yan, Aled Jones, Michael Kimzey, Emily Dale, Ted Haxo and Sergey Vlasenko

*ProZyme, Hayward CA*

Poster #: B10 (presented @ PS2) || Abstract #: 55  
**“Effects of sialic acid biosynthesis on N-linked glycan structure, cell surface interactions, and muscle diseases of aging.”;** Nam D. Pham<sup>1</sup>, Poh-Choo Chang<sup>2</sup>, Soumya Krishnamurthy<sup>1</sup>, Amberlyn M. Wands<sup>1</sup>, Paolo Grassi<sup>2</sup>, Anne Dell<sup>2</sup>, Stuart M. Haslam<sup>2</sup> and Jennifer J. Kohler<sup>1</sup>

*<sup>1</sup>University of Texas Southwestern Medical Center; <sup>2</sup>Imperial College London*

Poster #: B11 (presented @ PS1) || Abstract #: 56  
**“Dissecting the function of the O-GlcNAcase HAT-like domain using genetic, biochemical and structural biology approaches”;** Andrii Gorelik, Andrew Ferenbach, Olawale Raimi and Daan van Aalten

*Centre for Gene Regulation and Expression, School of Life Sciences, University of Dundee, UK*

Poster #: B12 (presented @ PS2) || Abstract #: 57  
**“Compositional change of N-glycan profile in response to chronic exposure to low dose ionizing radiation in Medaka”**; Yeni N. Perez-Gelvez<sup>1</sup>, Simone Krurz<sup>1</sup>, Michael Tiemeyer<sup>1</sup>, Olin E. Rhodes<sup>2</sup>, Carl Bergmann<sup>1</sup> and Gerardo Gutierrez-Sanchez<sup>1</sup>

<sup>1</sup>Complex Carbohydrate Research Center, University of Georgia;

<sup>2</sup>Savannah River Ecology Laboratory, University of Georgia

Poster #: B13 (presented @ PS1) || Abstract #: 58  
**“Metabolic pathway analysis that combines glyco-gene transcript analysis with glycan structural data derived from differentiated human stem cell lineages”**; Alison V. Nairn<sup>1</sup>, Harrison Grace<sup>1</sup>, Katelyn Rosenbalm<sup>1</sup>, Melina Galizzi<sup>1</sup>, Mitche dela Rosa<sup>1</sup>, Mindy Porterfield<sup>1</sup>, Michael Kulik<sup>2,3</sup>, J. Michael Pierce<sup>1,2</sup>, Stephen Dalton<sup>2,3</sup>, Michael Tiemeyer<sup>1,2</sup> and Kelley W. Moremen<sup>1,2</sup>

<sup>1</sup>Complex Carbohydrate Research Center, University of Georgia,

Athens, GA 30602; <sup>2</sup>Department of Biochemistry and Molecular

Biology, University of Georgia, Athens, GA 30602; <sup>3</sup>Center for

Molecular Medicine, University of Georgia, Athens, GA 30602

Poster #: B14 (presented @ PS2) || Abstract #: 59  
**“The zebrafish galectin DrGRIFIN displays specificity for blood group B oligosaccharides and participates in early development of the eye lens”**; Chiguang Feng<sup>1</sup>, Jinyu Wang<sup>1</sup>, Núria Gonzalez-Montalbán<sup>1</sup>, Prasun Guha<sup>1</sup>, Hafiz Ahmed<sup>2</sup> and Gerardo R. Vasta<sup>1</sup>

<sup>1</sup>Department of Microbiology and Immunology; <sup>2</sup>Department of

Biochemistry and Molecular Biology, University of Maryland

School of Medicine, UMB, Institute of Marine and Environmental

Technology, Baltimore, Maryland, USA

Poster #: B15 (presented @ PS1) || Abstract #: 60  
**“Does metabolic state regulate Notch trafficking by modulating its O-glycan modifications?”**; Kenjiroo Matsumoto and Robert S. Haltiwanger

Complex Carbohydrate Research Center, The University of

Georgia

Poster #: B16 (presented @ PS2) || Abstract #: 61  
**“Mapping the Glycoproteome with Activated Ion Electron Transfer Dissociation”**; Nicholas M. Riley<sup>1,2</sup>, Alexander S. Hebert<sup>1</sup>, Michael S. Westphall<sup>1</sup> and Joshua J. Coon<sup>1,2,4</sup>

<sup>1</sup>Genome Center of Wisconsin, University of Wisconsin–Madison,

Madison, WI, 53706, USA; <sup>2</sup>Department of Chemistry, University

of Wisconsin–Madison, Madison, WI, 53706, USA; <sup>3</sup>Department

of Biomolecular Chemistry, University of Wisconsin–Madison,

Madison, WI, 53706, USA; <sup>4</sup>Morgridge Institute for Research,

Madison, WI, 53706, USA

Poster #: B17 (presented @ PS1) || Abstract #: 62  
**“Identification of Two Novel Protein O-glycosyltransferases that Modify Notch EGF**

**Repeats “**; Daniel Williamson<sup>1</sup>, Hideyuki Takeuchi<sup>1</sup>, Michael Schneider<sup>2</sup> and Robert Haltiwanger<sup>1,2</sup>

<sup>1</sup>Complex Carbohydrate Research Center, University of Georgia;

<sup>2</sup>Department of Biochemistry and Cell Biology, Stony Brook

University

Poster #: B18 (presented @ PS2) || Abstract #: 63  
**“Production of double mutants that lack paralogue enzyme genes for mucin-type glycan biosynthesis”**; Naosuke Nakamura<sup>1</sup>, Kasumi Tsukada<sup>1</sup>, Yuki Tsujimoto<sup>1</sup>, Yoshiaki Nakayama<sup>2</sup>, Morichika Konishi<sup>2</sup> and Akira Kurosaka<sup>1</sup>

<sup>1</sup>Department of Molecular Biosciences, Kyoto Sangyo University;

<sup>2</sup>Microbial Chemistry lab., Kobe Pharmaceutical University

Poster #: B19 (presented @ PS1) || Abstract #: 64  
**“Neural activity regulates neural-specific glycosylation”**; Sarah Baas Robinson, Nickita Mehta, Katherine H. Tiemeyer, Debora Witkowski, Peng Zhao, Lance R. Wells and Michael Tiemeyer

CCRC, University of Georgia

Poster #: B20 (presented @ PS2) || Abstract #: 65  
**“Regulation of Mixed Lineage Leukemia 1 (MLL1) by O-GlcNAc Modification”**; Ilhan Akan and John A. Hanover

LCMB, National Institute of Diabetes and Digestive and Kidney

Diseases, National Institutes of Health

Poster #: B21 (presented @ PS1) || Abstract #: 66  
**“Glycoproteoform Network Analysis (GNA) On Top-Down MS (TDMS) Datasets”**; Steven M. Patrie<sup>2,3,1</sup>

<sup>1</sup>Northwestern University; <sup>2</sup>Department of Chemistry; <sup>3</sup>Proteomics

Center of Excellence

## Glycan biosynthesis and function

Poster #: B22 (presented @ PS2) || Abstract #: 7  
**“SIGLEC-8 IS AN ACTIVATING RECEPTOR ON HUMAN EOSINOPHILS MEDIATING INTEGRIN-DEPENDENT ADHESION, ROS GENERATION AND APOPTOSIS “**; Daniela J. Carroll<sup>1</sup>, Jeremy A. O’Sullivan<sup>1</sup>, David B. Nix<sup>2</sup>, Yun Cao<sup>1</sup>, Michael Tiemeyer<sup>2</sup> and Bruce S. Bochner<sup>1</sup>

<sup>1</sup>Department of Medicine, Division of Allergy and Immunology,

Northwestern University Feinberg School of Medicine, Chicago, IL;

<sup>2</sup>Complex Carbohydrate Research Center, University of Georgia,

Athens, GA

Poster #: B23 (presented @ PS1) || Abstract #: 10  
**“Bone marrow macrophage galectin-3 regulates platelet production through recognition of O-glycans on megakaryocytes “**; Melissa M. Lee-Sundlov<sup>1,2</sup>, Renata Grozovsky<sup>2</sup>, Silvia Giannini<sup>2</sup>, Haley E. Ramsey<sup>3</sup>, Ulla Mandel<sup>4</sup>, Martha Sola-Visner<sup>3</sup> and Karin M. Hoffmeister<sup>1,2</sup>

# POSTER PROGRAM

<sup>1</sup>Blood Research Institute, BloodCenter Wisconsin; <sup>2</sup>Department of Hematology, Brigham & Women's Hospital & Harvard Medical School; <sup>3</sup>Division of Newborn Medicine, Boston Children's Hospital; <sup>4</sup>Copenhagen Center for Glycomics, University of Copenhagen

Poster #: B24 (presented @ PS2) || Abstract #: 12  
**“C-mannosylation of thrombospondin repeats”**;  
 Aleksandra Shcherbakova, Birgit Tiemann, Falk FR Buettner and Hans Bakker  
 Institute of Clinical Biochemistry, Hannover Medical School, Germany

Poster #: B25 (presented @ PS1) || Abstract #: 67  
**“Fucosylated chondroitin sulfate oligosaccharides exert anticoagulant activity by targeting at intrinsic tenase complex with low FXII activation: Importance of sulfation pattern and molecular size”**;  
Junhui Li<sup>1</sup>, Shan Li<sup>1</sup>, Shiguo Chen<sup>1</sup>, Xingqian Ye<sup>1</sup>, Donghong Liu<sup>1</sup>, Robert J. Linhardt<sup>2</sup> and Tiani Ding<sup>1</sup>  
<sup>1</sup>Zhejiang University; <sup>2</sup>Rensselaer Polytechnic Institute

Poster #: B26 (presented @ PS2) || Abstract #: 68  
**“Extraction of Novel RG-I enriched pectin from mandarin citrus peel”**;  
Hua Zhang, Jian le Chen, Jun hui Li, Xing qian Ye and Shi guo Chen  
 Zhejiang University

Poster #: B27 (presented @ PS1) || Abstract #: 69  
**“Suppressive effects of bisecting GlcNAc on terminal modifications of N-glycans”**;  
Yasuhiko Kizuka<sup>1</sup>, Miyako Nakano<sup>2</sup> and Naoyuki Taniguchi<sup>1</sup>  
<sup>1</sup>Disease Glycomics Team, RIKEN; <sup>2</sup>Graduate School of Advanced Sciences of Matter, Hiroshima University

Poster #: B28 (presented @ PS2) || Abstract #: 70  
**“Time-resolved N-glycan processing allows a functional resolution of the Golgi in CHO cells”**;  
Iaria Affolter<sup>1</sup>, Chia-Wei Lin<sup>1</sup>, Ernesto Scibona<sup>1</sup>, David Brühlmann<sup>2</sup>, Jonathan Souquet<sup>2</sup>, Hervé Broly<sup>2</sup> and Markus Aebi<sup>1</sup>  
<sup>1</sup>ETH Zürich, Switzerland; <sup>2</sup>Merck, Switzerland

Poster #: B29 (presented @ PS1) || Abstract #: 71  
**“Bio-orthogonal fluorescent tags for carbohydrate analysis and neoglycolipids-based functional assays development.”**;  
Katarzyna Brzezicka, Matthew Allen and Sarah Allman  
 Chemical Glycobiology Laboratory, School of Life, Health and Chemical Sciences, The Open University, Milton Keynes, UK

Poster #: B30 (presented @ PS2) || Abstract #: 72  
**“Early steps in the initiation of clustered O-glycosylation impact final glycan heterogeneity: Implications for autoantigen**

**formation in a chronic kidney disease”**;  
Tyler J. Stewart<sup>1,2</sup>, Kazuo Takahashi<sup>1,2,3</sup>, Milan Raska<sup>1,4</sup>, Robert H. Whitaker<sup>2</sup>, William J. Placzek<sup>2</sup>, Matthew B. Renfrow<sup>2</sup> and Jan Novak<sup>1</sup>  
<sup>1</sup>Department of Microbiology, University of Alabama at Birmingham; <sup>2</sup>Department of Biochemistry and Molecular Genetics, University of Alabama at Birmingham; <sup>3</sup>School of Medicine, Fujita Health University, Toyoake, Japan; <sup>4</sup>Department of Immunology, Palacky University Olomouc, Czech Republic

Poster #: B31 (presented @ PS1) || Abstract #: 73  
**“Polysaccharide similarities: extractable glycan oligomers and glycosylated protein cores of glycogen, starch and cellulose”**;  
Allen K. Murray<sup>1,2</sup>  
<sup>1</sup>HIBM Research Group, Inc.; <sup>2</sup>Glycan Technologies, Inc.

Poster #: B33 (presented @ PS1) || Abstract #: 75  
**“Exploring the specificity of chemical tools for O-GlcNAc labeling”**;  
Michelle R. Bond, Pamela D. Cook, Carolyn C. Woodroffe, Rolf E. Swenson and John A. Hanover  
 National Institutes of Health

Poster #: B34 (presented @ PS2) || Abstract #: 76  
**“Glycoproteomics for high-throughput characterization of mammalian proteoglycans”**;  
Alejandro Gomez Toledo<sup>1</sup>, Waqas Nasir<sup>2</sup>, Jonas Nilsson<sup>2</sup>, Fredrik Noborn<sup>2</sup>, Jeffrey D. Esko<sup>1</sup> and Goran Larsson<sup>2</sup>  
<sup>1</sup>Department of Cellular and Molecular Medicine, Glycobiology Research and Training Center, University of California, San Diego, La Jolla, CA, USA; <sup>2</sup>Department of Clinical Chemistry and Transfusion Medicine, Sahlgrenska Academy at the University of Gothenburg, Gothenburg, Sweden

Poster #: B35 (presented @ PS1) || Abstract #: 77  
**“Generation of a complex-type multi-antennary N-glycan microarray to define recognition patterns of N-glycan binding partners”**;  
Chao Gao<sup>1</sup>, Lauren A. Byrd-Leotis<sup>1,2</sup>, Melinda S. Hanes<sup>1</sup>, Richard H. Banes<sup>1</sup>, Tanya McKittrick<sup>1</sup>, Nan Jia<sup>1</sup>, David A. Steinhauer<sup>2</sup> and Richard D. Cummings<sup>1</sup>  
<sup>1</sup>Department of Surgery, Beth Israel Deaconess Medical Centre, Harvard Medical School; <sup>2</sup>Department of Microbiology, Emory University School of Medicine

Poster #: B36 (presented @ PS2) || Abstract #: 78  
**“The expanding glycouiverse: diverse glycan modifications in lower eukaryotes”**;  
Iain B. Wilson, Katharina Paschinger, Alba Hykollari, Jorick Vanbeselaere, Shi Yan and Barbara Eckmair  
 Universität für Bodenkultur

Poster #: B37 (presented @ PS1) || Abstract #: 79  
**“A novel fluorescent bifunctional linker for glycan derivatization”**;  
Mohui Wei, Tanya McKittrick, Robert Kardish, Jamie Heimburg-Molinaro, Lijun Sun and Richard D. Cummings  
 Harvard Medical School, Beth Israel Deaconess Medical Center, Boston,

Poster #: B38 (presented @ PS2) || Abstract #: 80  
**“Recognition of glycosaminoglycans by human galectin-3: Mechanism of binding and possible functional complexities due to dual specificities”**;  
Tarun Dam, Christina Welch, Melanie Talaga, Ni Fan and Purnima Bandyopadhyay  
*Mechanistic Glycobiology, Department of Chemistry, Michigan Technological University*

Poster #: B39 (presented @ PS1) || Abstract #: 81  
**“Glycosyltransferases that assemble the repeating unit of the intestinal pathogen *Escherichia coli* O104:H4.”**; Inka Brockhausen<sup>1</sup>, Diana Czuchry<sup>1</sup> and Walter A. Szarek<sup>2</sup>  
<sup>1</sup>*Department of Biomedical and Molecular Sciences and ;*  
<sup>2</sup>*Department of Chemistry, Queen’s University, Kingston ON, Canada*

Poster #: B40 (presented @ PS2) || Abstract #: 82  
**“A new UDP-hexose/UDP-HexNAc 4-epimerase from the archaeon *Methanococcus maripaludis*”**; Sulav Sharma, Yan Ding, Ken Jarrell and Inka Brockhausen  
*Department of Biomedical and Molecular Sciences, Queen’s University, Kingston, Ontario, Canada*

Poster #: B41 (presented @ PS1) || Abstract #: 83  
**“New software for glycan array for data processing, storage and presentation”**; Yukie Akune<sup>1</sup>, Sena Arpinar<sup>2</sup>, Mark Stoll<sup>1</sup>, Lisete M. Silva<sup>1</sup>, Angelina S. Palma<sup>3</sup>, Yan Liu<sup>1</sup>, René Ranzinger<sup>2</sup> and Ten Feizi<sup>1</sup>  
<sup>1</sup>*Glycosciences Laboratory, Department of Medicine, Imperial College, London, UK;* <sup>2</sup>*Complex Carbohydrate Research Center, University of Georgia, Athens, GA, USA;* <sup>3</sup>*UCIBIO-Faculty of Science and Technology, NOVA University of Lisbon, Portugal*

Poster #: B42 (presented @ PS2) || Abstract #: 84  
**“Fine-tuning limited proteolysis – A novel role for regulated site-specific O-glycosylation in  $\beta$ 1-Adrenergic Receptor cleavage and function”**; Christoffer K Goth<sup>1</sup>, Hanna E. Tuhkanen<sup>2</sup>, Hamayun Khan<sup>2</sup>, Shengjun Wang<sup>1</sup>, Yoshiki Narimatsu<sup>1</sup>, Lasse H. Hansen<sup>3</sup>, Christopher Overall<sup>4</sup>, Henrik Clausen<sup>1</sup>, Katrine T. Schjoldager<sup>1</sup> and Ulla Petäjä-Repo<sup>2</sup>  
<sup>1</sup>*Copenhagen Center for Glycomics, Department of Cellular and Molecular Medicine, Faculty of Health Sciences, University of Copenhagen, Blegdamsvej 3, DK-2200 Copenhagen N, Denmark.;* <sup>2</sup>*The Medical Research Center Oulu, Research Unit of Biomedicine, University of Oulu, P.O. Box 5000, FI-90014 Oulu, Finland.;* <sup>3</sup>*Department of Clinical Biochemistry, Rigshospitalet, Copenhagen University Hospital, DK-2100 Copenhagen Ø, Denmark;* <sup>4</sup>*Centre for Blood Research, Department of Oral Biological and Medical Sciences, and Department of Biochemistry and Molecular Biology, University of British Columbia, Vancouver, British Columbia V6T 1Z3, Canada.*

