

CURRICULUM VITAE  
The Johns Hopkins University School of Medicine

Hui Zhang

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**DEMOGRAPHIC AND PERSONAL INFORMATION**

**Current Appointments**

- 2016-present Professor, Department of Pathology, Clinical Chemistry Division, School of Medicine, Johns Hopkins University
- 2012-present Director, Mass Spectrometry Core Facility, Center for Biomarker Discovery and Translation, Johns Hopkins University
- 2011-present Joint Professor, Department of Oncology, Johns Hopkins University
- 2017-present Joint Professor, Department of Chemical and Biomolecular Engineering, Johns Hopkins University
- 2016-present Graduate Faculty of Pathobiology Graduate Training Program
- 2017-present Graduate Faculty of Chemical and Biomolecular Engineering Graduate Training Program
- 2020-present Joint Professor, Department of Urology, Johns Hopkins University

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**Education and Training**

- 1985-1989 B.S. Plant Biochemistry, Peking University, Beijing, China
- 1989-1992 M.S. Gene and Protein Engineering, Peking University, Beijing, China
- 1993-1998 PhD. Biochemistry, University of Pennsylvania, Philadelphia, PA, USA

**Professional Experience**

- 1993-1998 PhD. Candidate and research assistant, Biochemistry, University of Pennsylvania, Philadelphia, PA
- 1998-1999 Product Manager, New England Biolabs, Beverly, MA
- 1999-2001 Senior Scientist, Cell Signaling Technology, Beverly, MA
- 2001-2006 Senior Scientist, Institute for Systems Biology, Seattle, WA, USA
- 2006-2011 Assistant Professor, Department of Pathology, Johns Hopkins University, Baltimore, MD
- 2011-2016 Associate Professor, Department of Pathology, Johns Hopkins University, Baltimore, MD
- 2011-present Joint Professor, Department of Oncology, Johns Hopkins University
- 2012-present Director, Mass Spectrometry Core Facility, Center for Biomarker Discovery and Translation, Johns Hopkins University, Baltimore, MD
- 2016-present Professor, Department of Pathology, Johns Hopkins University, Baltimore, MD
- 2017-present Joint Professor, Department of Chemical and Biomolecular Engineering, Johns Hopkins University
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**PUBLICATIONS:**

Please visit updated publications online by Google Scholar or NCBI.

## Original Research [OR]

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Yang S, **Zhang H**. Glycomic analysis of glycans released from glycoproteins using chemical immobilization and mass spectrometry. *Curr Protoc in Chem Biol*. 2014; 6: 191-208.

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Yang S, Hu Y, Sokoll L, **Zhang H**. Simultaneous quantification of N- and O-glycans using a solid-phase method. *Nat Protoc*. 2017; 12: 1229-1244. [SI/QI]

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Yang W, Song A, Ao M, Xu Y, **Zhang H**. Large-scale Mapping of Site-specific O-GalNAc Glycoproteome. *Nature Protocols*. 2020; July 17: 1-22.

## Other Media [OM]

The Center for Biomarker Discovery and Translation and its Role in Clinical Proteomics in Pathology. <http://apps.pathology.jhu.edu/blogs/pathology/the-center-for-biomarker-discovery-and-translation-and-its-role-in-clinical-proteomics-in-pathology>

<https://www.hupo.org/2016/02/news/capture-all-and-then-release-only-the-de-n-glycosylated-peptides-for-glycoproteomics/>

<https://www.hupo.org/2016/06/news/clinical-proteomics-receives-impact-factor-of-3-476/>

