The 20th Annual

SAN DIEGO GLYCOBIOLOGY SYMPOSIUM

Sheraton San Diego Hotel & Marina, Bay Tower

FRIDAY FEBRUARY 3, 2017

8:00 - 8:55 AM Check-In & Continental Breakfast

8:55 AM **Opening Remarks** • **Lars Bode**

SESSION 1

Lars Bode UC San Diego • *Chair*

9:00 – 9:25 **Lars Bode** *UC San Diego*
9:25 – 9:50 **Jeffrey Esko** *UC San Diego*
9:50 – 10:15 **Pascal Gagneux** *UC Diego*

~ *Break* ~

10:45 – 11:10 **Linda Hsieh-Wilson** *Caltech*
11:10 – 11:35 **James Paulson** *The Scripps Research Institute*
11:35 – 12:00 **Ajit Varki** *UC San Diego*
12:00 – 12:15 **Sponsor Introductions**

~ *Lunch • Poster Session • Sponsor Exhibits* ~

SESSION II

Dirk Zajonc La Jolla Inst for Allergy & Immunology • *Chair*

1:30 – 1:55 **Michael Demetriou** *UC Irvine*
1:55 – 2:20 **Mark Fuster** *UC San Diego*
2:20 – 2:45 **Frederic Troy** *UC Davis*

~ *Break* ~

3:15 – 3:40 **Alyssa Panitch** *UC Davis*
3:40 – 4:05 **Christina Sigurdson** *UC San Diego*
4:05 – 4:30 **Yitzhak Tor** *UC San Diego*
4:30 – 5:05 **Yu Yamaguchi** *SBP Medical Discovery Inst*

~ *Reception • Poster Session • Sponsor Exhibits* ~

Dinner Cruise on the Spirit of San Diego

6:30 PM Boarding at Marina Tower Boat Dock

SATURDAY, FEBRUARY 4, 2017

8:00 - 8:55 AM Check-In & Continental Breakfast

SESSION III

Kamil Godula UC San Diego • *Chair*

9:00 – 9:25 **Nathan Lewis** *UC San Diego*
9:25 – 9:50 **Jamey Marth** *SBP Medical Discovery Inst*
9:50 – 10:15 **Alice Yu** *UC San Diego/Chang Gung Hosp.*

~ *Break* ~

10:45 – 11:10 **Victor Nizet** *UC San Diego*
11:10 – 11:35 **Joseph Vinetz** *UC San Diego*
11:35 – 12:00 **Carlito Lebrilla** *UC Davis*

~ *Lunch • Poster Session • Sponsor Exhibits* ~

1:30 PM ADJOURNMENT

All sessions in Coronado Ballroom • Breaks in Coronado Ballroom Foyer
Meals, Posters, and Sponsor Exhibits in Catalina Ballroom and Terrace

All talks are off-record

San Diego Glycobiology Symposium

2017 ORGANIZERS AND SPONSORS

The San Diego Glycobiology Symposium is organized by the Glycobiology Research and Training Center (GRTC) at the University of California, San Diego. *grtc.ucsd.edu*

PLATINUM SPONSORS

Friesland Campina is one of the biggest globally operating dairy cooperatives and is the largest producer of GOS (Galacto Oligo Saccharides), a lactose based prebiotic which is widely used in infant formula. Recently Friesland Campina introduced 2'Fucosyllactose, the first human milk oligosaccharide produced on a large scale. GOS is marketed under the brand name Vivinal GOS and 2'Fucosyllactose under the brand name Aequival 2'FL. Friesland Campina employs more the 22,000 people and operates from the Netherlands. *frieslandcampina.com*

Scienion provides high performance automation for glycan array manufacturing and analysis. With over 15 years experience in precision dispense, Scienion eagerly supports glycobiology research by offering liquid handling solutions that deliver content accurately onto almost any surface with essentially zero dead volume. Working with leaders in the field, Scienion continues to streamline equipment and methods to enable scientists to investigate the glycome more effectively with turnkey instrumentation and contract manufacturing services. *scienion.com*

Symic Bio, is a clinical stage biopharmaceutical company focused on extracellular matrix biology. We are developing a novel category of therapeutics, inspired by naturally occurring proteoglycans. By focusing on the extracellular matrix, we are enabling new pathways to achieve therapeutic objectives. *symic.bio*

TEGA is the first glycobiology company to produce bioengineered heparan sulfate and heparin. Unlike other available sources, bioengineered products have controlled, consistent batch-to-batch composition and decreased risks because they are not produced from animal tissues. The need for high quality heparan sulfate and heparin is growing due to the critical roles they play in important physiological and pathophysiological processes.