Poster #: B43 (presented @ PS1) || Abstract #: 85  
**“Onco-Golgi: the role for Golgi disorganization in MGAT5-mediated progression of prostate cancer “**;  
Armen Petrosyan<sup>1,3,4</sup> and Chad A. LaGrange<sup>2</sup>  
<sup>1</sup>*Department of Biochemistry and Molecular Biology, University of Nebraska Medical Center;* <sup>2</sup>*Division of Urologic Surgery, Department of Surgery, University of Nebraska Medical Center;* <sup>3</sup>*The Nebraska Center for Integrated Biomolecular Communication;* <sup>4</sup>*The Fred and Pamela Buffett Cancer Center*

Poster #: B44 (presented @ PS2) || Abstract #: 86  
**“Analysis of the interaction between GBPs and glycans using the MCAW web tool.”**; Masae Hosoda, Yushi Takahashi and Kiyoko F. Aoki-Kinoshita  
*Department of Bioinformatics, Graduate School of Engineering, SOKA University*

Poster #: B45 (presented @ PS1) || Abstract #: 87  
**“Analysis of Highly Sialylated and Low-Input Glycoprotein Samples on the GlycanAssure™ System”**; Wenjun Zhou, Shaheer Khan, Raymond Lee, Natalee Gautam, Jenkuei Liu, Bharti Kunnummal, Peter Bell and Kyle R. Gee  
*ThermoFisher Scientific*

Poster #: B46 (presented @ PS2) || Abstract #: 88  
**“Integration of Glycoscience Data in GlyCosmos Using Semantic Web Technologies”**; Issaku Yamada<sup>1</sup> and Kiyoko F. Aoki-Kinoshita<sup>2</sup>  
<sup>1</sup>*The Noguchi Institute;* <sup>2</sup>*Soka University*

Poster #: B47 (presented @ PS1) || Abstract #: 89  
**“LLO Hydrolysis Is Selectively Catalyzed By the Stt3B-OST Complex”**; Hua Lu<sup>1</sup>, Charles S. Fermaintt<sup>2</sup>, Nan Yan<sup>2</sup> and Mark A. Lehrman<sup>1</sup>  
<sup>1</sup>*Department of Pharmacology;* <sup>2</sup>*Departments of Immunology and Microbiology, University of Texas Southwestern Medical Center, Dallas, TX 75390, USA*

Poster #: B48 (presented @ PS2) || Abstract #: 90  
**“How Prior Glycosylation Modulates the Specificity of the ppGalNAc-Transferases: Mechanisms Underlying Remote and Neighboring Glycosylation”**; Earnest James Paul Daniel<sup>1</sup>, Matilde de las Rivas<sup>2</sup>, Erandi Lira-Navarrete<sup>2,3</sup>, Ramon Hurtado-Guerrero<sup>2</sup> and Thomas A. Gerken<sup>1</sup>  
<sup>1</sup>*Depts of Biochemistry and Pediatrics Case Western Reserve University, Cleveland OH;* <sup>2</sup>*BIFI, University of Zaragoza, Zaragoza, Spain;* <sup>3</sup>*Presently: Copenhagen Center for Glycomics, Univ. Copenhagen, Denmark*

Poster #: B49 (presented @ PS1) || Abstract #: 91  
**“Analytical Services and Trainings at the Complex Carbohydrate Research Center”**; Roberto N. Sonon, Asif Shajahan, Ian Black, Justyna Dobruchowska, Stephanie Archer-Hartmann, Bernhard Jaehrig, Artur Muszynski, Radnaa Naran, Sara Porfirio, Nitin

# POSTER PROGRAM

Supekar, Zhirui Wang, Dandan Zhou, Christian Heiss and Parastoo Azadi  
CCRC, University of Georgia

Poster #: B50 (presented @ PS2) || Abstract #: 92  
**“Mechanism of Neuropilin-2 polysialylation: Does the autopolysialylation have a cameo?”**;  
Gaurang P. Bhide, Ninoshka R.J. Fernandes,  
 Joseph L. Zapater and Karen J. Colley  
*Department of Biochemistry and Molecular Genetics, University of Illinois at Chicago, Chicago, IL 60607*

Poster #: B51 (presented @ PS1) || Abstract #: 93  
**“The mysterious case of the human Kupffer cell receptor”**;  
Maureen E. Taylor, Tom Snelling and Kurt Drickamer  
*Imperial College London*

Poster #: B52 (presented @ PS2) || Abstract #: 94  
**“Small Molecule Inhibition of the Oligosaccharyltransferase “**;  
Natalie Rinis<sup>1</sup>, Reid Gilmore<sup>2</sup> and Joseph N. Contessa<sup>1</sup>  
*<sup>1</sup>Department of Therapeutic Radiology, Yale University School of Medicine; <sup>2</sup>Department of Biochemistry and Molecular Pharmacology, University of Massachusetts*

Poster #: B53 (presented @ PS1) || Abstract #: 95  
**“Oligosaccharyltransferase Inhibition Enhances Glioma Radiosensitivity”**;  
Marta Baro and Joseph N. Contessa  
*Department of Therapeutic Radiology, Yale University School of Medicine*

Poster #: B54 (presented @ PS2) || Abstract #: 96  
**“Fluorescent Imaging of N-linked Glycosylation and Oligosaccharyltransferase Activity”**;  
Wei Cui and Joseph N. Contessa  
*Department of Therapeutic Radiology, Yale University School of Medicine*

Poster #: B55 (presented @ PS1) || Abstract #: 97  
**“CRISPR-Cas9 Dissection of Heparan Sulfate”**;  
Ryan J. Weiss<sup>1</sup>, Philipp N. Spahn<sup>2</sup>, Nathan E. Lewis<sup>2,3</sup> and Jeffrey D. Esko<sup>1,3</sup>  
*<sup>1</sup>Department of Cellular and Molecular Medicine, University of California, San Diego, San Diego, CA; <sup>2</sup>Department of Pediatrics, School of Medicine, University of California, San Diego, San Diego, CA; <sup>3</sup>Glycobiology Research and Training Center, University of California, San Diego, San Diego, CA*

Poster #: B56 (presented @ PS2) || Abstract #: 98  
**“Novel glyco-regulation of SCF Ubiquitin ligases is a potential drug target for control of Toxoplasma”**;  
Christopher M. West<sup>1,2</sup>, Msano Mandalasi<sup>1,2</sup>, Osman Sheikh<sup>3</sup>, David Thieker<sup>3</sup>, John Glushka<sup>3</sup>, Tongri Liu<sup>4</sup>, Agnieszka Lis<sup>5</sup>, Christopher J. Schofield<sup>4</sup> and Ira J. Blader<sup>5</sup>

*<sup>1</sup>Dept. of Biochemistry & Molecular Biology, University of Georgia, Athens, GA USA 30602; <sup>2</sup>Center for Tropical and Emerging Global Diseases, University of Georgia; <sup>3</sup>Complex Carbohydrate Research Center, University of Georgia; <sup>4</sup>Dept. of Chemistry, Oxford University, Oxford, UK; <sup>5</sup>Dept. of Microbiology & Immunology, University at Buffalo, Buffalo, NY*

Poster #: B57 (presented @ PS1) || Abstract #: 99  
**“Making Glycoproteomics via Mass Spectrometry More Accessible to the greater Scientific Community “**;  
Marc D. Driessen<sup>1</sup>, Catherine C. Going<sup>2,3</sup>, Chistina M. Woo<sup>4</sup>, Sharon J. Pitteri<sup>2,3</sup> and Carolyn R. Bertozzi<sup>1,3</sup>  
*<sup>1</sup>Department of Chemistry, Stanford University; <sup>2</sup>Department of Radiology, Stanford School of Medicine; <sup>3</sup>Howard Hughes Medical Institute; <sup>4</sup>Department of Chemistry, Harvard University*

Poster #: B58 (presented @ PS2) || Abstract #: 100  
**“gID: A new strategy for identification of glycan branching patterns using multistage mass spectrometry”**;  
Shiwei Sun<sup>1</sup>, Chuncui Huang<sup>2</sup>, Jingwei Zhang<sup>1</sup>, Yaojun Wang<sup>1</sup>, Dongbo Bu<sup>1</sup>, Yan Li<sup>2</sup> and Wengang Chai<sup>3</sup>  
*<sup>1</sup>Institute of Computing Technology Chinese Academy of Sciences.; <sup>2</sup>Institute of Biophysics, Chinese Academy of Sciences; <sup>3</sup>Imperial College London, London, United Kingdom.; <sup>4</sup>University of Chinese Academy of Sciences, Beijing, China;*

Poster #: B59 (presented @ PS1) || Abstract #: 101  
**“Amplification and Preparation of Cellular O-glycans using Cellular O-glycome Reporter/Amplification (CORA)”**;  
Zhonghua Li<sup>1</sup>, Qing Zhang<sup>2</sup>, Tatiana Chernova<sup>1</sup>, George Wang<sup>2</sup>, Xuezheng Song<sup>1</sup>, David F. Smith<sup>1</sup>, Cummings D. Richard<sup>3</sup> and Tongzhong Ju<sup>4,1</sup>  
*<sup>1</sup>Department of Biochemistry, Emory University School of Medicine, Atlanta, GA; <sup>2</sup>Department of Chemistry, Georgia State University, Atlanta, GA; <sup>3</sup>Department of Surgery, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA; <sup>4</sup>Office of Biotechnology Products, Center for Drug Evaluation and Research, Food & Drug Administration, Silver Spring, MD*

Poster #: B60 (presented @ PS2) || Abstract #: 102  
**“A Yeast Model to Define the Molecular Interactions between Core 1 b3GalT and its Molecular Chaperone Cosmc”**;  
Tatiana A. Chernova<sup>1</sup>, Qian Wang<sup>1,3</sup>, Yuliang Jiang<sup>1,3</sup>, David F. Smith<sup>1</sup> and Tongzhong Ju<sup>2,1,3</sup>  
*<sup>1</sup>Department of Biochemistry, Emory University School of Medicine, Atlanta, GA; <sup>2</sup>Office of Biotechnology Products, Food & Drug Administration, Silver Spring, MD; <sup>3</sup>Department of Oncology, the Capital Medical University, Beijing Chaoyang Hospital, Beijing, China*

Poster #: B61 (presented @ PS1) || Abstract #: 103  
**“Quantitative O-Glycomics: metabolic Stable Isotopic Labeling of O-glycomes of cultured Cells (SILOC)”**;  
Tatiana A. Chernova<sup>1</sup>, Zhonghua Li<sup>1</sup>, Yuliang Jiang<sup>1,3</sup>, Qian Wang<sup>1,3</sup>, David F. Smith<sup>1</sup> and Tongzhong Ju<sup>2,1,3</sup>  
*<sup>1</sup>Department of Biochemistry, Emory University School of Medicine, Atlanta, GA; <sup>2</sup>Office of Biotechnology Products, Center for Drug Evaluation and Research, Food and Drug Administration, Silver Spring,*

MD ; <sup>3</sup>Department of Oncology, Affiliated Beijing Chaoyang Hospital, The Capital Medical University, Beijing, China

Poster #: B62 (presented @ PS2) || Abstract #: 104  
**“Homogeneous Bioluminescent Nucleotide Detection Assays for Glycosyltransferases and Other PTM Enzymes”**; Hicham Zegzouti, Laurie Engel, Gediminas Vidugiris, Juliano Alves, Kevin Hsiao and Said Goueli  
*Promega Corporation, 2800 Woods Hollow Road, Madison, WI 53711 USA*

## Glycan related diseases and disorders

Poster #: B63 (presented @ PS1) || Abstract #: 14  
**“Anti-Inflammatory Functions of Siglec-E and Siglec-9 and Alteration of Their Ligands in Mouse Airway Inflammation and Lung Emphysema “**; Zi Chen<sup>1,5</sup>, Fengrui Zhang<sup>1</sup>, Haiying Tang<sup>1</sup>, Ryan N. Porell<sup>2</sup>, Ronald L. Schnaar<sup>2</sup>, Tadahiro Kumagai<sup>3</sup>, Michael Tiemeyer<sup>3</sup>, Bruce S. Bochner<sup>4</sup>, Linfu Zhou<sup>5</sup>, Tao Zheng<sup>1</sup> and Zhou Zhu<sup>1</sup>  
*<sup>1</sup>Yale University School of Medicine; <sup>2</sup>Johns Hopkins University; <sup>3</sup>CCRC, University of Georgia; <sup>4</sup>Northwestern University; <sup>5</sup>Nanjing Medical University*

Poster #: B64 (presented @ PS2) || Abstract #: 16  
**“Regulatory functions of heparan sulfate in prostate stem/progenitor cell activities and prostatic tumorigenesis”**; Sumit Rai<sup>1</sup>, Xuanyang Li<sup>1</sup>, Houjian Cai<sup>2</sup> and Lianchun Wang<sup>1</sup>  
*<sup>1</sup>Complex Carbohydrate Research Center and Department of Biochemistry and Molecular Biology, University of Georgia, Athens, GA 30602, USA; <sup>2</sup>Department of Pharmaceutical and Biomedical Sciences, College of Pharmacy, University of Georgia, Athens, GA 30602, USA.*

Poster #: B65 (presented @ PS1) || Abstract #: 18  
**“IgA Nephropathy: An autoimmune kidney disease involving the clustered O-glycans of IgA1 as autoantigens.”**; Matthew B. Renfrow, Tyler J. Stewart, Audra A. Hargett, Stacy Hall, William J. Placzek, Bruce A. Julian and Jan Novak  
*University of Alabama at Birmingham*

Poster #: B66 (presented @ PS2) || Abstract #: 19  
**“A semantic approach to Molecular Glycophenotype classification for disease diagnostics”**; Jean-Philippe F. Gourdine<sup>1,3</sup>, Matthew H. Brush<sup>1</sup>, Thomas O. Metz<sup>2,3</sup>, David M. Koeller<sup>1,3</sup> and Melissa A. Haendel<sup>1,3</sup>  
*<sup>1</sup>Oregon Health and Science University; <sup>2</sup>Pacific Northwest National Laboratory ; <sup>3</sup>Undiagnosed Diseases Network*

Poster #: B67 (presented @ PS1) || Abstract #: 45  
**“A Family of Carbohydrate Tumor Antigens with a Proposed Common Mechanism of Action”**; Marit Sletmoen<sup>1</sup>, Thomas A. Gerken<sup>2</sup>, Bjorn T. Stokke<sup>3</sup>, Joy Burchell<sup>4</sup> and Fred Brewer<sup>5</sup>

*<sup>1</sup>Department of Biotechnology and Food Science, The Norwegian University of Science and Technology, NO-7491 Trondheim, Norway; <sup>2</sup>W. A. Bernbaum Center for Cystic Fibrosis Research, Departments of Pediatrics and Biochemistry, Case Western Reserve University School of Medicine, Cleveland, Ohio 44106-4948, USA; <sup>3</sup>Biophysics and Medical Technology, Department of Physics, The Norwegian University of Science and Technology, NO-7491 Trondheim, Norway; <sup>4</sup>Breast Cancer Biology, King's College London, Guy's Hospital, London, SE1 9RT, UK; <sup>5</sup>Departments of Molecular Pharmacology, and Microbiology and Immunology, Albert Einstein College of Medicine, Bronx, NY 10461, USA*

Poster #: B68 (presented @ PS2) || Abstract #: 46  
**“Fut2 is required for methacholine-induced airway hyperreactivity in a mouse model of allergic asthma “**; Dorota S. Raclawska, Rachel Waagmeester, Adrienne L. Stefanski and Christopher M. Evans  
*Department of Medicine, University of Colorado Denver, Aurora, CO*

Poster #: B69 (presented @ PS1) || Abstract #: 47  
**“Mapping sites and molecular functions of O-glycosylation”**; Katrine T. Schjoldager, Shenjun Wang, Hiren J. Joshi, Yang Mao and Sergey Y. Vakhrushev  
*Copenhagen Center for Glycomics, Department of Molecular Medicine, University of Copenhagen*

Poster #: B70 (presented @ PS2) || Abstract #: 105  
**“Glycans marking subpopulations of pancreatic cancers: characterizing structures derived from type-II N-acetyl-lactosamine using on-chip analysis”**; Peter Y. Hsueh<sup>1,2</sup>, Zachary Klamer<sup>1</sup>, Randall E. Brand<sup>3</sup> and Brian B. Haab<sup>1</sup>  
*<sup>1</sup>Center for Cancer and Cell Biology, Van Andel Research Institute, Grand Rapids, MI; <sup>2</sup>Cellular and Molecular Biology, Michigan State University, East Lansing, MI; <sup>3</sup>University of Pittsburgh Medical Center, Pittsburgh, PA*

Poster #: B71 (presented @ PS1) || Abstract #: 106  
**“Biochemical Characterization of Functional Domains of the Chaperone Cosmc “**; Melinda S. Hanes<sup>1,2</sup>, Kelley W. Moremen<sup>3</sup> and Richard D. Cummings<sup>1,2</sup>  
*<sup>1</sup>Beth Israel Deaconess Medical Center; <sup>2</sup>Harvard Medical School; <sup>3</sup>Complex Carbohydrate Research Center, University of Georgia*

Poster #: B72 (presented @ PS2) || Abstract #: 107  
**“Mutations in ATP6AP2 are associated to Congenital Disorders of Glycosylation with autophagic defects”**; Romain Péanne<sup>1</sup>, Magda Cannata Serio<sup>2,5</sup>, Maria A. Rujano<sup>2,5</sup>, Ganna Panasyuk<sup>3,4,5</sup>, Janine Reunert<sup>6</sup>, Dulce Quelhas<sup>7</sup>,

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Michael Schwake<sup>8</sup>, Sandrine Duvet<sup>9</sup>, Francois Foulquier<sup>9</sup>, Gert Matthijs<sup>1</sup>, Thorsten Marquardt<sup>6</sup> and Matias Simons<sup>2,5</sup>