<https://www.youtube.com/watch?v=m4U9bcnGtg4&feature=youtu.be>

<http://www.biomarkercenter.org/>

## FUNDING

### EXTRAMURAL Funding

## Current Research Extramural Funding

- 06/01/22-05/31/27 Proteogenomic Characterization of Tumor Tissues and Preclinical Models with High Precision  
U24CA271079  
NIH/NCI  
PI: Zhang, Chan  
Notes: The overarching goal of this PCC is to comprehensively characterize additional human tumor and normal tissues as well as preclinical models provided by the NCI in order to systemically identify, prioritize, and develop targeted proteomic assays to confirm cancer-related proteins, protein modifications, and protein interaction networks and to provide public data resources for the scientific community.
- 04/01/19-03/31/24 Modulating Antigenic and Immunogenic Properties of HIV ENV by Altering Signal Sequence  
R01AI40909-01A1  
NIH/NIAID Subgrant from ICAHN School of Medicine at Mt.Sinai/NIAID  
PI: Upadhyay  
Notes: This study focusses on investigating the role of HIV-1 envelope signal sequence in altering its capacity to induce functional antibodies targeting the V1V2 epitopes.
- 09/01/10 - 3/31/23 Glycoprotein biomarkers for the early detection of aggressive prostate cancer  
U01CA152813  
NIH/NCI  
PI: Zhang  
Notes: This is a biomarker developmental laboratory (BDL) of the Early Detection Research Network (EDRN). The goal of this project is to identify glycoprotein biomarkers for the early detection of aggressive prostate cancer in tissues and urine.
- 08/01/16 - 04/30/27 Clinical Resources for Alcoholic Hepatitis Investigations  
1R24AA025017  
NIH/Alcohol Research Resource Awards  
PI: Sun  
Notes: The aims are to develop a clinical resource of severe alcoholic hepatitis that serves the alcohol research community.

## Previous funding in last 3 years

- 4/1/16 - 3/31/23 Biomarkers for the detection of early stage or low-volume ovarian cancer  
Agency: NIH/NCI/U01  
PI: Zhang Z, Shih I-M  
Notes: Development of *in vitro* diagnostic multivariate index assay using liquid-based cervical cytology specimen and/or serum/plasma biomarkers for the detection of early stage or low-volume ovarian cancer
- 9/16/16 - 8/31/22 The comprehensive proteome characterization center at Johns Hopkins: high precision discovery and confirmation of genoproteomic targets.  
U24CA210985  
NIH/NCI  
PI: Chan D, Zhang H, and Zhang Z  
Notes: This is a center for the Clinical Proteomic Tumor Analysis Consortium (CPTAC). The major goal of this Center is the proteomic characterization of tumors with genomic data to not only verify the genomic alterations at the protein level but also allow for the analysis of unique features that are inherent to proteins including post-translational modifications.
- 4/1/16 - 3/31/23 Clinical and analytical validation of cancer biomarkers  
U24CA115102

NIH/NCI

PI: Chan DW

Notes: This is a biomarker reference laboratory (BRL) of the Early Detection Research Network (EDRN). The major goal of this project is to conduct analytical and clinical validation studies of biomarkers

- 9/1/19 - 8/31/21      Discovery of Urinary Glycoprotein biomarkers for aggressive prostate cancer  
Patrick C. Walsh Fund  
PI: Zhang H and Alan Partin  
Notes: The goal of this project is to develop urinary biomarkers for aggressive prostate cancer.
- 05/01/18-04/30/20      Adaptive process control and advanced sensing for robust mAb glycan quality  
NIIMBL  
PIs: Betenbaugh M and Zhang H  
Notes: The objective of this project are to develop fast glycomic methods to sense mAb glycan quality for mAb production process control.

## **EDUCATIONAL ACTIVITIES** (*in chronological order, earliest first by start date under each subcategory*)

### **Educational Focus**

I am very interested in teaching undergraduate and graduate courses in the areas of Biochemistry and laboratory, General Chemistry and laboratory, Bioanalytical Chemistry and laboratory, Instrumental Methods for Analytical Chemistry, Separation Methods, Protein Chemistry, and Nucleic Acids. I developed materials and lectured in courses in Fundamentals of Glycobiology, Techniques in Glycobiology, and The Role of Chromatography and Mass Spectrometry in Biological Research. In the future, I would like to develop new courses such as Structural and Functional Analysis of Glycoproteins, or Carbohydrate Chemistry and Biochemistry. Of course, it would be fun to work with students closely by teaching Seminar and Research Courses.