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The NextGen Seminar Series is generously supported by National Institutes of Health, Program of Excellence in Glycobiology HL107150 Skills Development Core. *pegnac.sdsc.edu/ucsdpeg/training*

POSTER TITLES

1 **Patricia Aguilar Calvo** • UC San Diego [Sigurdson]
Role of heparan sulfate in prion disease

2 **Jonathan Okerblom** • UC San Diego [Varki]
Cmah inactivation increases muscle respiratory capacity and endurance: Implications for the running phenotype of homo

3 **Ben Kellman** • UC San Diego [Lewis]
Human milk oligosaccharide composition predicts risk of necrotizing enterocolitis in preterm infants

4 **Landon J. Edgar** • The Scripps Research Institute [Paulson]
Controlling CD169+ macrophage polarization using targeted lipid vesicles

5 **Masaya Hane** • UC San Diego [Varki]
Biosynthetic regulation of polySia by the polysialyltransferase ST8SIA2/STX gene with SNP's that do not lead to amino acid changes

6 **Matthew J. Amicucci** • UC Davis [Lebrilla]
Mild Acid Dissociation toward Defined Oligosaccharide Groups (MADDOG): A dissociative method for the analysis of polysaccharides

7 **Chelsea Painter** • UC San Diego [Esko]
3-O-sulfated heparan sulfate regulates Nrp1 function

8 **Farhan Hussain** • UC San Diego [Esko]
Heparan sulfate modulates the severity of Rett Syndrome

9 **James Wodicka** • UC Davis [Panitch]
Development of a glycocalyx mimetic to treat endothelial cell dysfunction

10 **Shoib Siddiqui** • UC San Diego [Varki]
The Alzheimer's disease protective allele of CD33 mediates adaptive loss of function by diverting a truncated splice form to an intracellular pool

11 **Michael Vaill** • UC San Diego [Varki]
A uniquely human evolutionary change in ST8SIA-II impacts enzyme stability and polysialac acid function

12 **Ace G. Galermo** • UC Davis [Lebrilla]
A rapid LC-MS/MS based platform for carbohydrate linkage analysis

13 **Jenny Lin** • UC Davis [Panitch]
Design of an angiogenic proteoglycan mimic to accelerate ischemic diabetic foot ulcer repair

14 **Andrew Yale** • UC Irvine [Flanagan]
Cell surface glycosylation alters electrophysiological properties and fate potential of mouse neural stem cells

15 **Alison Coady** • UC San Diego [Nizet]
Siglecs modulate the innate immune response to fungal pathogens

16 **Katy Patras** • UC San Diego [Nizet]
Tamm-Horsfall glycoprotein regulates neutrophil responses in the urinary tract

17 **Emi Sato** • UC San Diego [Gallo]
Activation of parathyroid hormone 2 receptor induces decorin expression and promotes wound repair

18 **Wan-Tien Chiang** • UC San Diego [Lewis]
Understanding the molecular mechanisms of cancer metabolism, glycosylation, and secretion

continued >>>

POSTER TITLES (*continued*)

19 **Md Ferdous Anower-E-Khuda** • UC San Diego [Esko]
Hepatic heparan sulfate, a primary regulator of hepcidin expression in mice and humans

20 **Kunio Kawanishi** • UC San Diego [Varki]
Free and bound serum sialic acid profiling of chronic kidney disease patients

21 **Risa Kanamori** • University of Fukui [Kobayashi]
High endothial venule-like vessels and lymphocyte recruitment to diffuse sclerosing variant of papillary thyroid carcinoma

22 **Motohiro Kobayashi** • University of Fukui [Kobayashi]
Apical membrane expression of distinct sulfated glycans represents a novel marker of cholangiolocellular carcinoma

23 **Yung-Chi Chang** • National Taiwan University [Chang]
The dual function of M4 streptococcal pill: Initiating colonization subverting host antimicrobial activity

24 **Bobby Ng** • Sanford Burnham Prebys Medical Discovery Institute [Freeze]
A new congenital disorder of glycosylation is due to mutations in Fucokinase

25 **Peter Aziz** • Sanford Burnham Prebys Medical Discovery Institute [Marth]
Accelerated aging and turnover of host anti-inflammatory enzymes contributes to the pathogenesis of gram-negative sepsis

26 **Andrew Thompson** • The Scripps Research Institute [Paulson]
Evolution of receptor specificity in human influenza viruses

27 **Douglas Heithoff** • UC Santa Barbara [Marth]
Low level pancreatic beta cell sialyation in the onset of autoimmune disease

28 **Douglas Heithoff** • UC Santa Barbara [Marth]
Cell surface glycoprotein aging and turnover modulate a constitutive anti-inflammatory mechanism of host protection that is progressively disabled by a foodborne pathogen

29 **Ken Hayama** • UC Irvine [Demetriou]
Impaired T cell immunity in the elderly via N-glycosylation

30 **Christie Mortales** • UC Irvine [Demetriou]
N-glycan branching inhibits pro-inflammatory B cell activity by controlling TLR4 and BCR signaling

31 **Christopher Fisher** • UC San Diego [Godula]
Utilizing mimetic glycopolymers to probe the role of glycan presentation of influenza A host recognition and pathogenic success

32 **Lu (Sophie Li)** • UC San Diego [Esko]
Enhanced wound healing in heparin sulfate deficient mice

33 **Chelsea Nora** • UC San Diego [Esko]
Studying the structure-function relationship of syndecan-1 in hepatic uptake of remnant lipoproteins in mice using adeno-associated viral 2/8 vectors

34 **Alejandro Sevillano Mantas** • UC San Diego [Sigurdson]
The role of PrP glycans in prion disease

35 **Biswa Choudhury** • UC San Diego Glycotechnology Core Resource
Glycan analysis by Glycotechnology Core Resource