<sup>1</sup>University of Leuven (KU Leuven), Department of Human Genetics, Leuven, Belgium; <sup>2</sup>Laboratory of Epithelial Biology and Disease, Imagine Institute, Paris, France; <sup>3</sup>Institut Necker-Enfants Malades (INEM), Paris, France; <sup>4</sup>INSERM U1151/CNRS UMR 8253, Paris, France; <sup>5</sup>Université Paris Descartes, Sorbonne Paris Cité, Paris, France; <sup>6</sup>Universitätsklinikum Münster, Klinik für Kinder- und Jugendmedizin, Münster, Germany; <sup>7</sup>Biochemical Genetics Unit, Centro de Genética Medica Doutor Jacinto Magalhães, CGMJM, Centro Hospitalar do Porto, Abel Salazar Institute of Biomedical Sciences University of Porto, Porto, Portugal; <sup>8</sup>Northwestern University, Feinberg School of Medicine, Chicago, IL, USA; <sup>9</sup>University of Lille, CNRS, UMR 8576, Unité de Glycobiologie Structurale et Fonctionnelle, Lille, France

Poster #: B73 (presented @ PS1) || Abstract #: 108  
**“The odyssey of MAGT1: from magnesium channel back to N-glycosylation?”**; Eline Blommaert<sup>1</sup>, Romain Péanne<sup>1</sup>, Christophe Verstege<sup>1</sup>, Valérie Race<sup>1</sup>, Erika Souche<sup>1</sup>, Liesbeth Keldermans<sup>1</sup>, Daisy Rymen<sup>2</sup>, Jaak Jaeken<sup>2</sup> and Gert Matthijs<sup>1</sup>

<sup>1</sup>Laboratory for Molecular Diagnosis, Centre for Human Genetics, KU Leuven, Belgium; <sup>2</sup>Centre for Metabolic Diseases, University Hospital Leuven, Belgium

Poster #: B74 (presented @ PS2) || Abstract #: 109  
**“Role of protein glycosylation in Drosophila heart physiology and development”**; Brooke Howell, Ishita Chandel and Vladislav Panin  
 Department of Biochemistry and Biophysics Texas A&M University, College Station, Texas 77843

Poster #: B75 (presented @ PS1) || Abstract #: 110  
**“Clinicopathological implications to micropapillary bladder urothelial carcinoma of the presence of sialyl Lewis X-decorated mucin 1 in stroma-facing membranes”**; Tomochika Shinagawa<sup>1,2</sup>, Hitomi Hoshino<sup>1</sup>, Minekatsu Taga<sup>1,2</sup>, Yasuhiro Sakai<sup>1</sup>, Yoshiaki Imamura<sup>3</sup>, Osamu Yokoyama<sup>2</sup> and Motohiro Kobayashi<sup>1</sup>

<sup>1</sup>Department of Tumor Pathology, Faculty of Medical Sciences, University of Fukui, Eiheiji, Japan; <sup>2</sup>Department of Urology, Faculty of Medical Sciences, University of Fukui, Eiheiji, Japan; <sup>3</sup>Division of Surgical Pathology, University of Fukui Hospital, Eiheiji, Japan

Poster #: B76 (presented @ PS2) || Abstract #: 111  
**“N-Glycanase 1 Deficiency Triggers Innate Immune Activation Through Dysregulated Mitophagy”**; Kun Yang and Nan Yan  
 Department of Immunology, UT Southwestern Medical Center, Dallas, TX

Poster #: B77 (presented @ PS1) || Abstract #: 112

**“Semi-Automated Identification and MS1-level Quantification of Permethylated Glycan Isomers Separated by RP-HPLC/MS”**; M. Osman Sheikh<sup>1</sup>, Simone Kurz<sup>1</sup>, Brent Weatherly<sup>1</sup>, Christopher M. West<sup>1,2</sup>, Michael Tiemeyer<sup>1,2</sup> and Lance Wells<sup>1,1</sup>

<sup>1</sup>Complex Carbohydrate Research Center, University of Georgia, Athens, GA, 30602, USA; <sup>2</sup>Department of Biochemistry and Molecular Biology, University of Georgia, Athens, GA, 30602, USA

Poster #: B78 (presented @ PS2) || Abstract #: 113  
**“GPQuest 3: A Tool for Large-scale and Comprehensive Glycosylation Analysis on MS data”**; Yingwei Hu, Weiming Yang, Punit Shah, Shisheng Sun, Minghui Ao and Hui Zhang

Department of Pathology, Johns Hopkins University

Poster #: B79 (presented @ PS1) || Abstract #: 114  
**“Role of Protein O-mannosylation in sensory feedback mechanism in Drosophila”**; Ishita Chandel, Ryan Baker, Naosuke Nakamura, Dmitry Lyalin and Vladislav Panin

Texas A&M University, College Station, TX, USA

Poster #: B80 (presented @ PS2) || Abstract #: 115  
**“N-Acetylmannosamine (ManNAc) for the Treatment of GNE Myopathy: 18-Month Preliminary Results from a Phase 2 Open-Label Study “**; Marjan Huizing<sup>1</sup>, Bradley Class<sup>2</sup>, Melanie Quintana<sup>3</sup>, Christina Slota<sup>2,4</sup>, Petcharat Leoyklang<sup>1</sup>, Ashleigh Glowacki<sup>1</sup>, Kennan Bradley<sup>1</sup>, Carla Ciccone<sup>1</sup>, May Christine V. Malicdan<sup>1,5</sup>, Scott M. Berry<sup>3</sup>, William A. Gahl<sup>1,5</sup> and Nuria Carrillo<sup>1,2</sup>

<sup>1</sup>Medical Genetics Branch, NHGRI, NIH, Bethesda, MD 20892;

<sup>2</sup>Therapeutics for Rare and Neglected Diseases, NCATS, NIH, Bethesda, MD 20892; <sup>3</sup>Berry Consultants LLC, Austin, TX 78746; <sup>4</sup>RTI Health Solutions, Research Triangle Park, NC 27709; <sup>5</sup>NIH Undiagnosed Diseases Program, Common Fund, Office of the Director, NIH, Bethesda, MD 20892

Poster #: B81 (presented @ PS1) || Abstract #: 116  
**“Quantitation of Sialylation Status by Lectin Immunofluorescence in Muscle Biopsies”**; Marjan Huizing<sup>1</sup>, Petcharat Leoyklang<sup>1</sup>, Bradley Class<sup>2</sup>, Colleen Jodarski<sup>1</sup>, Carla Ciccone<sup>1</sup>, Ashleigh Glowacki<sup>1</sup>, William A. Gahl<sup>1,3</sup>, Nuria Carrillo<sup>1,2</sup> and May Christine V. Malicdan<sup>1,3</sup>

<sup>1</sup>Medical Genetics Branch, NHGRI, NIH, Bethesda, MD 20892;

<sup>2</sup>Therapeutics for Rare and Neglected Diseases, NCATS, NIH, Bethesda, MD 20892; <sup>3</sup>NIH Undiagnosed Diseases Program, Common Fund, Office of the Director, NIH, Bethesda, MD 20892

Poster #: B82 (presented @ PS2) || Abstract #: 117  
**“GlycoStore: a resource for the exploration and annotation of LC and CE glycomics data”**; Matthew P. Campbell<sup>1</sup>, Sophie Zhao<sup>2</sup>, Ian Walsh<sup>2</sup>, Jodie L. Abrahams<sup>1</sup>, Louise Royle<sup>3</sup>, Nicolle H. Packer<sup>1,4</sup>, Terry Nguyen-Khuong<sup>2</sup> and Pauline M. Rudd<sup>2</sup>

<sup>1</sup>Institute for Glycomics, Griffith University, Gold Coast, Australia;

<sup>2</sup>Bioprocessing Technology Institute, Agency for Science, Technology and Research (A\*STAR), Singapore; <sup>3</sup>LudgerLtd., Culham Science Centre, Oxfordshire, United Kingdom; <sup>4</sup>Department of Chemistry and



*Biomolecular Sciences, Macquarie University, Sydney, Australia*

Poster #: B83 (presented @ PS1) || Abstract #: 118  
**“Biochemical and molecular-genetic analysis of two siblings with congenital disorder of glycosylation caused by a novel mutation in ATP6AP1 gene”**; Nina Ondruskova, Alzbeta Vondrackova, Marketa Tesarova, Tomas Honzik, Jiri Zeman and Hana Hansikova  
*Department of Pediatrics and Adolescent Medicine, First Faculty of Medicine, Charles University and General University Hospital in Prague, the Czech Republic*

Poster #: B84 (presented @ PS2) || Abstract #: 119  
**“Siglec-8 ligands in human airway secretions”**; Anabel Gonzalez Gil<sup>1</sup>, Hyun Sil-Lee<sup>2</sup>, Ryan Porell<sup>1</sup>, Steve M. Fernandes<sup>1</sup>, Jean Kim<sup>2,3</sup> and Ronald L. Schnaar<sup>1</sup>  
*<sup>1</sup>Department of Pharmacology and Molecular Sciences, Johns Hopkins University School of Medicine, Baltimore, MD; <sup>2</sup>Department of Medicine: Allergy and Clinical Immunology, Johns Hopkins University School of Medicine, Baltimore, MD; <sup>3</sup>Department of Medicine: Otolaryngology, Head & Neck Surgery, Johns Hopkins University School of Medicine, Baltimore, MD*

Poster #: B85 (presented @ PS1) || Abstract #: 120  
**“Low Level Pancreatic Beta Cell Sialylation in the Onset of Autoimmune Diabetes”**; Douglas M. Heithoff, Damien Restagno, Won Ho Yang, Peter V. Aziz and Jamey D. Marth  
*Center for Nanomedicine, Sanford-Burnham-Prebys Medical Discovery Institute, University of California-Santa Barbara, Santa Barbara, California, USA*

Poster #: B86 (presented @ PS2) || Abstract #: 121  
**“TREX1 prevents the accumulation of an endogenous bioactive disaccharide associated with autoimmunity”**; Charles S. Fermaintt<sup>1</sup>, Mark A. Lehrman<sup>2</sup> and Nan Yan<sup>1</sup>  
*<sup>1</sup>Department of Immunology; <sup>2</sup>Department of Pharmacology, UT Southwestern Medical Center, Dallas, TX*

Poster #: B87 (presented @ PS1) || Abstract #: 122  
**“Inhibition of Notch signaling using fucose analogs”**; Huilin Hao<sup>1</sup>, Michael Schneider<sup>2</sup>, Hideyuki Takeuchi<sup>1</sup>, Peng Wu<sup>3</sup> and Robert S. Haltiwanger<sup>1</sup>  
*<sup>1</sup>Complex Carbohydrate Research Center, University of Georgia; <sup>2</sup>Department of Biochemistry and Cell Biology, Stony Brook University, Stony Brook, NY 11794-5215; <sup>3</sup>Department of Chemical Physiology, The Scripps Research Institute, 10550 North Torrey Pines Road, La Jolla, CA 92037*

Poster #: B88 (presented @ PS2) || Abstract #: 123  
**“Endogenous galectin-3 promotes muscle repair”**; Lilian Cataldi Rodrigues<sup>1</sup>, Daniel Giuliano Cerri<sup>1</sup>, Vani

Maria Alves<sup>2</sup>, Martin K. Amstalden<sup>1</sup>, Sean R. Stowell<sup>3</sup>, Richard D. Cummings<sup>4</sup> and Marcelo Dias-Baruffi<sup>1</sup>  
*<sup>1</sup>Faculty of Pharmaceutical Sciences of Ribeirão Preto - University of São Paulo, Ribeirão Preto, São Paulo, Brazil; <sup>2</sup>Cell and Molecular Biology and Pathogenic Bioagents – Ribeirão Preto Medical School – University of São Paulo, Brazil; <sup>3</sup>Department of Pathology, Emory University School of Medicine, Atlanta, GA 30322, USA; <sup>4</sup>Department of Surgery, Beth Israel Deaconess Medical Center and Harvard Medical School, Boston, MA 02115, USA*

Poster #: B89 (presented @ PS1) || Abstract #: 124  
**“Identification and Functional Characterization of Genomic-Glycosylation Aberrations in Human Cancers”**; Carman KM Ip<sup>1</sup>, Xinxin Peng<sup>2</sup>, Patrick KS Ng<sup>3</sup>, Kang J. Jeong<sup>1</sup>, Han Liang<sup>2</sup> and Gordon B. Mills<sup>1,3</sup>  
*<sup>1</sup>Department of Systems Biology, The University of Texas MD Anderson Cancer Center, Houston, TX, USA; <sup>2</sup>Department of Bioinformatics and Computational Biology, The University of Texas MD Anderson Cancer Center, Houston, TX, USA; <sup>3</sup>Sheikh Khalifa Bin Zayed Al Nahyan Institute for Personalized Cancer Therapy, The University of Texas MD Anderson Cancer Center, Houston, TX, USA*

Poster #: B90 (presented @ PS2) || Abstract #: 125  
**“RECOMBINANT ANTIBODY FRAGMENTS AGAINST SYNTHETIC GLYCOPEPTIDE MIMICKING CANCER MUCINS: A PROMISING TOOL FOR DIAGNOSIS AND DRUG DELIVERY SYSTEMS.”**; Thais Canassa De Leo<sup>1</sup>, Marcelo M. Brígido<sup>2</sup>, Andrea Q. Maranhão<sup>2</sup>, Vanessa L. Campo<sup>1</sup> and Marcelo Dias-Baruffi<sup>1</sup>  
*<sup>1</sup>School of Pharmaceutical Sciences of Ribeirão Preto, University of São Paulo, Brazil; <sup>2</sup>Institute of Biological Sciences, University of Brasília, Brazil*

Poster #: B91 (presented @ PS1) || Abstract #: 126  
**“Endogenous galectin-3 impairs neutrophil migration and increases susceptibility in a murine model of severe polymicrobial sepsis”**; Raphael G. Ferreira<sup>1</sup>, Lilian C. Rodrigues<sup>2</sup>, Daniele CB Nascimento<sup>1</sup>, Alexandre Kanashiro<sup>1</sup>, Paulo H. de Melo<sup>1</sup>, Vanessa F. Borges<sup>1</sup>, Aline Gozzi<sup>3</sup>, Marcos C. Borges<sup>3</sup>, Sean R. Stowell<sup>4</sup>, Richard D. Cummings<sup>5</sup>, Marcelo Dias-Baruffi<sup>2</sup>, Fernando Q. Cunha<sup>1</sup> and José Carlos Alves-Filho<sup>1</sup>  
*<sup>1</sup>Pharmacology Department, Ribeirão Preto Medical School, University of São Paulo-Brazil.; <sup>2</sup>Department of Clinical Analyses, Toxicology and Food Sciences, School of Pharmaceutical Sciences of Ribeirão Preto, University of São Paulo-Brazil.; <sup>3</sup>Department of Internal Medicine, Ribeirão Preto Medical School, University of São Paulo-Brazil.; <sup>4</sup>Department of Pathology, Emory University School of Medicine, Atlanta, GA 30322, United States of America.; <sup>5</sup>Department of Surgery, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts, United States of America.*

Poster #: B92 (presented @ PS2) || Abstract #: 127  
**“Mass spectrometry analysis of adeno-associated virus glycan receptor expression in nigrostriatal pathway in aging rats.”**; Rekha Raghunathan<sup>1</sup>,

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Nicole Polinski<sup>3</sup>, John D. Hogan<sup>4</sup>, Joshua Klein<sup>4</sup>, Kshitij Khatri<sup>2</sup>, Chun Shao<sup>2</sup>, Caryl Sortwell<sup>3</sup> and Joseph Zaia<sup>2</sup>

<sup>1</sup>Department of Molecular and Translational Medicine, Boston University; <sup>2</sup>Department of Biochemistry, Boston University; <sup>3</sup>Department of Translational Science and Molecular Medicine, Michigan State University; <sup>4</sup>Department of Bioinformatics, Boston University

Poster #: B93 (presented @ PS1) || Abstract #: 128  
**“A Well-Characterized Human Chimeric Anti-Tn Monoclonal Antibody with Cytotoxic Potential”**;  
Yasuyuki Matsumoto<sup>1</sup>, Matthew R. Kudelka<sup>2</sup>, Melinda S. Hanes<sup>1</sup>, Sylvain Lehoux<sup>1</sup>, Jamie Heimburg-Molinaro<sup>1</sup>, David F. Smith<sup>2</sup>, Tongzhong Ju<sup>2</sup> and Richard D. Cummings<sup>1</sup>

<sup>1</sup>Department of Surgery, Beth Israel Deaconess Medical Center - Harvard Medical School; <sup>2</sup>Department of Biochemistry, Emory University School of Medicine

Poster #: B94 (presented @ PS2) || Abstract #: 129  
**“GRITS Toolbox 1.2 - New features in our freely available software system for processing and archiving of glycomics mass spectrometry data”**;  
Rene Ranzinger, Brent Weatherly, Sena Arpinar, Mindy Porterfield, Lovina Dmello, Michael Tiemeyer and William S. York

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

Poster #: B95 (presented @ PS1) || Abstract #: 130  
**“DIFFERENTIAL SIALYLATION AND POLYSIALYLATION IN SKIN AND ORAL MUCOSAL WOUND HEALING”**;  
Veronica A. Haywood<sup>1</sup>, Lin Chen<sup>1</sup>, Karen J. Colley<sup>2</sup> and Luisa A. DiPietro<sup>1</sup>

<sup>1</sup>Center for Wound Healing & Tissue Regeneration, College of Dentistry, University of Illinois, Chicago, IL; <sup>2</sup>Department of Biochemistry, College of Medicine, University of Illinois, Chicago, IL

Poster #: B96 (presented @ PS2) || Abstract #: 131  
**“Beyond ERAD: N-glycanase will bring you to tears.”**;  
Mitali A. Tambe, Bobby G. Ng and Hudson H. Freeze

Sanford Burnham Prebys Medical Discovery Institute

Poster #: B97 (presented @ PS1) || Abstract #: 132  
**“GPTwiki - A Glycopeptide Transition Database for Quantitative Glycoproteomics using SWATH”**;  
Nathan J. Edwards, Miloslav Sanda and Radoslav Goldman

Georgetown University

Poster #: B98 (presented @ PS2) || Abstract #: 133  
**“Exploring the role of Nrf1 in NGly1 deficiency”**;  
Ulla IM Gerling-Driessen<sup>1</sup>, Frederick M. Tomlin<sup>1</sup>, CJ Cambier<sup>1</sup>, Yi-Chang Liu<sup>1</sup> and Carolyn R. Bertozzi<sup>1,2</sup>

<sup>1</sup>Department of Chemistry, Stanford University, Stanford,

California 94305, United States; <sup>2</sup>Howard Hughes Medical Institute, Chevy Chase, Maryland 20815, United States

Poster #: B99 (presented @ PS1) || Abstract #: 134  
**“Glycosylation impacts antibody Fc receptor function and is tuned by the immune system”**;  
Nickita Mehta<sup>1</sup>, Kevin B. Chandler<sup>2</sup>, Catherin E. Costello<sup>2</sup> and Galit Alter<sup>1</sup>