### **Teaching**

#### **Classroom instruction**

- 2007, fall      The Role of Chromatography and Mass Spectrometry in Biological Research, co-instructor for course ME330.804 with Dr. Robert Cotter - classroom instruction, JHUSOM
- 2008, fall      The Role of Chromatography and Mass Spectrometry in Biological Research, co-instructor for course ME330.804 with Dr. Robert Cotter - classroom instruction, JHUSOM
- 2009, fall      The Role of Chromatography and Mass Spectrometry in Biological Research, co-instructor for course ME330.804 with Dr. Robert Cotter - classroom instruction, JHUSOM
- 2010, fall      The Role of Chromatography and Mass Spectrometry in Biological Research, co-instructor for course ME330.804 with Dr. Robert Cotter - classroom instruction, JHUSOM
- 2012, fall      Fundamentals of Glycobiology, co-instructor for course ME340.709 with Dr. Gerald Hart, et al -classroom instruction, JHUSOM
- 2012, fall      Mass Spectrometry in an “Omics” World, co-instructor for course ME330.804 – classroom instruction, JHUSOM
- 2013, fall      Techniques in Glycobiology, lecturer and laboratory instructor for course ME340.710 -classroom instruction and laboratory instruction, JHUSOM
- 2014, spring      Mass Spectrometry, lecturer for course “Pharmacology Tutorials organized by Dr. Heng Zhu et al. – classroom instruction, JHUSOM
- 2015, spring      Fundamentals of Glycobiology, co-instructor for course ME340.709 with Dr. Gerald Hart, et al -classroom instruction, JHUSOM
- 2015, spring      Analysis of Glycoproteins, lecturer in Mass Spectrometry Class, University of Maryland, School of Pharmacy
- 2015, summer      Techniques in Glycobiology, lecturer and laboratory instructor for course ME340.710 -classroom instruction and laboratory instruction, JHUSOM
- 2016, fall      Proteomics and Cancer Biology; Glycoproteomics and Cancer Biology, lectures for graduate course, Fudan University, Shanghai, China
- 2016, fall      What we learn from proteomic and glycoproteomic analysis. Lecturer of 4th Annual Pathology Symposium, Johns Hopkins University, Baltimore, MD.
- 2017, spring      Fundamentals of Glycobiology, co-instructor for course ME340.709 with Dr. Gerald Hart, et al -classroom instruction, JHUSOM

- 2017, summer Techniques in Glycobiology, lecturer and laboratory instructor for course ME340.710 -classroom instruction and laboratory instruction, JHUSOM
- 2019, Summer K12\_Glycobiology. co-instructor with Drs. Natasha Zachara, Gerald Hart, and Ronal Schnaar -classroom instruction, JHUSOM

#### CME instruction

##### Regional

- 04/09 Glycoproteins in Cancer Diagnosis, lecturer to Pathology Grand Rounds – CME instruction, JHUSOM
- 12/16 Proteomics and Glycoproteomics: What We learn Beyond Genomics, lecturer to Pathology Grand Rounds – CME instruction, Johns Hopkins University School of Medicine

#### Workshops /seminars

##### National

- 2/09 Lecturer, mainly graduate or post-graduate, Glycoproteomics Short Course, 5th US HUPO Annual Conference, San Diego, CA
- 3/13 Organizer and lecturer, Glycoproteomics Short Course, 9th US HUPO Annual Conference, Baltimore, MD

#### Mentoring

Shared publications with mentees are indicated by the publication entries in this CV

#### Pre-doctoral Advisees /Mentees

##### Graduate Students

- 03/19-05/20 **Zhichen Liu**, Present Position: Graduate Student, MS; Johns Hopkins University  
Awards/grants/degrees received: Master Degree, Research training; Mass spectrometry, Proteomics, glycoproteomics, data analysis, database for glycoproteomic data.  
Move to position: PhD candidate, Johns Hopkins University
- 03/17-05/20 **Bay Xu**, Present Position: Graduate Student, MS; Johns Hopkins University  
Awards/grants/degrees received: Master Degree, Research training; Proteomics and glycoproteomics.  
Move to position: PhD candidate, Johns Hopkins University
- 03/17-12/19 **Qiong Wang**, Present Position: Graduate Student, PhD. Candidate; Johns Hopkins University  
Awards/grants/degrees received: Ph.D degree, Research training; Proteomics and glycomics  
Move to position: FDA
- 10/17-present **Sean A. Ponce**, Present Position: Graduate Student, PhD. Candidate; Johns Hopkins University  
Awards/grants/degrees received: Research training; Proteomics and glycomics
- 02/18-06/20 **Yangying Zhou**, Present Position: Exchange Graduate Student, Ph.D Candidate; Johns Hopkins University  
Awards/grants/degrees received: Ph.D degree, Research training; Proteomics and glycomics  
Move to position: Clinician, Xianya Hospital, Changsha, Hunan, China
- 04/18-present **Shao-Yung Chen**, Present Position: Graduate Student, PhD. Candidate; Johns Hopkins University  
Awards/grants/degrees received: Research training; Proteomics and glycomics.
- 03/17-02/18 **Rui Zhang**, Present Position: Exchange Graduate Student, Ph.D Candidate; Johns Hopkins University  
Awards/grants/degrees received: Research training; Proteomics and glycomics
- 02/18-11/18 **Ce Wang**, Present Position: Exchange Graduate Student, Ph.D Candidate; Johns Hopkins University  
Awards/grants/degrees received: Research training; Proteomics and glycomics
- 11/09-12/11 **Deniz Baycin-Hizal**, Ph.D, Position: Graduate Student, Ph.D Candidate; Johns Hopkins University  
Awards/grants/degrees received: 11/09 Pre-doctoral training; Research training  
12/11 Ph.D degree  
12/11 Moved to Position: Scientist, MedImmune