<sup>1</sup>Ragon Institute of MGH, MIT and Harvard, Cambridge, MA 02139; <sup>2</sup>Center for Biomedical Mass Spectrometry, Boston University School of Medicine, Boston, MA

## Glycolipids in health and disease

Poster #: B100 (presented @ PS2) || Abstract #: 23  
**“A New Hypothesis For Lec5”**;  
Mark A. Lehrman and Hua Lu

UT Southwestern Medical Center

Poster #: B101 (presented @ PS1) || Abstract #: 24  
**“LmeA, a Periplasmic Membrane-Bound Protein, is Critical for Lipomannan Biosynthesis and Cell Envelope Integrity in Mycobacteria”**;  
Yasu S. Morita, Sarah Osman and Kathryn C. Rahlwes

Department of Microbiology, University of Massachusetts, Amherst, MA, 01003, USA

Poster #: B102 (presented @ PS2) || Abstract #: 135  
**“DANGO: An MS Data Annotation System for Glycolipidomics”**;  
Masaaki Matsubara, Mayumi Ishihara, Michael Tiemeyer, Kazuhiro Aoki and René Ranzinger

Complex Carbohydrate Research Center, University of Georgia

Poster #: B103 (presented @ PS1) || Abstract #: 136  
**“Leucine-rich repeat-containing G-protein coupled receptor 6 (LGR6) functions in the O-GlcNAc-mediated regulation of colon cancer stem cell driven tumorigenesis”**;  
Huabei Guo<sup>1,2</sup>, Alison V. Nairn<sup>1,2</sup>, Shutan Xu<sup>2</sup>, Tamas Nagy<sup>3</sup>, Shaying Zhao<sup>2</sup>, Kelley W. Moremen<sup>1,2</sup>, Phillip Buckhaults<sup>4</sup> and Michael Pierce<sup>1,2</sup>

<sup>1</sup>Complex Carbohydrate Research Center, University of Georgia, Athens, GA,30602; <sup>2</sup>Department of Biochemistry and Molecular Biology, University of Georgia, Athens, GA,30602; <sup>3</sup>Pathology, College of Veterinary Medicine, University of Georgia, Athens, GA,30602; <sup>4</sup>South Carolina College of Pharmacy, The University of South Carolina, Columbia, SC 29208

Poster #: B104 (presented @ PS2) || Abstract #: 137  
**“T Cells Require Extended O-Glycans To Populate Peripheral Lymphoid Organs”**;  
Christopher E. Cutler<sup>1,2</sup> and Richard D. Cummings<sup>1</sup>

<sup>1</sup>Beth Israel Deaconess Medical Center; <sup>2</sup>Emory University

Poster #: B105 (presented @ PS1) || Abstract #: 138  
**“Characterization of a novel hemolysin that possesses specificities for glycoproteins and lipids”**;  
Christina Welch, Priyanka Kadav, Ni Fan, Robert Brown, Alexander

Vizurraga, Purnima Bandyopadhyay and Tarun Dam  
*Mechanistic Glycobiology, Department of Chemistry, Michigan  
Technological University*

## Glycans in pathogenesis and infection

Poster #: B106 (presented @ PS2) || Abstract #: 27  
**“Neoglycoproteins as biomarkers for cutaneous leishmaniasis”**; Alba L. Montoya<sup>1</sup>, Krishanthi Subramaniam<sup>4</sup>, Alvaro Acosta-Serrano<sup>4</sup>, Igor C. Almeida<sup>2,3</sup> and Katja Michael<sup>1,3</sup>

<sup>1</sup>Department of Chemistry, University of Texas at El Paso;

<sup>2</sup>Department of Biological Sciences, University of Texas at El Paso;

<sup>3</sup>Border Biomedical Research Center, University of Texas at El Paso;

<sup>4</sup>Department of Parasitology and Department of Vector Biology, Liverpool School of Tropical Medicine

Poster #: B107 (presented @ PS1) || Abstract #: 28  
**“Identifying the in vitro Arginine-GlcNAcylation targets of the NleB/SseK family of effectors”**; Nichollas E. Scott, Josh Newson, Georgina L. Pollock, Jaclyn S. Pearson and Elizabeth L. Hartland  
*Department of Microbiology and Immunology, University of Melbourne at the Peter Doherty Institute for infection and Immunity, Victoria, Australia*

Poster #: B108 (presented @ PS2) || Abstract #: 30  
**“Changes in cell surface glycans in women with bacterial vaginosis and impact on Fusobacterium vaginal colonization”**; Kavita Agarwal<sup>2</sup>, Lloyd S. Robinson<sup>2</sup>, Lynne Foster<sup>2</sup>, Hueylie Lin<sup>2</sup>, Nicole M. Gilbert<sup>3</sup>, Warren G. Lewis<sup>1</sup> and Amanda L. Lewis<sup>2,3</sup>

<sup>1</sup>Department of Medicine, Washington University in St. Louis;

<sup>2</sup>Department of Molecular Microbiology, Washington University in St. Louis; <sup>3</sup>Department of Obstetrics and Gynecology, Washington University in St. Louis

Poster #: B109 (presented @ PS1) || Abstract #: 31  
**“Antibody fucosylation restricts Fc gamma receptor IIIA (CD16A) N-glycan motion to reduce affinity”**; Adam W. Barb, Daniel J Falconer and Ganesh P. Subedi

*Roy J Carver Dept of Biochem, Biophys & Mol Biol, Iowa State University, Ames*

Poster #: B110 (presented @ PS2) || Abstract #: 33  
**“Inhibition of O-glycan biosynthesis using hexosamine analogs”**; Sriram Neelamegham<sup>1</sup>, Shuen-Shiuan Wang<sup>1</sup>, Virginia del Solar Fernandez<sup>1</sup>, Gino Stolfa<sup>1</sup>, Aristotelis Antonopoulos<sup>2</sup>, Anne Dell<sup>2</sup>, Stuart M. Haslam<sup>2</sup>, Mehrab Nasirikenari<sup>3</sup>, Joseph T. Lau<sup>3</sup> and S. G. Sampathkumar<sup>4</sup>

<sup>1</sup>Department of Chemical and Biological Engineering, State University of New York, Buffalo, NY, USA; <sup>2</sup>Department of Life Sciences, Imperial College London, London, UK; <sup>3</sup>Department of Cellular and Molecular Biology, Roswell Park Cancer Institute,

*Buffalo, NY, USA; <sup>4</sup>Laboratory of Chemical Glycobiology, National Institute of Immunology, New Delhi, India*

Poster #: B111 (presented @ PS1) || Abstract #: 139  
**“Microbiota polysaccharides mediate immune suppression via memory T to regulatory T cell cooperativity”**; Mark B. Jones, Jenny L. Johnson, Carlos A. Alvarez, Julie Y. Zhou, Kelsey D. Oliva, Nathan Morris and Brian A. Cobb  
*Case Western Reserve University*

Poster #: B112 (presented @ PS2) || Abstract #: 140  
**“Cooperative ligand binding of a C-type lectin like receptor Dectin-1”**; Yoshiki Yamaguchi<sup>1,2</sup>, Hari P. Dulal<sup>1,2</sup>, Yoshiyuki Adachi<sup>3</sup> and Naohito Ohno<sup>3</sup>

<sup>1</sup>Structural Glycobiology Team, RIKEN, Japan; <sup>2</sup>Tokyo Medical and Dental University, Japan; <sup>3</sup>Tokyo University of Pharmacy and Life Science, Japan

Poster #: B113 (presented @ PS1) || Abstract #: 141  
**“Plasma glycomics predicts cardiovascular sequelae in patients with controlled HIV infections”**; Douglas M. Oswald<sup>1</sup>, Edward S. Sim<sup>1</sup>, Obada Farhan<sup>2</sup>, Sara Debanne<sup>2</sup>, Nathan Morris<sup>2</sup>, Benigno Rodriguez<sup>3</sup>, Mark B. Jones<sup>1</sup> and Brian A. Cobb<sup>1</sup>

<sup>1</sup>Department of Pathology, Case Western Reserve University School of Medicine; <sup>2</sup>Department of Population and Quantitative Health Science, Case Western Reserve University School of Medicine;

<sup>3</sup>Department of Medicine, Division of Infectious Diseases and HIV medicine, Case Western Reserve University School of Medicine and University Hospitals Cleveland Medical Center

Poster #: B114 (presented @ PS2) || Abstract #: 142  
**“Site-specific glycosylation of viral surface proteins using mass spectrometry”**; Cassandra L. Pegg, Toan K. Phung and Benjamin L. Schulz  
*School of Chemistry and Molecular Biosciences, University of Queensland, Queensland 4072, Australia*

Poster #: B115 (presented @ PS1) || Abstract #: 143  
**“Galectins from the eastern oyster (Crassostrea virginica) preferentially recognize the protozoan Perkinsus marinus by carbohydrate-based parasite mimicry”**; Chiguang Feng<sup>1</sup>, Anita Ghosh<sup>2</sup>, Mohammed N. Amin<sup>3</sup>, Tsvetan R. Bachvaroff<sup>4</sup>, Mario A. Bianchet<sup>2</sup>, Lai-Xi Wang<sup>3</sup>, Daniel Zheng<sup>1,6</sup>, Deandra Watson<sup>1,7</sup>, Iain B.H. Wilson<sup>5</sup> and Gerardo R. Vasta<sup>1</sup>

<sup>1</sup>Department of Microbiology and Immunology, University of Maryland School of Medicine, UMB, Institute of Marine and Environmental Technology, Baltimore, Maryland, USA;

<sup>2</sup>Departments of Neurology and Biophysics and Biophysical Chemistry, The Johns Hopkins University School of Medicine, Baltimore, Maryland, USA; <sup>3</sup>Department of Chemistry and Biochemistry, University of Maryland, College Park, Maryland, USA; <sup>4</sup>University of Maryland Center for Environmental Science, and Institute of Marine and Environmental Technology, Baltimore, Maryland, USA; <sup>5</sup>Department für Chemie, Universität für

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*Bodenkultur, Vienna, Austria; <sup>6</sup>Visiting Summer Intern from Centennial High School, HCPS, Maryland; <sup>7</sup>Visiting Summer Intern from Coppin State University, Baltimore, Maryland*

Poster #: B116 (presented @ PS2) || Abstract #: 144  
**“Probing the Function of N-glycans in Platelet-Collagen Interaction”**; Christian Toonstra and Hui Zhang

*Department of Pathology, Johns Hopkins University*

Poster #: B118 (presented @ PS2) || Abstract #: 146  
**“Kdn, a Free Sialic Acid in Humans has Therapeutic Potential Against Non-typeable Haemophilus influenzae (NTHi) infections”**; Sudeshna Saha<sup>1</sup>, Sandra Diaz<sup>1</sup>, Biswa Choudhury<sup>1</sup>, Victor Nizet<sup>2</sup>, Sanjay Ram<sup>3</sup>, Ian Schoenhofen<sup>4</sup> and Ajit Varki<sup>1</sup>

*<sup>1</sup>Department of Cellular and Molecular Medicine, University of California, San Diego, La Jolla, CA, USA; <sup>2</sup>Department of Pediatrics, and the Glycobiology Research and Training Center, University of California, San Diego, La Jolla, CA, USA; <sup>3</sup>Division of Infectious Diseases and Immunology, University of Massachusetts Medical School, Worcester, Massachusetts, MA, USA; <sup>4</sup>Human Health Therapeutics Portfolio, National Research Council of Canada, Ottawa, Ontario, Canada*

Poster #: B119 (presented @ PS1) || Abstract #: 147  
**“Hydrogen bonding and three-dimensional structure in glycans from bacteria and cancer”**; Marcos D. Battistel, Hugo F. Azurmendi and Daron I. Freedberg

*CBER/FDA*

Poster #: B120 (presented @ PS2) || Abstract #: 148  
**“Identifying O-acetylated Sialic Acids Using Viral-Derived Sialoglycan-Recognizing Probes”**; Brian R. Wasik, Karen N. Barnard, Brynn K. Lawrence and Colin R. Parrish

*Baker Institute for Animal Health, College of Veterinary Medicine, Cornell University, Ithaca, New York, USA*

Poster #: B121 (presented @ PS1) || Abstract #: 149  
**“Intracellular galectins control cellular responses commensurate with cell surface carbohydrate alterations”**; Ming-Hsiang Hong<sup>1</sup>, Wei-Han Lin<sup>1</sup>, I-Chun Weng<sup>1</sup>, Yu-Hsien Hung<sup>2</sup>, Hung-Lin Chen<sup>1</sup>, Huan-Yuan Chen<sup>1</sup>, Wei-Yuan Yang<sup>2</sup> and Fu-Tong Liu<sup>1</sup>

*<sup>1</sup>Institute of Biomedical Sciences, Academia Sinica, Taipei, Taiwan, Republic of China (R.O.C.); <sup>2</sup>Institute of Biological Chemistry, Academia Sinica, Taipei, Taiwan, Republic of China (R.O.C)*

Poster #: B122 (presented @ PS2) || Abstract #: 150  
**“Structural Insights into Bacterial Sialic Acid Transport”**; Weixiao Y. Wahlgren<sup>1,2</sup>, Elin Dunevall<sup>1</sup>, Rachel A. North<sup>3,8</sup>, Aviv Paz<sup>4</sup>, Mariafrancesca

Scalise<sup>6</sup>, Paola Bisignano<sup>5</sup>, Johan Bengtsson-Palme<sup>10,2</sup>, Parveen Goyal<sup>1,2</sup>, Elin Claesson<sup>1</sup>, Ulf Nilsson<sup>11</sup>, Anne Farewell<sup>1,2</sup>, Lorena Pochini<sup>6</sup>, Cesare Indiveri<sup>6</sup>, Michael Grabe<sup>5</sup>, Renwick CJ Dobson<sup>3,9</sup>, Jeff Abramson<sup>4,7</sup>, S. Ramaswamy<sup>7</sup> and Rosmarie Friemann<sup>1,2</sup>

*<sup>1</sup>Department of Chemistry and Molecular Biology, University of Gothenburg, Sweden; <sup>2</sup>Centre for Antibiotic Resistance Research, CARE, University of Gothenburg, Sweden; <sup>3</sup>Biomolecular Interaction Centre and School of Biological Sciences, University of Canterbury, Christchurch, New Zealand; <sup>4</sup>Department of Physiology, David Geffen School of Medicine, University of California, Los Angeles, United States; <sup>5</sup>Cardiovascular Research Institute, Department of Pharmaceutical Chemistry, University of California, San Francisco, United States; <sup>6</sup>Department DiBEST (Biologia, Ecologia, Scienze della Terra) Unit of Biochemistry and Molecular Biotechnology, University of Calabria, Rende, Italy; <sup>7</sup>Institute for Stem Cell Biology and Regenerative Medicine, Bengaluru, India; <sup>8</sup>Biomolecular Interaction Centre and School of Biological Sciences, University of Canterbury, New Zealand; <sup>9</sup>Department of Biochemistry and Molecular Biology, Bio21 Molecular Science and Biotechnology Institute, University of Melbourne; <sup>10</sup>Department of Infectious Diseases, Institute for Biomedicine, Sahlgrenska Academy, University of Gothenburg, Sweden; <sup>11</sup>Centre for Analysis and Synthesis, Department of Chemistry, Lund University, Sweden*

Poster #: B123 (presented @ PS1) || Abstract #: 151  
**“ST3Gal3 deficient mice exhibit spontaneous and induced morbidity and mortality”**; Adrienne L. Stefanski<sup>1</sup>, Rachel L. Waagmeester<sup>1</sup>, Vanessa L. Richardson<sup>1</sup>, Stacey Thomas<sup>2</sup>, Dorota S. Raclawska<sup>1</sup>, William J. Janssen<sup>1,2</sup> and Christopher M. Evans<sup>1</sup>

*<sup>1</sup>Department of Medicine, University of Colorado Denver, Aurora, CO; <sup>2</sup>Department of Medicine, National Jewish Health, Denver, CO*

Poster #: B124 (presented @ PS2) || Abstract #: 152  
**“Glycoproteomics analysis to examine the role of chlamydial protease-like activity factor”**; Julian Saba<sup>1</sup>, Fred Zinnel<sup>2</sup>, Christa Feasley<sup>3</sup>, Stuart McCorrister<sup>4</sup>, Garrett Westmacott<sup>4</sup>, Grant McClarty<sup>4</sup> and Chris Grant<sup>4</sup>

*<sup>1</sup>Thermo Fisher Scientific, Mississauga, ON, Canada; <sup>2</sup>Thermo Fisher Scientific, Somerset, NJ; <sup>3</sup>Thermo Fisher Scientific, West Palm Beach, FL, USA; <sup>4</sup>National Microbiology Laboratory, Public Health Agency of Canada, Winnipeg, MB, Canada*

Poster #: B125 (presented @ PS1) || Abstract #: 153  
**“Cholera toxin binds to LewisX and fucosylated glycoproteins play a functional role in human intestinal cell intoxication”**; Jakob Cervin<sup>1</sup>, Amberlyn M. Wands<sup>2</sup>, Anna Casselbrant<sup>3</sup>, Aleksander Cvjetkovic<sup>1</sup>, Johanna Estelius<sup>1</sup>, Benjamin Dedic<sup>4</sup>, Anirudh Sethi<sup>2</sup>, Kerri-Lee Wallom<sup>5</sup>, Rebecca Riise<sup>6</sup>, Malin Bäckström<sup>7</sup>, Ville Wallenius<sup>3</sup>, Frances M. Platt<sup>5</sup>, Michael Lebens<sup>1</sup>, Susann Teneberg<sup>4</sup>, Lars Fändriks<sup>3</sup>, Jennifer J. Kohler<sup>2</sup> and Ulf Yrlid<sup>1</sup>

*<sup>1</sup>Department of Microbiology and Immunology, Institute of Biomedicine, University of Gothenburg; <sup>2</sup>Department of Medical Biochemistry, University of Texas Southwestern Medical Center; <sup>3</sup>Department of Gastrointestinal Research and Education, Institute of Clinical Sciences, Sahlgrenska Academy, University of Gothenburg; <sup>4</sup>Department of Biochemistry and Cell Biology, Institute of Biomedicine, Sahlgrenska*

Academy, University of Gothenburg; <sup>5</sup>Department of Pharmacology, University of Oxford; <sup>6</sup>Sahlgrenska Cancer Center, University of Gothenburg; <sup>7</sup>Mammalian Protein Expression Core Facility, University of Gothenburg

Poster #: B126 (presented @ PS2) || Abstract #: 154  
**“Accelerated Aging and Turnover of Host Anti-Inflammatory Enzymes in the Pathogenesis of Gram-negative Sepsis”**; Won Ho Yang<sup>1,2</sup>, Douglas M. Heithoff<sup>1,3</sup>, Peter V. Aziz<sup>1,2</sup>, Benjamin S. Haslund-Gourley<sup>1,2</sup>, Michael J. Mahan<sup>1,3</sup>, Victor Nizet<sup>4</sup> and Jamey D. Marth<sup>1,2,3</sup>

<sup>1</sup>Center for Nanomedicine; <sup>2</sup>Sanford-Burnham-Prebys Medical Discovery Institute; <sup>3</sup>Department of Molecular, Cellular, and Developmental Biology, University of California-Santa Barbara, Santa Barbara, California 93106; <sup>4</sup>Department of Pediatrics and Skaggs School of Pharmacy and Pharmaceutical Sciences, University of California San Diego, La Jolla, California 92093

Poster #: B127 (presented @ PS1) || Abstract #: 155  
**“Surface Glycan-Binding Protein Uniquely Facilitate Starch Metabolism in the Gut Symbiont Bacteroides thetaiotaomicron”**; Matthew Foley, Hannah Tuson, Julie Biteen and Nicole Koropatkin  
University of Michigan

Poster #: B128 (presented @ PS2) || Abstract #: 156  
**“Recurrent Infection Progressively Disables Host Protection Against Intestinal Inflammation”**; Won Ho Yang<sup>1,2,3</sup>, Douglas M. Heithoff<sup>1,3</sup>, Peter V. Aziz<sup>1,2,3</sup>, Markus Sperandio<sup>4</sup>, Victor Nizet<sup>5</sup>, Michael J. Mahan<sup>1,3</sup> and Jamey D. Marth<sup>1,2,3</sup>

<sup>1</sup>Center for Nanomedicine; <sup>2</sup>SBP Medical Discovery Institute; <sup>3</sup>Department of Molecular, Cellular, and Developmental Biology, University of California Santa Barbara, Santa Barbara, California 93106; <sup>4</sup>Walter Brendel Center for Experimental Medicine, Ludwig-Maximilians-University, Munich, Germany; <sup>5</sup>Department of Pediatrics and Skaggs School of Pharmacy and Pharmaceutical Sciences, University of California San Diego, La Jolla, California 92093

Poster #: B130 (presented @ PS2) || Abstract #: 158  
**“Regulation of endothelial N-glycans in atherosclerosis: a role for alpha -mannosidases”**; Kellie Regal-McDonald<sup>1,2</sup>, Jarrod W. Barnes<sup>3</sup> and Rakesh P. Patel<sup>1,2</sup>

<sup>1</sup>Department of Pathology; <sup>2</sup>Center for Free Radical Biology; <sup>3</sup>Department of Pulmonary, Allergy, and Critical Care Medicine, University of Alabama at Birmingham, Birmingham, AL

Poster #: B131 (presented @ PS1) || Abstract #: 159  
**“The zebrafish tandem-repeat galectin 9 (Drgal9-L1) promotes in vitro adhesion and infection of the infectious hematopoietic necrosis virus (IHNV)”**; Kelsey Abernathy<sup>1</sup>, Justin Mancini<sup>1</sup>, Nuria González-Montalbán<sup>1</sup>, Chiguang Feng<sup>1</sup>, Sheng Wang<sup>2</sup>, Lia Schipper<sup>3</sup> and Gerardo Vasta<sup>1</sup>

<sup>1</sup>Department of Microbiology and Immunology, University

of Maryland School of Medicine, UMB, Institute of Marine Environmental Technology, Baltimore, Maryland ; <sup>2</sup>School of Life Sciences, Sun Yat-sen University, Guangzhou, PR China; <sup>3</sup>North County High School, Glen Burnie, MD

Poster #: B132 (presented @ PS2) || Abstract #: 160  
**“Antibody-based Inhibition of Influenza H5 Hemagglutinin Binding to a Sialoglycan Receptor Using Surface Plasmon Resonance (SPR) as an Alternate to Live Virus-based Assays”**; Malgorzata Norton<sup>1</sup>, Alexey Khalekov<sup>1</sup>, Tracy L. Kamikawa<sup>1</sup>, Thomas Kort<sup>2</sup>, Peter Pushko<sup>2</sup>, Michael C. Kennedy<sup>1</sup> and Dorothy E. Scott<sup>1</sup>

<sup>1</sup>Division of Plasma Protein Therapeutics, Center for Biologics Evaluation and Research, U.S. Food and Drug Administration; <sup>2</sup>Medigen, Inc.

Poster #: B133 (presented @ PS1) || Abstract #: 161  
**“Identifying cell-surface glycans that mediate binding of Pertussis toxin.”**; Nicole Nischan and Jennifer J. Kohler

Department of Biochemistry, 5323 Harry Hines Blvd., Dallas, TX 75390-9185.

Poster #: B134 (presented @ PS2) || Abstract #: 162  
**“A shotgun glycomics approach to identify influenza virus receptors in human lungs”**; Nan Jia<sup>1</sup>, Lauren A. Byrd-Leotis<sup>1</sup>, Chao Gao<sup>1</sup>, Sandra F. Cummings<sup>1</sup>, David A. Steinhauer<sup>2</sup> and Richard D. Cummings<sup>1</sup>

<sup>1</sup>Department of Surgery, Beth Israel Deaconess Medical Center, Harvard Medical School; <sup>2</sup>Department of Microbiology and Immunology, Emory University School of Medicine

Poster #: B135 (presented @ PS1) || Abstract #: 163  
**“NanoLC-MS/MS-based Quantitative N-glycomics following 2-Aminobenzoic Acid Labeling and Methylamidation”**; Haiying Li, John W. Froehlich, Patricia S. Cho, Stephen A. Kostel, Shannon E. DiMartino and Richard S. Lee

Department of Urology and The Proteomics Center, Boston Children's Hospital and Harvard Medical School

Poster #: B136 (presented @ PS2) || Abstract #: 164  
**“GlcNDAz, a diazirine-containing sugar, can be incorporated into cell surface N-linked glycans”**; Han Wu<sup>1</sup>, Amberlyn M. Wands<sup>1</sup>, Asif Shajahan<sup>2</sup>, Roberto Sonon<sup>2</sup>, Parastoo Azadi<sup>2</sup> and Jennifer J. Kohler<sup>1</sup>

<sup>1</sup>Department of Biochemistry, UT Southwestern Medical Center, Dallas, TX; <sup>2</sup>Complex Carbohydrate Research Center, University of Georgia, Athens, GA

Poster #: B137 (presented @ PS1) || Abstract #: 165  
**“Analysis of HIV-1 gp120 N-glycosylation in the Context of Structure and Function”**; Audra A. Hargett<sup>1</sup>, Qing Wei<sup>1</sup>, Barbora Knoppova<sup>2</sup>, Milan Raska<sup>1,2</sup>, Stacy Hall<sup>1</sup>, Zina Moldoveanu<sup>1</sup>, Zhi-Qiang

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Huang<sup>1</sup>, Zhi-Qiang Huang<sup>1</sup>, Jan Novak<sup>1</sup> and Matthew Renfrow<sup>1</sup>

<sup>1</sup>University of Alabama at Birmingham; <sup>2</sup>Palacky University in Olomouc, Olomouc Czech Republic

Poster #: B138 (presented @ PS2) || Abstract #: 166  
**“Expression of the Tn Tumor Antigen in Carcinomas Is Caused by Mislocalization of Cosmc/T-synthase due to Dysregulation of MAPK Pathway”**; Yuliang Jiang<sup>1,3</sup>, Sheet Kotian<sup>3</sup>, Connie Arthur<sup>2</sup>, Sean Stowell<sup>2</sup>, David F. Smith<sup>1</sup>, Guangyu An<sup>3</sup> and Tongzhong Ju<sup>4,1,3</sup>

<sup>1</sup>Department of Biochemistry, Emory University School of Medicine Atlanta, GA ; <sup>2</sup>Department of Pathology, Emory University School of Medicine Atlanta, GA ; <sup>3</sup>Department of Oncology, the Capital Medical University Beijing Chaoyang Hospital, Beijing, China; <sup>4</sup>U.S. Food & Drug Administration, Silver Spring, MD

Poster #: B139 (presented @ PS1) || Abstract #: 167  
**“The immunomodulatory activity of ArtinM contributes to the protection against the in vitro and in vivo infection with *Cryptococcus gattii*”**; Patrícia Kellen M. Oliveira-Brito<sup>1</sup>, Raquel A. Oliveira<sup>1</sup>, Caroline Rezende<sup>1</sup>, Pappanaicken Kumar<sup>2</sup>, Maria Cristina Roque-Barreira<sup>1</sup> and Thiago A. da Silva<sup>1</sup>

<sup>1</sup>Department of Cellular and Molecular Biology, School of Medicine of Ribeirão Preto, University of São Paulo – USP, Ribeirão Preto, Brazil.; <sup>2</sup>Department of Pediatrics-Research, MD Anderson Cancer Center, University of Texas, Houston, USA

Poster #: B140 (presented @ PS2) || Abstract #: 168  
**“Using Glycan Microarrays and Molecular Dynamics to Understand the Carbohydrate Specificities of the Human Intelectins”**; Jonathan Viola<sup>1</sup>, Jin Kyu Lee<sup>2</sup>, Ryan McBride<sup>5</sup>, Richard Cummings<sup>4</sup>, Jamie Heimburg-Molinari<sup>4</sup>, James Paulson<sup>5</sup>, Kelley Moremen<sup>1</sup>, Amika Sood<sup>2</sup>, Robert Woods<sup>1</sup> and Michael Pierce<sup>1</sup>

<sup>1</sup>Department of Biochemistry and Molecular Biology, University of Georgia, Athens, GA; <sup>2</sup>Complex Carbohydrate Research Center, University of Georgia, Athens, GA; <sup>3</sup>Department of Biochemistry, Emory University School of Medicine, Atlanta, GA; <sup>4</sup>Department of Surgery, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA; <sup>5</sup>Department of Cell and Molecular Biology, Chemical Physiology and Immunology and Microbial Sciences, The Scripps Research Institute, La Jolla, CA

Poster #: B141 (presented @ PS1) || Abstract #: 169  
**“Urinary Glycan Microheterogeneity and Host Susceptibility to Urinary Tract Infections”**; John W. Froehlich and Richard S. Lee

Boston Children’s Hospital

Poster #: B142 (presented @ PS2) || Abstract #: 170  
**“Glycoprofiling of *Dirofilaria immitis* and infected dog sera for the identification of new drug targets and glycobiomarkers”**; Anna-Janina Behrens<sup>1</sup>, Max Crispin<sup>2</sup>, Christopher Taron<sup>1</sup> and

Jeremy M. Foster<sup>1</sup>

<sup>1</sup>New England Biolabs; <sup>2</sup>University of Oxford

Poster #: B143 (presented @ PS1) || Abstract #: 171  
**“HUMAN ADENOVIRUS TYPE 5 INCREASES CELL HOST FUCOSYLATION”**; Gutiérrez Huante K. and Gonzalez R. A. Martínez Duncker I.

Cell Dynamics Research Center, Morelos State Autonomous University, Av. Universidad 1001, Cuernavaca, Morelos, 62209. Tel. 3297000, ext.3364.

Poster #: B144 (presented @ PS2) || Abstract #: 172  
**“Correlations between the MGAT3 and BACH2 promoter methylation and IgG glycans suggest the role of these genes in IgG glycosylation and inflammatory bowel disease”**; Vlatka Zoldoš<sup>1</sup>, Dora Markulin<sup>1</sup>, Marija Klasić<sup>1</sup>, Aleksandar Vojta<sup>1</sup>, Irena Trbojević-Akmačić<sup>2</sup>, N. Venham<sup>3</sup>, N. Kennedy<sup>3</sup>, J. Satsangi<sup>3</sup>, V. Annesse<sup>4</sup>, S. Pinho<sup>5</sup> and Gordan Lauc<sup>2</sup>

<sup>1</sup>University of Zagreb, Faculty of Science, Department of Biology, Division of Molecular Biology, Horvatovac 102A, 10 000 Zagreb, Croatia; <sup>2</sup>Genos Ltd, Glycobiology Laboratory, Zagreb, Croatia; <sup>3</sup>University of Edinburgh, Faculty of Science, Edinburgh, UK; <sup>4</sup>University of Carregi, Florence, Italy; <sup>5</sup>IPATIMUM, Lisbon, Portugal

## Expect the unexpected from microbes

Poster #: B145 (presented @ PS1) || Abstract #: 37  
**“Understanding Influenza A Specificity: An Evolution of Paradigms”**; Ye Ji, Yohanna J.B. White, Oliver C. Grant and Robert J. Woods

Complex Carbohydrate Research Center, University of Georgia

Poster #: B146 (presented @ PS2) || Abstract #: 38  
**“Nascent microbiome and early metabolism are perturbed by pre- and post-natal exposure to artificial sweeteners”**; Stephanie Olivier-Van Stichelen, Kristina I. Rother and John A. Hanover

National Institute of Health, NIDDK

Poster #: B147 (presented @ PS1) || Abstract #: 173  
**“Multivalent substrates for protein glycosylation: new avenues in substrate engineering and fundamental insight in mechanism of *Actinobacillus pleuropneumoniae* N-glycosyltransferase”**; Hanne L.P. Tytgat, Chia-Wei Lin, Jacqueline Mock, Timothy G. Keys and Markus Aebi

Institute of Microbiology, ETH Zurich, Zurich, Switzerland

Poster #: B148 (presented @ PS2) || Abstract #: 174  
**“Reproduction of an L-Rhamnose and D-Galactose-specific Lectin from a Lost Strain of *Streptomyces*”**; Yoko Fujita-Yamaguchi<sup>1,2</sup>, Karine Bagramyan<sup>3</sup>, Yoshiki Yamaguchi<sup>4</sup>, Akemi Ikeda<sup>4</sup>, Teresa B. Hong<sup>3</sup> and Markus

Kalkum<sup>3</sup>

<sup>1</sup>Department of Molecular & Cellular Biology, BRI of City of Hope;

<sup>2</sup>Department of Diabetes Complications & Metabolism, BRI of City of Hope; <sup>3</sup>Department of Molecular Immunology, BRI of City of Hope, Durate, CA 91010, USA; <sup>4</sup>Structural Glycobiology Team, Systems Glycobiology Research Group, RIKEN Global Research Cluster, RIKEN, Saitama 351-0198, Japan

Poster #: B149 (presented @ PS1) || Abstract #: 175

**“Comprehensive Analysis for Structural Characterization of Peptidoglycan”**; [Sara Porfirio](#), Stephanie Archer-Hartmann, Russell W. Carlson and Parastoo Azadi

Complex Carbohydrate Research Center, UGA

Poster #: B150 (presented @ PS2) || Abstract #: 176

**“Determining the structure of *Cryptococcus neoformans* polysaccharide capsule”**; [Maggie P. Wear](#)<sup>1</sup>, Radames JB Cordero<sup>1</sup>, Anthony Bowen<sup>3</sup>, Anne Jedlicka<sup>4</sup>, Marcos D. Battistel<sup>2</sup>, Aaron Marcella<sup>2</sup>, Lorenzo Guazzelli<sup>5</sup>, Stefan Oscarson<sup>5</sup>, Darón I. Freedberg<sup>2</sup> and Artruo Casadevall<sup>1</sup>

<sup>1</sup>Molecular Microbiology and Immunology Department, Johns Hopkins Bloomberg School of Public Health; <sup>2</sup>Center for Biologics Evaluation and Research, U.S. Food and Drug Administration; <sup>3</sup>Department of Microbiology and Immunology, Albert Einstein College of Medicine; <sup>4</sup>Genomic Analysis and Sequencing Core Facility, Johns Hopkins Bloomberg School of Public Health; <sup>5</sup>Centre for Synthesis and Chemical Biology, University College Dublin

## Glycoengineering and glycan related therapeutics

Poster #: B151 (presented @ PS1) || Abstract #: 177

**“Intact and Native Mass Analysis of Glycoproteins”**; [Marshall Bern](#)<sup>1</sup>, Yong J. Kil<sup>1</sup>, Tomislav Caval<sup>2</sup>, Vojtech Franc<sup>2</sup> and Albert J.R. Heck<sup>2</sup>

<sup>1</sup>Protein Metrics Inc.; <sup>2</sup>Utrecht University

Poster #: B152 (presented @ PS2) || Abstract #: 178

**“Are polysialylated exosomes an endogenous defense mechanism against neutrophil extracellular traps? “**; [Kristina Zlatina](#)<sup>1,2</sup>, Max Saftenberger<sup>2</sup>, Christina E. Galuska<sup>1,2</sup>, Jan Dambon<sup>1,2</sup>, Andrea Kühnle<sup>1</sup>, Thomas Lütke<sup>3</sup> and Sebastian P. Galuska<sup>1,2</sup>

<sup>1</sup>Institute of Reproductive Biology, Leibniz Institute for Farm Animal Biology; <sup>2</sup>Institute of Biochemistry, Faculty of Medicine, Justus-Liebig-University; <sup>3</sup>Institute of Veterinary Physiology and Biochemistry, Justus-Liebig-University

Poster #: B153 (presented @ PS1) || Abstract #: 179

**“Site-specific detection of advanced glycation endproducts with newly developed single-chain**

**variable fragment antibodies”**; [Ulrika Wendel](#)<sup>1</sup>, Nina Persson<sup>1</sup>, Christian Risinger<sup>1</sup>, Ekaterina Mirgorodskaya<sup>2</sup>, Carina Sihlbom<sup>2</sup>, Eva Bengtsson<sup>3</sup>, Björn Nodin<sup>4</sup>, Lena Danielsson<sup>5</sup>, Charlotte Welinder<sup>4,6</sup>, Maria Panico<sup>7</sup>, Anne Dell<sup>7</sup>, Stuart Haslam<sup>7</sup>, Gunilla Nordin Fredrikson<sup>3</sup>, Bo Jansson<sup>4</sup> and Ola Blixt<sup>1</sup>