- 6/11-05/16 **Shadi Toghi Eshghi**, Ph.D, Position: Graduate Student, Ph.D Candidate; Johns Hopkins University  
 Awards/grants/degrees received: Pre-doctoral training; Research training; Thesis project  
 4/12 14th Annual Department of Pathology Young Investigators' Day Award, Baltimore, MD  
 11/14 Travel Award. The Glycobiology for Society Annual Meeting, Honolulu, Hawaii.  
 4/15 17th Annual Department of Pathology Young Investigators' Day Award, Baltimore, MD  
 8/15 Named a Class of 2016 Siebel Scholar at Johns Hopkins University to receive the award from the Siebel Foundation  
 3/16 Ph.D degree  
 4/16 Moved to position: Scientist, Genentech
- 07/11-05/13 **Namita Trikannad**, MS, Position: Graduate Student, MS Candidate; Johns Hopkins University  
 Awards/grants/degrees received: MS, 05/13 Pre-doctoral training; Research training  
 05/13 Moved to Position: Research Scientist, Assay Development and Screening  
 Tri-Institutional Therapeutics Discovery Institute (Weill Cornell Medicine)  
 New York

#### Research Associates

- 10/17-10/2020 **Weiming Yang**, Ph.D.; Present Position: Research Associate, Johns Hopkins University  
 Awards/grants/degrees received: Postdoctoral training; Proteomics, glycomics, mass spectrometry  
 Move to position: Scientist, NIH, Bethesda, Maryland

#### Research Assistants

- 7/14-present **Naseruddin Höti**, Ph.D.; Present Position: Senior Research Specialist, Johns Hopkins University  
 Awards/grants/degrees received: Research training; Proteomics, glycomics
- 2/17-present **Lijun Chen**, Ph.D; Present Position: Senior Research Specialist, Johns Hopkins University  
 Awards/grants/degrees received: Research training; Mass spectrometry
- 09/17-present **Michael Schnaubelt**, Research Data Analyst, Johns Hopkins University, School of Medicine, Pathology Department, Clinical Chemistry Division  
 Awards/grants/degrees received: Research training; Proteomics and glycomics
- 12/17-05/20 **Minghui Ao**, Research Specialist II, Johns Hopkins University, School of Medicine, Pathology Department, Clinical Chemistry Division  
 Awards/grants/degrees received: Research training; Proteomics and glycomics
- 05/18-01/20 **Angellina Song**; Present Position: Laboratory Technologist, Johns Hopkins University  
 Awards/grants/degrees received: Research training; Mass spectrometry  
 Move to position: Scientist, Johns Hopkins University
- 10/18-06/20 **Rodrigo Vargas Eguez**; Present Position: Laboratory Technologist, Johns Hopkins University  
 Awards/grants/degrees received: Research training; Mass spectrometry  
 Move to position:
- 02/11-11/17 **Jered Pasay**, Laboratory Technologist, Johns Hopkins University, School of Medicine, Pathology Department, Clinical Chemistry Division.  
 Moved to Position: Maryland Board of Pharmacology  
 Awards/grants/degrees received: Research training; Proteomics and glycomics  
 Move to position:
- 06/11-05/14 **Robert Harlan**, Senior Research Specialist  
 Moved to Position: Laboratory Manager, Johns Hopkins University, School of Medicine, The Center for Resources in Integrative Biology  
 Awards/grants/degrees received: Research training; Proteomics and glycomics