<sup>1</sup>Chemical Glyco-Biology Laboratory, Department of Chemistry, Faculty of Science, Copenhagen University, Denmark; <sup>2</sup>The Proteomics Core Facility, Sahlgrenska Academy, University of Gothenburg, Sweden; <sup>3</sup>Department of Clinical Sciences, Scania University Hospital, Malmö Lund University, Sweden; <sup>4</sup>Division of Oncology and Pathology, Dept. of Clinical Sciences, Lund University, Sweden; <sup>5</sup>Division of Clinical Chemistry and Pharmacology, Dept. of Laboratory Medicine, Lund University, Sweden; <sup>6</sup>Centre of Excellence in Biological and Medical Mass Spectrometry “CEBMMS”, Biomedical Centre D13, Lund University, Sweden; <sup>7</sup>Department of Life Sciences, Imperial College London, South Kensington Campus, UK

Poster #: B154 (presented @ PS2) || Abstract #: 180

**“New insect cell line to produce recombinant glycoproteins with EndoH sensitive N-glycans”**; [Hideaki Mabashi-Asazuma](#)<sup>1</sup> and Donald L. Jarvis<sup>2,3</sup>

<sup>1</sup>Ochanomizu University, Tokyo, Japan; <sup>2</sup>University of Wyoming, Laramie, WY; <sup>3</sup>GlycoBac, LLC, Laramie, WY

Poster #: B155 (presented @ PS1) || Abstract #: 181

**“Deep sequencing of proteoglycans”**; Joshua A. Klein, Le Meng and [Joseph Zaia](#)

Boston University

Poster #: B156 (presented @ PS2) || Abstract #: 182

**“Harnessing the Power of Natural Selection to Define and Optimize Sialoglycan-Recognizing Probes (SGRPs) for Exploring the Biology, Physiology and Pathology of the Dynamic Sialoglycome”**; [Saurabh Srivastava](#)<sup>1</sup>, Andrea Verhagen<sup>1</sup>, Brian Wasik<sup>2</sup>, Hai Yu<sup>3</sup>, Aniruddha Sasmal<sup>1</sup>, Barbara Bensing<sup>4</sup>, Naazneen Khan<sup>1</sup>, Zahra Khedri<sup>1</sup>, Sandra Diaz<sup>1</sup>, Paul Sullam<sup>4</sup>, Nissi Varki<sup>1</sup>, Xi Chen<sup>3</sup>, Colin Parrish<sup>2</sup> and Ajit Varki<sup>1</sup>

<sup>1</sup>Glycobiology Research and Training Center, University of California, San Diego, San Diego, CA ; <sup>2</sup>College of Veterinary Medicine, Cornell University, Ithaca, NY; <sup>3</sup>Department of Chemistry, University of California-Davis, Davis, CA; <sup>4</sup>School of medicine, University of California, San Francisco, San Francisco, CA

Poster #: B157 (presented @ PS1) || Abstract #: 183

**“DrawGlycan-SNFG: Aiding mass spectrometry data analysis by rendering glycans and glycopeptides with fragmentation information”**;

[Kai Cheng](#), Yusen Zhou and Sriram Neelamegham  
Department of Chemical and Biological Engineering, Clinical and Translational Research Center, University at Buffalo, The State University of New York, Buffalo, NY 14260, USA.

# POSTER PROGRAM

Poster #: B158 (presented @ PS2) || Abstract #: 184  
**“Glycoengineering in Biopharma: A New Dimension in Drug Discovery”**; Henning Stockmann, Violeta Marin, Viktor Todorovic, Victoria Scott, Clare Gerstein, Marc Lake, Leyu Wang, Ramkrishna Sadhukhan, Paul Nimmer, Corina Balut, Paul Richardson and Anil Vasudevan  
*AbbVie*

Poster #: B159 (presented @ PS1) || Abstract #: 185  
**“Glycan analog libraries for the development of high affinity ligands of glycan binding proteins.”**; Corwin M. Nycholat<sup>1</sup>, Shiteng Duan<sup>1</sup>, Sam Moons<sup>1</sup>, Buyankhishig Tsogetbaatar<sup>1</sup>, Eike Wamoff<sup>4</sup>, Grant Bare<sup>2</sup>, Ryan McBride<sup>1</sup>, Kevin Worrell<sup>1</sup>, Christoph Rademacher<sup>4</sup>, Sean Stowell<sup>3</sup>, Barry Sharpless<sup>2</sup> and James C. Paulson<sup>1</sup>  
<sup>1</sup>Department of Molecular Medicine, The Scripps Research Institute, La Jolla CA; <sup>2</sup>Department of Chemistry, The Scripps Research Institute, La Jolla CA; <sup>3</sup>Pathology Department, Emory University School of Medicine, Atlanta GA; <sup>4</sup>Department of Biomolecular Systems, Max Planck Institute of Colloids and Interfaces, Potsdam GE

Poster #: B160 (presented @ PS2) || Abstract #: 186  
**“Development of a New Human CD22 transgenic Mouse”**; Matthew S. Macauley<sup>1,5</sup>, Kyle J. Bednar<sup>1,2</sup>, Elena Shanina<sup>1</sup>, Romain Ballet<sup>4</sup>, Edward P. Connors<sup>1</sup>, Shiteng Duan<sup>1</sup>, Joana Juan<sup>1</sup>, Britni M. Arlian<sup>1</sup>, Mike D. Kulis<sup>3</sup>, Eugene C. Butcher<sup>4</sup>, Wai-Ping Fung-Leung<sup>2</sup>, Tadimeti S. Rao<sup>2</sup> and James C. Paulson<sup>1</sup>  
<sup>1</sup>Department of Molecular Medicine, The Scripps Research Institute; <sup>2</sup>Immunology Team, Janssen Research and Development, LLC; <sup>3</sup>Department of Pediatrics, University of North Carolina; <sup>4</sup>University School of Medicine, Stanford University; <sup>5</sup>Department of Chemistry, University of Alberta

Poster #: B161 (presented @ PS1) || Abstract #: 187  
**“Carbohydrate-neuroactive (CNH) strategy for non-invasive modulation of glycoconjugates of the central nervous system in vivo in mice.”**; Surbhi Goswami<sup>1</sup>, Asif Shajahan<sup>1</sup>, Shubham Parashar<sup>1</sup>, Hema Swasthi<sup>1</sup>, Shanta Sen<sup>2</sup>, Nagarajan Perumal<sup>3</sup> and Srinivasa Gopalan Sampathkumar<sup>1</sup>  
<sup>1</sup>Laboratory of Chemical Glycobiology (CGB), National Institute of Immunology (NII), New Delhi, India; <sup>2</sup>Central Mass Spectrometry Facility, National Institute of Immunology (NII), New Delhi, India; <sup>3</sup>Experimental Animal Facility (EAF), National Institute of Immunology (NII), New Delhi, India

Poster #: B162 (presented @ PS2) || Abstract #: 188  
**“N-glycans in the antibody receptor CD16A exhibit carbohydrate-polypeptide contacts identified through solution NMR spectroscopy”**; Ganesh P. Subedi, Daniel J. Falconer and Adam W. Barb  
*Roy J. Carver Department of Biochemistry, Biophysics and Molecular Biology. 2437 Pammel Drive. Molecular Biology Building, rm 4210. Iowa State University, Ames, IA 50011*

Poster #: B163 (presented @ PS1) || Abstract #: 189  
**“Mouse IgG2b, 2c and human IgG1 antibodies have distinct structures and inequivalent function”**; Daniel J. Falconer and Adam W. Barb  
*Roy J. Carver Department of Biochemistry, Biophysics and Molecular Biology, Iowa State University, Ames, IA 50011, USA*

Poster #: B164 (presented @ PS2) || Abstract #: 190  
**“Synthesis and analysis of rare sugar functionalized graphene oxide”**; Toru Mizuki<sup>1,2</sup>, Keisuke Hirata<sup>1</sup>, Yoshikata Nakajima<sup>1,2</sup>, Takashi Uchida<sup>1,2</sup> and Toru Maekawa<sup>1,2</sup>  
<sup>1</sup>Graduate School of Interdisciplinary New Science, Toyo University; <sup>2</sup>Bio-Nano Electronics Research Centre, Toyo University

Poster #: B165 (presented @ PS1) || Abstract #: 191  
**“AlphaScreen assays for detection of hyaluronan-protein binding”**; Mary K. Cowman<sup>1</sup>, Xiayun Huang<sup>1</sup>, Tannin A. Schmidt<sup>2</sup>, Claire Shortt<sup>3</sup>, Shivani Arora<sup>1</sup>, Akira Asari<sup>4</sup> and Thorsten Kirsch<sup>3</sup>  
<sup>1</sup>Department of Chemical and Biomolecular Engineering, New York University Tandon School of Engineering, New York, NY USA; <sup>2</sup>Faculty of Kinesiology & Schulich School of Engineering, Centre for Bioengineering Research & Education, University of Calgary, Calgary, AB, Canada; <sup>3</sup>Department of Orthopedic Surgery, New York University School of Medicine, New York, NY USA; <sup>4</sup>Hyaluronan Research Institute, Inc., 2-5-8-1001, Nihonbashimuromachi, Chuo-ku, Tokyo, 1-3-0022 Japan

Poster #: B166 (presented @ PS2) || Abstract #: 192  
**“Engineering of IgG Fc Glycosylation and the Relevant Activity Studies”**; Chung-Yi Wu<sup>1,2</sup>, Chin-Wei Lin<sup>1,2,3</sup> and Chi-Huey Wong<sup>1,2,3</sup>  
<sup>1</sup>Genomics Research Center, Academia Sinica, Taipei 115, Taiwan; <sup>2</sup>Chemical Biology and Molecular Biophysics Program, Taiwan International Graduate Program, Academia Sinica, Taipei 115, Taiwan; <sup>3</sup>Department of Chemistry, National Taiwan University, Taipei 106, Taiwan

Poster #: B167 (presented @ PS1) || Abstract #: 193  
**“Determination of the minimum enzymatic domain of keratanase II”**; Tomoya O. Akama<sup>1</sup>, Toshisuke Kawasaki<sup>2</sup> and Tomoyuki Nakamura<sup>1</sup>  
<sup>1</sup>Kansai Medical University; <sup>2</sup>Ritsumeikan University

Poster #: B168 (presented @ PS2) || Abstract #: 194  
**“High throughput comprehensive analysis of glycoproteins through Tool for Rapid Analysis of glycopeptide by Permethylated (TRAP) method.”**; Asif Shajahan, Nitin T. Supekar, Christian Heiss, Ian Black and Parastoo Azadi  
*Complex Carbohydrate Research Center, University of Georgia, Athens, GA - 30602*

Poster #: B169 (presented @ PS1) || Abstract #: 195  
**“Novel Sialoglycan Lectenz® Reagents”**; Sheng-Cheng



Wu<sup>1</sup>, J. Christopher Cooper<sup>1</sup>, Mallory K. Paul<sup>1</sup>, Ziad M. Eletr<sup>1</sup>, Shani L. Ben-Arye<sup>2</sup>, Vered Padler-Karavani<sup>2</sup>, Kausar N. Samli<sup>1</sup> and Robert J. Woods<sup>3,1</sup>

<sup>1</sup>Lectenz® Bio, Athens, Georgia, United States; <sup>2</sup>Department of Cell Research and Immunology, Tel Aviv University, Tel Aviv, Israel;

<sup>3</sup>Complex Carbohydrate Research Center, University of Georgia, Athens, Georgia, United States

Poster #: B170 (presented @ PS2) || Abstract #: 196  
**“GALECTIN-1/MALTOSE BINDING PROTEIN FUSION MOLECULE: A PROMISING TOOL TO DESIGN A ELETROCHEMICAL LECTIN-BASED BIOSENSOR.”;**  
Pâmela O M Gomes<sup>1</sup>, Thais C. De Leo<sup>2</sup>, Marina R. Batistuti<sup>1</sup>, Richard D. Cummings<sup>3</sup>, Marcelo Dias-Baruffi<sup>2</sup> and Zeki Naal<sup>2</sup>

<sup>1</sup>Faculty of Philosophy Sciences and Letters of Ribeirão Preto - University of São Paulo - Brazil.; <sup>2</sup>School of Pharmaceutical Sciences of Ribeirão Preto - University of São Paulo – Brazil.;

<sup>3</sup>Department of Surgery, Beth Israel Deaconess Medical Center and Harvard Medical School, Boston, MA 02115, United States of America.

Poster #: B171 (presented @ PS1) || Abstract #: 197  
**“Characterization of a Novel Mouse Strain Expressing Human Siglec-8 Only on Eosinophils”;**  
Jeremy A. O’Sullivan<sup>1</sup>, Yadong Wei<sup>2</sup>, Daniela J. Carroll<sup>1</sup>, Liliana Moreno-Vinasco<sup>1</sup>, Yun Cao<sup>1</sup>, Fengrui Zhang<sup>2</sup>, James J. Lee<sup>3</sup>, Zhou Zhu<sup>2</sup> and Bruce S. Bochner<sup>1</sup>

<sup>1</sup>Division of Allergy and Immunology, Department of Medicine, Feinberg School of Medicine, Northwestern University; <sup>2</sup>Department of Medicine, Yale University School of Medicine; <sup>3</sup>Division of Pulmonary Medicine, Department of Biochemistry and Molecular Biology, Mayo Clinic Arizona

Poster #: B172 (presented @ PS2) || Abstract #: 198  
**“Identification of carbohydrate-mimetic D-amino acid peptides by peptide-display library screening as chemotherapy for malignant brain tumors”;**  
Motohiro Nonaka<sup>1,2</sup>, Misa S. Anekoji<sup>2</sup>, Tomoya O. Akama<sup>3</sup>, Jun Nakayama<sup>4</sup> and Michiko N. Fukuda<sup>1,2</sup>

<sup>1</sup>Advanced Industrial Science and Technology; <sup>2</sup>Sanford-Burnham-Prebys Medical Discovery Institute ; <sup>3</sup>Kansai Medical University; <sup>4</sup>Shinshu University School of Medicine

Poster #: B173 (presented @ PS1) || Abstract #: 199  
**“Development of high affinity and immunomodulatory ligands of C-type lectin receptor langerin by oligomerizing a keratan sulfate disaccharide L4”;** Fumi Ota<sup>1</sup>, Yasuhiko Kizuka<sup>1</sup>, Tetsuya Hirayama<sup>2</sup>, Yoshiki Yamaguchi<sup>3</sup>, Masahiro Nagata<sup>4</sup>, Hendra S. Ismanto<sup>4</sup>, Bernd Lepenies<sup>5</sup>, Jonas Aretz<sup>6,7</sup>, Christoph Rademacher<sup>6,7</sup>, Peter H. Seeberger<sup>6,7</sup>, Takashi Angata<sup>8</sup>, Shinobu Kitazume<sup>1</sup>, Keiichi Yoshida<sup>1</sup>, Tomoko Betsuyaku<sup>9</sup>, Kozui Kida<sup>10</sup>, Sho Yamasaki<sup>4,11,12</sup> and Naoyuki Taniguchi<sup>1</sup>

<sup>1</sup>Disease Glycomics Team, RIKEN, Japan; <sup>2</sup>Central Research Laboratories, Seikagaku Corporation, Japan; <sup>3</sup>Structural

Glycobiology Team, RIKEN; <sup>4</sup>Department of Molecular Immunology, Research Institute for Microbial Diseases, Osaka University, Japan; <sup>5</sup>Research Center for Emerging Infections and Zoonoses (RIZ), University of Veterinary Medicine Hannover, Germany; <sup>6</sup>Department of Biomolecular Systems, Max Planck Institute of Colloids and Interfaces, Germany; <sup>7</sup>Department of Biology, Chemistry and Pharmacy, Freie Universität Berlin, Germany; <sup>8</sup>Institute of Biological Chemistry, Academia Sinica, Taiwan; <sup>9</sup>Division of Pulmonary Medicine, Department of Medicine, Keio University, Japan; <sup>10</sup>The Respiratory Care Clinic, Nippon Medical School, Japan; <sup>11</sup>Laboratory of Molecular Immunology, Immunology Frontier Research Center, Osaka University, Japan; <sup>12</sup>Division of Molecular Immunology, Medical Institute of Bioregulation, Kyushu University, Japan

Poster #: B174 (presented @ PS2)  
**“Automated Identification and Subsequent Relative Quantitation of Glycans Using Stable Isotope Labels by MS with SimGlycan software”;**  
Ningombam Sanjib Meitei<sup>1, 2</sup>  
<sup>1</sup>PREMIER Biosoft, Indore, India; <sup>2</sup>PREMIER Biosoft, Palo Alto, US 200

# POSTER PROGRAM

**Karen Abbott**, University of Arkansas for Medical Sciences ([kabbott@uams.edu](mailto:kabbott@uams.edu))  
**Kelsey Abernathy**, University of Maryland Baltimore ([kelsey.abernathy@umaryland.edu](mailto:kelsey.abernathy@umaryland.edu))  
**Iliaria Affolter**, ETH Zürich ([ilialaria@ethz.ch](mailto:ilialaria@ethz.ch))  
**Kavita Agarwal**, Washington University in St. Louis ([kavitambi@gmail.com](mailto:kavitambi@gmail.com))  
**Gillian Air**, University of Oklahoma Health Sciences Center ([gillian-air@ouhsc.edu](mailto:gillian-air@ouhsc.edu))  
**Tomoya Akama**, Kansai Medical University ([akamat@hirakata.kmu.ac.jp](mailto:akamat@hirakata.kmu.ac.jp))  
**Ilhan Akan**, NIH ([ilhan.akan@nih.gov](mailto:ilhan.akan@nih.gov))  
**Yukie Akune**, Imperial College London ([y.akune@imperial.ac.uk](mailto:y.akune@imperial.ac.uk))  
**Takashi Angata**, Academia Sinica ([angata@gate.sinica.edu.tw](mailto:angata@gate.sinica.edu.tw))  
**Kiyoko Aoki-Kinoshita**, Soka University ([kkiyoko@soka.ac.jp](mailto:kkiyoko@soka.ac.jp))  
**Pablo Argueso**, Harvard Medical School ([pablo\\_argueso@meel.harvard.edu](mailto:pablo_argueso@meel.harvard.edu))  
**Parastoo Azadi**, University of Georgia ([azadi@ccrc.uga.edu](mailto:azadi@ccrc.uga.edu))  
**Peter Aziz**, Sanford Burnham Prebys ([peter.aziz@lifesci.ucsb.edu](mailto:peter.aziz@lifesci.ucsb.edu))  
**Tomasz Baginski**, Genentech, Inc. ([baginski.tomasz@gene.com](mailto:baginski.tomasz@gene.com))  
**Hans Bakker**, Hannover Medical School ([bakker.hans@mh-hannover.de](mailto:bakker.hans@mh-hannover.de))  
**Adam Barb**, Iowa State University ([abarb@iastate.edu](mailto:abarb@iastate.edu))  
**Marta Baro**, Yale University - School of Medicine ([marta.baro@yale.edu](mailto:marta.baro@yale.edu))  
**Marcelo Baruffi**, School of Pharmaceutical Sciences - University of Sao Paulo ([mbaruffi@gmail.com](mailto:mbaruffi@gmail.com))  
**Anna-Janina Behrens**, New England Biolabs ([behrensa@neb.com](mailto:behrensa@neb.com))  
**Susan Bellis**, University of Alabama at Birmingham ([bellis@uab.edu](mailto:bellis@uab.edu))  
**Marshall Bern**, Protein Metrics Inc. ([bern@proteinmetrics.com](mailto:bern@proteinmetrics.com))  
**Gaurang Bhide**, University of Illinois at Chicago ([gbhide2@uic.edu](mailto:gbhide2@uic.edu))  
**Anna Blenda**, USC School of Medicine Greenville ([ablenda@greenvillemed.sc.edu](mailto:ablenda@greenvillemed.sc.edu))  
**Eline Blommaert**, KU Leuven ([eline.blommaert@kuleuven.be](mailto:eline.blommaert@kuleuven.be))  
**Bruce Bochner**, Northwestern University Feinberg School of Medicine ([bruce.bochner@northwestern.edu](mailto:bruce.bochner@northwestern.edu))  
**Michelle Bond**, NIH ([bondmr@mail.nih.gov](mailto:bondmr@mail.nih.gov))  
**Alisdair Boraston**, University of Victoria ([boraston@uvic.ca](mailto:boraston@uvic.ca))  
**Inka Brockhausen**, Queen's University ([brockhau@queensu.ca](mailto:brockhau@queensu.ca))  
**Katarzyna Brzezicka**, Open University ([katarzyna.brzezicka@open.ac.uk](mailto:katarzyna.brzezicka@open.ac.uk))  
**Marc Alexander Buettner**, Roche Diagnostics GmbH ([alexander.buettner@roche.com](mailto:alexander.buettner@roche.com))  
**Joy Burchell**, King's College London ([joy.burchell@kcl.ac.uk](mailto:joy.burchell@kcl.ac.uk))  
**Kevin Campbell**, HHMI/University of Iowa ([kevin-campbell@uiowa.edu](mailto:kevin-campbell@uiowa.edu))  
**Matthew Campbell**, Griffith University ([m.campbell2@griffith.edu.au](mailto:m.campbell2@griffith.edu.au))  
**Thais Canassa De Leo**, University of Sao Paulo ([thaiscanassa1@gmail.com](mailto:thaiscanassa1@gmail.com))  
**Jakob Cervin**, University of Gothenburg ([jakob.cervin@gu.se](mailto:jakob.cervin@gu.se))  
**Ishita Chandel**, Texas A&M University ([iccool@tamu.edu](mailto:iccool@tamu.edu))  
**Biswa Choudhury**, GlycoAnalytics ([bchoudhury@ucsd.edu](mailto:bchoudhury@ucsd.edu))  
**Brian Cobb**, Case Western Reserve University School of Medicine ([brian.cobb@case.edu](mailto:brian.cobb@case.edu))  
**Karen Colley**, University of Illinois at Chicago ([karenc@uic.edu](mailto:karenc@uic.edu))  
**Joseph Contessa**, Yale University School of Medicine ([joseph.contessa@yale.edu](mailto:joseph.contessa@yale.edu))  
**Stuart Cordwell**, The University of Sydney ([stuart.cordwell@sydney.edu.au](mailto:stuart.cordwell@sydney.edu.au))  
**Catherine E. Costello**, Boston University School of Medicine ([cecsm@bu.edu](mailto:cecsm@bu.edu))  
**Mary Cowman**, New York University ([mary.cowman@nyu.edu](mailto:mary.cowman@nyu.edu))  
**Brett Crawford**, BioMarin Pharmaceutical Inc. ([bcrawford@bmrn.com](mailto:bcrawford@bmrn.com))  
**Wei Cui**, Yale University - School of Medicine ([wei.cui@yale.edu](mailto:wei.cui@yale.edu))  
**RICHARD Cummings**, Beth Israel Deaconess Medical Center ([rcummin1@bidmc.harvard.edu](mailto:rcummin1@bidmc.harvard.edu))  
**Christopher Cutler**, BIDMC ([cutler@bidmc.harvard.edu](mailto:cutler@bidmc.harvard.edu))  
**Thiago da Silva**, University of Texas / MD Anderson Cancer Center ([sthiagoap@gmail.com](mailto:sthiagoap@gmail.com))  
**Nancy Dahms**, Medical College of Wisconsin ([ndahms@mcw.edu](mailto:ndahms@mcw.edu))  
**Tarun Dam**, Michigan Technological University ([tkdam@mtu.edu](mailto:tkdam@mtu.edu))  
**Anju Dang**, S-BIO, Sumitomo Bakelite ([anju.dang@s-bio.com](mailto:anju.dang@s-bio.com))  
**Nurmaa Dashzeveg**, Northwestern University ([nurmaa.dashzeveg@northwestern.edu](mailto:nurmaa.dashzeveg@northwestern.edu))  
**PAUL DeAngelis**, Univ. of Oklahoma Health Sciences Ctr ([Paul-Deangelis@ouhsc.edu](mailto:Paul-Deangelis@ouhsc.edu))  
**Matthew DeLisa**, Cornell University ([md255@cornell.edu](mailto:md255@cornell.edu))  
**Dan Dransfield**, Siamab Therapeutics ([dan@siamab.com](mailto:dan@siamab.com))  
**Kurt Drickamer**, Imperial College London ([k.drickamer@imperial.ac.uk](mailto:k.drickamer@imperial.ac.uk))  
**Marc Driessen**, Stanford University ([mdriessen@stanford.edu](mailto:mdriessen@stanford.edu))  
**Nathan Edwards**, Georgetown University ([nje5@georgetown.edu](mailto:nje5@georgetown.edu))  
**Jeffrey Esko**, University of California, San Diego ([jesko@ucsd.edu](mailto:jesko@ucsd.edu))  
**Christopher Evans**, University of Colorado School of Medicine ([christopher.evans@ucdenver.edu](mailto:christopher.evans@ucdenver.edu))  
**Daniel Falconer**, Iowa State University ([falconer@iastate.edu](mailto:falconer@iastate.edu))  
**Christa Feasley**, Thermo Fisher Scientific ([christa.feasley@thermofisher.com](mailto:christa.feasley@thermofisher.com))  
**Ten Feizi**, Imperial College London ([t.feizi@imperial.ac.uk](mailto:t.feizi@imperial.ac.uk))  
**Chiguang Feng**, University of Maryland Baltimore ([cfeng@som.umaryland.edu](mailto:cfeng@som.umaryland.edu))  
**Charles Fermainnt**, UT-Southwestern Medical Center ([Charles.Fermainnt@UTSouthwestern.edu](mailto:Charles.Fermainnt@UTSouthwestern.edu))  
**Steve Fernandes**, Johns Hopkins School of Medicine ([lfidpeg@jhmi.edu](mailto:lfidpeg@jhmi.edu))  
**Matthew Foley**, University of Michigan ([mhfoley@umich.edu](mailto:mhfoley@umich.edu))  
**Daron Freedberg**, CBER/FDA ([daron.freedberg@fda.hhs.gov](mailto:daron.freedberg@fda.hhs.gov))  
**Hudson Freeze**, Sanford Burnham Prebys Medical Discovery Institute (SBP) ([hudson@sbpdiscovery.org](mailto:hudson@sbpdiscovery.org))  
**Rosmarie Friemann**, University of Gothenburg ([rosmarie.friemann@gu.se](mailto:rosmarie.friemann@gu.se))

**John Froehlich**, Boston Children's Hospital ([John.Froehlich@childrens.harvard.edu](mailto:John.Froehlich@childrens.harvard.edu))  
**Yoko Fujita-Yamaguchi**, City of Hope ([yyamaguchi@coh.org](mailto:yyamaguchi@coh.org))  
**Michiko Fukuda**, Advanced Industrial Science and Technology ([michiko-fukuda@aist.go.jp](mailto:michiko-fukuda@aist.go.jp))  
**Antonio Galeone**, Baylor College of Medicine ([antonio.galeone@bcm.edu](mailto:antonio.galeone@bcm.edu))  
**Chao Gao**, Beth Israel Deaconess Medical Center ([daniegao@gmail.com](mailto:daniegao@gmail.com))  
**Just Genius**, AbbVie Inc. ([just.genius@abbvie.com](mailto:just.genius@abbvie.com))  
**Thomas Gerken**, Case Western Reserve Univ ([txg2@cwru.edu](mailto:txg2@cwru.edu))  
**Ulla Gerling-Driesssen**, Stanford University ([ugerling@stanford.edu](mailto:ugerling@stanford.edu))  
**Silvia Giannini**, Brigham and Women's Hospital/Harvard Medical School ([sgianini@partners.org](mailto:sgianini@partners.org))  
**Reid Gilmore**, University of Massachusetts Medical School ([reid.gilmore@umassmed.edu](mailto:reid.gilmore@umassmed.edu))  
**Alejandro Gomez**, University of California, San Diego ([a3toledo@ucsd.edu](mailto:a3toledo@ucsd.edu))  
**Anabel Gonzalez-Gil**, Johns Hopkins University ([agonza28@jhmi.edu](mailto:agonza28@jhmi.edu))  
**Philip Gordts**, GlycoAnalytics ([pgordts@ucsd.edu](mailto:pgordts@ucsd.edu))  
**Andrii Gorelik**, University of Dundee ([a.gorelik@dundee.ac.uk](mailto:a.gorelik@dundee.ac.uk))  
**Surbhi Goswami**, National Institute Of Immunology ([goswami2711@gmail.com](mailto:goswami2711@gmail.com))  
**Christoffer Goth**, Copenhagen Center for Glycomics ([goth@sund.ku.dk](mailto:goth@sund.ku.dk))  
**Robert Gotschall**, Amicus Therapeutics ([rgotschall@amicusrx.com](mailto:rgotschall@amicusrx.com))  
**Jean-philippe Gourdine**, Oregon Health & Science University ([gourdine@ohsu.edu](mailto:gourdine@ohsu.edu))  
**Huabei Guo**, University of Georgia ([hbguo@uga.edu](mailto:hbguo@uga.edu))  
**Kathya Gutierrez-Huante**, Cell Dynamics Research Center - UAEM ([kgh@uaem.mx](mailto:kgh@uaem.mx))  
**Robert Haltiwanger**, University of Georgia ([rhalti@uga.edu](mailto:rhalti@uga.edu))  
**Melinda Hanes**, Beth Israel Deaconess Medical Center ([mhanes@bidmc.harvard.edu](mailto:mhanes@bidmc.harvard.edu))  
**John Hanover**, National Institutes of Health ([jah@helix.nih.gov](mailto:jah@helix.nih.gov))  
**Huilin Hao**, the University of Georgia ([hh84581@uga.edu](mailto:hh84581@uga.edu))  
**Audra Hargett**, University of Alabama at Birmingham ([audrah@uab.edu](mailto:audrah@uab.edu))  
**Donald Harn**, University of Georgia ([dharn@uga.edu](mailto:dharn@uga.edu))  
**Gerald Hart**, Johns Hopkins Univ Sch of Medicine ([gwhart@jhmi.edu](mailto:gwhart@jhmi.edu))  
**Stuart Haslam**, Imperial College London ([s.haslam@imperial.ac.uk](mailto:s.haslam@imperial.ac.uk))  
**Ben Haslund-Gourley**, Sanford Burnham Prebys ([benhaslundg@gmail.com](mailto:benhaslundg@gmail.com))  
**Veronica Hayward**, University of Illinois- Chicago ([vhaywo2@uic.edu](mailto:vhaywo2@uic.edu))  
**Nora Heisterkamp**, Children's Hospital Los Angeles ([heisterk@usc.edu](mailto:heisterk@usc.edu))  
**Doug Heithoff**, UCSB ([douglas.heithoff@lifesci.ucsb.edu](mailto:douglas.heithoff@lifesci.ucsb.edu))  
**Ming-Hsiang Hong**, Academia Sinica, Taiwan, R.O.C ([mhhong.sinica@gmail.com](mailto:mhhong.sinica@gmail.com))  
**Hitomi Hoshino**, University of Fukui ([hoshino@u-fukui.ac.jp](mailto:hoshino@u-fukui.ac.jp))  
**Masae Hosoda**, Soka University ([e12d5605@gmail.com](mailto:e12d5605@gmail.com))  
**Brooke Howell**, Texas A&M University ([rookieb8@yahoo.com](mailto:rookieb8@yahoo.com))  
**Peter Hsueh**, Michigan State University ([Peter.Hsueh@vai.org](mailto:Peter.Hsueh@vai.org))  
**Yingwei Hu**, Johns Hopkins University ([yhu39@jhmi.edu](mailto:yhu39@jhmi.edu))  
**Xiayun (Jack) Huang**, New York University ([xh601@nyu.edu](mailto:xh601@nyu.edu))  
**Ka Man (Carman) Ip**, MD Anderson Cancer Center ([CKIp@mdanderson.org](mailto:CKIp@mdanderson.org))  
**Hamed Jafar-Nejad**, Baylor College of Medicine ([hamedj@bcm.edu](mailto:hamedj@bcm.edu))  
**Pamela James**, Vector Laboratories ([pjames@vectorlabs.com](mailto:pjames@vectorlabs.com))  
**Daniela Janevska**, Northwestern University Feinberg School of Medicine ([DanielaJanevska2012@u.northwestern.edu](mailto:DanielaJanevska2012@u.northwestern.edu))  
**Donald Jarvis**, University of Wyoming ([djarvis@uwyo.edu](mailto:djarvis@uwyo.edu))  
**Nan Jia**, BIDMC/HMS ([njia@bidmc.harvard.edu](mailto:njia@bidmc.harvard.edu))  
**Jiaoyang Jiang**, University of Wisconsin-Madison ([jiaoyang.jiang@wisc.edu](mailto:jiaoyang.jiang@wisc.edu))  
**Mark Jones**, Case Western Reserve University ([mbjones6@gmail.com](mailto:mbjones6@gmail.com))  
**Maxson Julia**, OHSU ([maxsonj@ohsu.edu](mailto:maxsonj@ohsu.edu))  
**Motohiro Kobayashi**, University of Fukui ([motokoba@u-fukui.ac.jp](mailto:motokoba@u-fukui.ac.jp))  
**Jennifer Kohler**, UT Southwestern Medical Center ([jennifer.kohler@UTSouthwestern.edu](mailto:jennifer.kohler@UTSouthwestern.edu))  
**Nicole Koropatkin**, University of Michigan ([nkoropat@umich.edu](mailto:nkoropat@umich.edu))  
**Harjit Kullar**, Vector Laboratories, Inc. ([harjit.kullar@maravai.com](mailto:harjit.kullar@maravai.com))  
**Simone Kurz**, University of Georgia ([skurz@uga.edu](mailto:skurz@uga.edu))  
**Olof Lagerlöf**, Karolinska Institutet ([olof.lagerlof@ki.se](mailto:olof.lagerlof@ki.se))  
**Joseph Lau**, Roswell Park Cancer Institute ([joseph.lau@roswellpark.org](mailto:joseph.lau@roswellpark.org))  
**Melissa Lee-Sundlov**, Blood Center Wisconsin ([melissa.lee-sundlov@bcw.edu](mailto:melissa.lee-sundlov@bcw.edu))  
**Sylvain Lehoux**, Beth Israel Deaconess Medical Center ([slehoux@bidmc.harvard.edu](mailto:slehoux@bidmc.harvard.edu))  
**Mark Lehrman**, UT Southwestern Medical Center ([mark.lehrman@utsouthwestern.edu](mailto:mark.lehrman@utsouthwestern.edu))  
**Nathan Lewis**, University of California, San Diego ([n4Lewis@ucsd.edu](mailto:n4Lewis@ucsd.edu))  
**HAIYING LI**, Boston children's hospital ([Haiying.Li@childrens.harvard.edu](mailto:Haiying.Li@childrens.harvard.edu))  
**Junhui Li**, Zhejiang University ([18511581374@163.com](mailto:18511581374@163.com))  
**Zhonghua Li**, Emory University ([zhonghua.li@emory.edu](mailto:zhonghua.li@emory.edu))  
**Kuo-I Lin**, Academia Sinica ([kuoili@gate.sinica.edu.tw](mailto:kuoili@gate.sinica.edu.tw))  
**Clifford Lingwood**, Hospital for Sick Children ([thompson@sickkids.ca](mailto:thompson@sickkids.ca))  
**Adam Linstedt**, Carnegie Mellon ([linstedt@cmu.edu](mailto:linstedt@cmu.edu))  
**Fu-Tong Liu**, Academia Sinica ([ftliu@ibms.sinica.edu.tw](mailto:ftliu@ibms.sinica.edu.tw))  
**Huiping Liu**, Northwestern University ([huiping.liu@northwestern.edu](mailto:huiping.liu@northwestern.edu))  
**Maria Longas**, Purdue University Northwest ([molongas@pnw.edu](mailto:molongas@pnw.edu))  
**Hua Lu**, UT Southwestern Medical Center ([hua2.lu@utsouthwestern.edu](mailto:hua2.lu@utsouthwestern.edu))  
**Vincent Luca**, Moffitt Cancer Center & Research Institute ([vince.luca@moffitt.org](mailto:vince.luca@moffitt.org))  
**Hideaki Mabashi-Asazuma**, Ochanomizu University ([mabashi.hideaki@ocha.ac.jp](mailto:mabashi.hideaki@ocha.ac.jp))

**Matthew Macauley**, University of Alberta (macauley@ualberta.ca)  
**John Magnani**, GlycoMimetics, Inc. (jmagnani@glycomimetics.com)  
**Michael Mahan**, UCSB (mahan@lifesci.ucsb.edu)  
**M. Chiara Manzini**, George Washington University (cmanzini@gwu.edu)  
**Pamela Marino**, NIH/NIGMS (marinop@nigms.nih.gov)  
**Jamey Marth**, Sanford Burnham Prebys (jmarth@me.com)  
**Steven Mast**, ProZyme (smast@prozyme.com)  
**Masaaki Matsubara**, University of Georgia (matsu.cochem@gmail.com)  
**Kenjiro Matsumoto**, University of Georgia (kmatsumoto@uga.edu)  
**Yasuyuki Matsumoto**, Beth Israel Deaconess Medical Center (ymatsumo@bidmc.harvard.edu)  
**Nickita Mehta**, Ragon Institute of MGH, Harvard and MIT (nmehta11@mgh.harvard.edu)  
**Ningombam Sanjib Meitei**, PREMIER Biosoft (sanjib@premierbiosoft.com)  
**Anant Menon**, Weill Cornell Medical College (akm2003@med.cornell.edu)  
**Katja Michael**, University of Texas at El Paso (kmichael@utep.edu)  
**Yoshi Miura**, S-BIO (yoshiaki.miura@vaupell.com)  
**Toru Mizuki**, Toyo University (mizuki@toyo.jp)  
**Kelley Moremen**, University of Georgia (moremen@uga.edu)  
**Yasu Morita**, University of Massachusetts Amherst (ymorita@microbio.umass.edu)  
**Allen Murray**, Glycan Technologies, Inc. (amurray@glycantechologies.com)  
**Alison Nairn**, University of Georgia (avnairn@uga.edu)  
**Naosuke Nakamura**, Kyoto Sangyo University (naosuk@mac.com)  
**Sriram Neelamegham**, State University of New York - Buffalo (neel@buffalo.edu)  
**Nima Niknejad**, Baylor College of Medicine (niknejad@bcm.edu)  
**Nicole Nischan**, University of Texas Southwestern Medical Center (Nicole.Nischan@utsouthwestern.edu)  
**Maigorzata Norton**, FDA/CBER (malgorzata.norton@fda.hhs.gov)  
**Corwin Nycholat**, The Scripps Research Institute (nycholat@scripps.edu)  
**Tom Oeltmann**, Vanderbilt University School of Medicine (tom.oeltmann@vanderbilt.edu)  
**Pâmela Oliveira Martins Gomes**, University of São Paulo FFCLRP-USP (pamelaomartins@usp.br)  
**Stephanie Olivier-Van Stichelen**, NIH (stephanie.olivier.etud@gmail.com)  
**Nina Ondruskova**, First Faculty of Medicine, Charles University (ondruskova.nina@gmail.com)  
**Amabel Orogio**, Janssen R&D (aorogio@its.jnj.com)  
**Jeremy O'Sullivan**, Northwestern University Feinberg School of Medicine (jeremy.osullivan@northwestern.edu)  
**Douglas Oswald**, Case Western Reserve University (dmo25@case.edu)  
**Michelle Ozburn**, Univ. New Mexico SOM (mozburn@salud.unm.edu)  
**Oliver Pabonan**, Ultragenyx Pharmaceuticals (opabonan@ultragenyx.com)  
**Colin Parrish**, Cornell University (crp3@cornell.edu)  
**Rakesh Patel**, University of Alabama at Birmingham (rakeshp@uab.edu)  
**Steven Patrie**, UT Southwestern Medical Center (steven.m.patrie@gmail.com)  
**Ernest James Paul Daniel**, Case Western Reserve University (exp190@case.edu)  
**Romain Peanne**, KU LEUVEN - University of Leuven (romain.peanne@kuleuven.be)  
**Cassandra Pegg**, The University of Queensland (c.pegg1@uq.edu.au)  
**Yeni Perez Gelvez**, University of Georgia - CCRC (nataliap@uga.edu)  
**Armen Petrosyan**, University of Nebraska Medical Center (apetrosyan@unmc.edu)  
**Nam Pham**, UT Southwestern Medical Center (mnpham@gmail.com)  
**Michael Pierce**, University of Georgia (hawkeye@uga.edu)  
**Maura Poli**, University of Brescia (maura.poli@unibs.it)  
**Sara Porfirio**, University of Georgia (porfirio@uga.edu)  
**Jillian Prendergast**, Siamab Therapeutics, Inc. (jillian.prendergast@gmail.com)  
**Dorota Raclawska**, University of Colorado Denver (dorota.raclawska@ucdenver.edu)  
**Prakash Radhakrishnan**, University of Nebraska Medical Center (pradhakr@unmc.edu)  
**Rekha Raghunathan**, Boston University (rreka@bu.edu)  
**Rene Ranzinger**, University of Georgia (rene@ccrc.uga.edu)  
**Kellie Regal-McDonald**, University of Alabama at Birmingham (kmregal@uab.edu)  
**Vernon Reinhold**, University of New Hampshire (vnr@unh.edu)  
**Matthew Renfrow**, University of Alabama at Birmingham (renfrow@uab.edu)  
**Damien Restagno**, Sanford Burnham Prebys (drestagno@sbdisccovery.org)  
**Leslie Revoredo**, NIH (leslie.revoredo@nih.gov)  
**Nicholas Riley**, University of Wisconsin-Madison (riley.nicholas@gmail.com)  
**Natalia Rinis**, Yale University (natalia.rinis@yale.edu)  
**Sarah Robinson**, University of Georgia (sbaas@uga.edu)  
**Lilian Cataldi Rodrigues**, University Of São Paulo (liltaldi@fcrp.usp.br)  
**Natividad Ruiz**, Ohio State University (ruiz.82@osu.edu)  
**Joshua Ryan**, Cambridge Isotope Laboratories, Inc. (jryan@isotope.com)  
**Julian Saba**, Thermo Fisher Scientific (julian.saba@thermofisher.com)  
**Sudeshna Saha**, UC San Diego (susaha@ucsd.edu)  
**Katrine Schjoldager**, Copenhagen Center for Glycomics (schjoldager@sund.ku.dk)  
**Ronald Schnaar**, Johns Hopkins University (schnaar@jhu.edu)  
**Charles Schwartz**, Greenwood Genetic Center (ceschwartz@ggc.org)  
**Nicholas Scott**, University of Melbourne (nicholas.scott@unimelb.edu.au)  
**Asif Shajahan**, University of Georgia (asifklm@uga.edu)  
**Mohammed Sheikh**, University of Georgia (osman@ccrc.uga.edu)  
**Matthew Shoulders**, Massachusetts Institute of Technology (mshould@mit.edu)  
**B. N. Singh**, SUNY Upstate Medical University (singhb@upstate.edu)  
**DAVID SMITH**, Emory University School of Medicine (dfsmith@emory.edu)

**Roberto Sonon**, University of Georgia (rsonon@uga.edu)  
**Saurabh Srivastava**, University of California, San Diego (sas121@ucsd.edu)  
**Agata Steenackers**, NIH (agata.steenackers@nih.gov)  
**Richard Steet**, University of Georgia (rsteet@ccrc.uga.edu)  
**Adrienne Stefanski**, University of Colorado (adrienne.stefanski@ucdenver.edu)  
**Herta Steinkellner**, University of Natural Resources and Life Sciences, Vienna (herta.steinkellner@boku.ac.at)  
**Tyler Stewart**, University of Alabama at Birmingham (stewartt@uab.edu)  
**Henning Stockmann**, AbbVie (henning.stockmann@abbvie.com)  
**Ganesh Subedi**, Iowa State University (gsubedi@iastate.edu)  
**Shiwei Sun**, Chinese Academy of Sciences. (dwsun@ict.ac.cn)  
**Tadashi Suzuki**, RIKEN Global Research Cluster (tsuzuki\_gm@riken.jp)  
**Zoltan Szabo**, Thermo Fisher Scientific (zoltan.szabo@thermofisher.com)  
**Christine Szymanski**, University of Georgia (cszymans@uga.edu)  
**Lawrence Tabak**, NIH/NIDCR (littlet@mail.nih.gov)  
**Melanie Talaga**, College of St. Scholastica (mtalaga@css.edu)  
**Mitali Tambe**, Sanford Burnham Prebys Medical Discovery Institute (SBP) (mtambe@sbdisccovery.org)  
**Naoyuki Taniguchi**, RIKEN (tani52@wd5.so-net.ne.jp)  
**Brian Taylor**, Vector Laboratories, Inc. (btaylor@vectorlabs.com)  
**Maureen Taylor**, Imperial College London (maureen.taylor@imperial.ac.uk)  
**Kelly Ten Hagen**, National Institutes of Health (Kelly.Tenhagen@nih.gov)  
**Michael Tiemeyer**, University of Georgia (mtiemeyer@ccrc.uga.edu)  
**Christian Toonstra**, Johns Hopkins University (ctoonst1@jhmi.edu)  
**Hanne Tytgat**, ETH Zurich (htytgat@ethz.ch)  
**Gerardo Vasta**, University of Maryland Baltimore (gvasta@som.umaryland.edu)  
**Jonathan Viola**, University of Georgia (jviola@uga.edu)  
**Hans Wandall**, University of Copenhagen (hhw@sund.ku.dk)  
**Lianchun Wang**, University of Georgia (lwang@ccrc.uga.edu)  
**Sheng Wang**, University of Maryland Baltimore (sdwang@som.umaryland.edu)  
**Brian Wasik**, Cornell University (wasik.br@gmail.com)  
**Willem Wassenaar**, Wellesley Therapeutics Inc (medicaldirector@wellesleytherapeutics.com)  
**Maggie Wear**, Johns Hopkins University (mwear1@jhmi.edu)  
**Mohui Wei**, Harvard Medical School (mwei1@bidmc.harvard.edu)  
**Louis Weiss**, Albert Einstein College of Medicine (louis.weiss@einstein.yu.edu)  
**Ryan Weiss**, University of California, San Diego (rjweiss@ucsd.edu)  
**Lance Wells**, University of Georgia (lwells@ccrc.uga.edu)  
**Ulrika Wendel**, Copenhagen University (ulrika.wendel@chem.ku.dk)  
**Christopher West**, University of Georgia (westcm@uga.edu)  
**Julia Westman**, Sanford Burnham Prebys Medical Discovery Institute (julia.westman@med.lu.se)  
**Rachel Willand-Charnley**, Stanford University (rawc@stanford.edu)  
**Daniel Williamson**, University of Georgia (dw49986@uga.edu)  
**Iain Wilson**, Universität für Bodenkultur (iain.wilson@boku.ac.at)  
**Robert Woods**, University of Georgia (rwoods@ccrc.uga.edu)  
**Chung-Yi Wu**, Academia Sinica (cyiwu@gate.sinica.edu.tw)  
**Han Wu**, University of Texas Southwestern Medical Center (Han1.Wu@UTSouthwestern.edu)  
**Lijun Xia**, Oklahoma Medical Research Foundation (lijun-xia@omrf.org)  
**ISSAKU YAMADA**, The Noguchi Institute (issaku@noguchi.or.jp)  
**Yoshiki Yamaguchi**, RIKEN (yyoshiki@riken.jp)  
**Nan Yan**, UT Southwestern (nan.yan@utsouthwestern.edu)  
**Kun Yang**, UT Southwestern Medical Center (kun.yang@utsouthwestern.edu)  
**Won Ho Yang**, Sanford Burnham Prebys (wyang@sbdisccovery.org)  
**Kizuka Yasuhiko**, RIKEN (y.kizuka@riken.jp)  
**Bryan Yip**, BioMarin Pharmaceutical (byip@bmrn.com)  
**William York**, University of Georgia (will@ccrc.uga.edu)  
**Takatsu Yoshihiro**, SEIKAGAKU Corporation (yoshihiro.takatsu@seikagaku.co.jp)  
**Ulf Yrlid**, University of Gothenburg (ulf.yrlid@gu.se)  
**Natasha Zachara**, Johns Hopkins University School of Medicine (nzachara@jhmi.edu)  
**Joseph Zaia**, Boston University Medical Campus (jzaia@bu.edu)  
**Hua Zhang**, Zhejiang University (1130060380@qq.com)  
**Wenjun Zhou**, ThermoFisher Scientific (wenjun.zhou@thermofisher.com)  
**Zhou Zhu**, Yale University School of Medicine (zhou.zhu@yale.edu)  
**Kristina Zlatina**, Leibniz Institute for Farm Animal Biology (FBN) (zlatina@fbn-dummerstorf.de)  
**Vlatka Zoldos**, University of Zagreb Faculty of Science (vzoldos@biol.pmf.hr)

**ATTENDEE LIST**

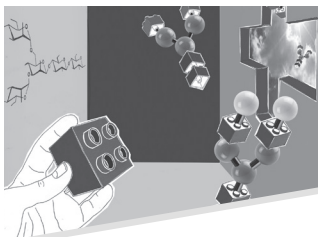
# NOTES

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# GlycoDisplay



*Improving Biologics by modifying glycans*



[www.glycodisplay.com](http://www.glycodisplay.com)

**About GlycoDisplay** – GlycoDisplay is a science driven spin-out company from Copenhagen Center for Glycomics ([www.glycomics.ku.dk](http://www.glycomics.ku.dk)). The team has extensive experience in glycomics, cell engineering and industrial production cell line development.

**Partner Model** – GlycoDisplay offer glycan display solutions for design and development of improved drugs and production cell lines. We favor partnership models where GlycoDisplay does glycoengineering for optimal glycan presentation and partner does functional validation in their assays.

**Target proteins** – GlycoDisplay can optimize any glycoprotein with N- or O-glycans, including lysosomal enzymes and antibodies.

**Problem** - Current glycosylated biopharmaceuticals present heterogeneous glycoprofiles where optimal glycoform is often unknown

**Solution** – By applying our proprietary platform we enable glycan display on any protein allowing screening of individual glyco-variants for identification of optimal lead candidate

**Optimizing Biologics by GlycoDisplay:**

**1) Produce protein in engineered cell lines**

GlycoDisplay produce glycovariants of the protein

**2) Screen glycovariants for Lead**

Partner screen for improved drug function

**3) Generation of production cell line**

Glycodisplay transfer optimal design into any host cell line

**For Glyco-optimization of your Protein**  
 contact: Claus Kristensen, CEO  
 GlycoDisplay Aps  
 mail: [info@glycodisplay.com](mailto:info@glycodisplay.com)  
 phone : +45 42703088

NOTES



**SAVE THE DATE**  
**2018 Society for Glycobiology Annual Meeting**  
**November 5-8, 2018**  
**San Juan, Puerto Rico**  
*Caribe Hilton*

**Meeting Chair:**  
**Dr. Kelley Moremen**  
*Complex Carbohydrate Research Center*  
*University of Georgia*

For more information: [www.glycobiology.org](http://www.glycobiology.org)

# Program At A Glance

## Sunday, November 5, 2017

8:00 a.m. – 6:00 p.m.  
**Registration**  
*Plaza Foyer*

9:00 a.m. – 3:00 p.m.  
**Satellite 3: Trainee Mentoring Program**  
*Broadway 3/4*

9:00 a.m. – 1:00 p.m.  
**Satellite 2: Glycoprotein Technologies**  
*Broadway 2*

10:00 a.m. – 5:00 p.m.  
**Satellite 1: Bioinformatics**  
*Broadway 1*

3:30 p.m. – 5:00 p.m.  
**Board of Directors Meeting (Invitees Only)**  
*Broadway 3/4*

5:30 p.m. – 7:15 p.m.  
**Session 1: Meyer and Kornfeld Awards Lectures**  
*Pavilion Ballroom*

7:30 p.m. – 9:30 p.m.  
**Welcome Reception & Exhibits**  
*Plaza Foyer and Atrium Ballroom*

## Monday, November 6, 2017

7:30 a.m. – 4:00 p.m.  
**Registration**  
*Plaza Foyer*

7:30 a.m. – 8:30 a.m.  
**Continental Breakfast**  
*Plaza Foyer*

8:30 a.m. – 10:00 a.m.  
**Session 2: Glycans in metabolic regulation and development**  
*Pavilion Ballroom*

10:00 a.m. – 10:30 a.m.  
**Coffee Break**  
*Plaza Foyer*

10:30 a.m. – 12:30 p.m.  
**Session 3: Glycan biosynthesis and function**  
*Pavillion Ballroom*

12:30 p.m. – 1:30 p.m.  
**Lunch on your own**

12:30 p.m. – 1:30 p.m.  
**Glycobiology Editorial Board Meeting (Invitees only)**  
*Broadway 3/4*

1:30 p.m. – 4:00 p.m.  
**Poster Session I and Exhibits**  
*Coffee break provided*  
*Plaza Foyer and Atrium Ballroom*

3:00 p.m. – 3:55 p.m.  
**“NIH Listens, Discussion with NIH Program Staff”**  
*Broadway 3/4*

4:00 p.m. – 5:30 p.m.  
**Session 4: Glycan related diseases and disorders I**  
*Pavilion Ballroom*

## Tuesday, November 7, 2017

7:30 a.m. – 8:30 a.m.  
**Continental Breakfast**  
*Plaza Foyer*

8:00 a.m. – 4:00 p.m.  
**Registration**  
*Plaza Foyer*

8:30 a.m. – 10:00 a.m.  
**Session 6: Glycolipids in health and disease**  
*Pavilion Ballroom*

10:00 a.m. – 10:30 a.m.  
**Coffee Break**  
*Plaza Foyer*

10:30 a.m. – 12:15 p.m.  
**Session 7: Glycans in pathogenesis and infection**  
*Pavilion Ballroom*

12:15 p.m. – 1:30 p.m.  
**Lunch on your own**

1:30 p.m. – 4:00 p.m.  
**Poster Session II and Exhibits**  
*Coffee break provided*  
*Plaza Foyer and Atrium Ballroom*

4:00 p.m. – 4:45 p.m.  
**SFG Business Meeting (open to all attendees)**  
*Pavilion Ballroom*

4:45 p.m. – 6:15 p.m.  
**Session 8: MCP and Glycobiology Significant Achievement Award Lectures**  
*Pavilion Ballroom*

6:15 p.m. – 7:00 p.m.  
**Break**

7:00 p.m. – 11:00 p.m.  
**Banquet**  
*Atrium Ballroom*  
*Ticket purchase required. Extra tickets for guests may be ordered.*

## Wednesday, November 8, 2017

8:00 a.m. – 8:30 a.m.  
**Continental Breakfast**  
*Plaza Foyer*

8:30 a.m. – 1:00 p.m.  
**Registration**  
*Plaza Foyer*

8:30 a.m. – 9:50 a.m.  
**Session 9: Expect the unexpected from microbes**  
*Pavilion Ballroom*

9:50 a.m. – 10:15 a.m.  
**Coffee Break**  
*Plaza Foyer*

10:15 a.m. – 11:45 a.m.  
**Session 10: Glycoengineering and glycan related therapeutics**  
*Pavilion Ballroom*

11:45 a.m. – 1:00 p.m.  
**Lunch on your own**

1:00 p.m. – 2:20 p.m.  
**Session 11: Glycan related diseases and disorders II**  
*Pavilion Ballroom*

2:25 p.m. – 2:40 p.m.  
**Closing Remarks**