08/11-03/13      **Caitlin H. Choi**, Research Coordinator, Johns Hopkins University, School of Medicine, Pathology Department, Clinical Chemistry Division  
Moved to Position: MD student, ENS, MC, USNR, Class of 2017  
Awards/grants/degrees received: Research training; Proteomics and glycomics

#### Post-doctoral Advisees /Mentees

02/13-07/18      **Stefani Thomas**, Ph.D.; Present Position: Clinical Chemistry Fellow, Johns Hopkins University  
Awards/grants/degrees received: Proteomics, glycomics, mass spectrometry  
4/13      15th Annual Department of Pathology Young Investigators' Day Award, Baltimore,  
2/16      Young Investigator Award, Mass Spectrometry Applications to the Clinical Labs  
(MSACL), Palm Springs, CA  
Move to position: Assistant professor, University of Minnesota

09/15-present      **Yingwei Hu**, Ph.D.; Present Position: Research Fellow, Johns Hopkins University  
Awards/grants/degrees received: Research training; Proteomics, glycomics, and cell biology  
4/17      19th Annual Department of Pathology Young Investigators' Day Award, Baltimore, MD

12/15-present      **Joseph Mertz**, PhD.; Present Position: Post-doctoral fellow, Johns Hopkins University  
Awards/grants/degrees received: Research training; Proteomics, glycomics, and cell biology

03/16-present      **David Clark**, PhD.; Present Position: Research Fellow, Johns Hopkins University  
Awards/grants/degrees received: Research training; Proteomics, glycomics, and cell biology  
4/17      19th Annual Department of Pathology Young Investigators' Day Award, Baltimore, MD  
7/20      22<sup>d</sup> Annual Department of Pathology Young Investigators' Day Award, Baltimore, MD

03/17-11/19      **Kyung-Cho Cho**, Ph.D.; Present Position: Research fellow, Johns Hopkins University  
Awards/grants/degrees received: Research training; Proteomics and glycomics  
Move to position:

09/17-present      **Jianbo Pan**, Ph.D.; Present Position: Research fellow, Johns Hopkins University  
Awards/grants/degrees received: Research training; Proteomics and glycomics  
Move to position:

03/18-present      **Tung-Shing Lih**, Ph.D.; Present Position: Research fellow, Johns Hopkins University  
Awards/grants/degrees received: Research training; Proteomics and glycomics

08/18-present      **Mingming Dong**, Ph.D.; Present Position: Research fellow, Johns Hopkins University  
Awards/grants/degrees received: Research training; Proteomics and glycomics  
Move to position:

02/19-present      **Liwei Cao**, Ph.D.; Present Position: Research fellow, Johns Hopkins University  
Awards/grants/degrees received: Research training; Proteomics and glycomics

04/19-present      **Yuefan Wang**, Ph.D.; Present Position: Research fellow, Johns Hopkins University  
Awards/grants/degrees received: Research training; Proteomics and glycomics

05/05-11/06      **Yong Zhou**, Ph.D.; Position: Research Fellow, Scientist, Institute for Systems Biology  
Awards/grants/degrees received: Postdoctoral training; Promoted to Scientist  
11/06      Moved to position: Scientist, Institute for Systems Biology

11/05-09/13      **Yuan Tian**, Ph.D.; Position: Research Fellow, Research Associate, Johns Hopkins University  
Awards/grants/degrees received: Postdoctoral training  
1/08      Seed Grant from HERA Foundation  
4/08      10th Annual Department of Pathology Young Investigators' Day Award, Baltimore, MD  
5/08      Best poster Award, 2<sup>nd</sup> place, AACC conference on Translating Proteomic Discoveries  
into Clinical Diagnostics, Seattle, WA  
1/09      Seed Grant from HERA Foundation

4/09 11th Annual Department of Pathology Young Investigators' Day Award, Baltimore, MD  
10/09 Outstanding Poster Award, 3<sup>rd</sup> place. AACC (American Association of Clinical Chemistry)  
- Translating Novel Biomarker to Clinical Practice, Bethesda, MD  
3/10 Travel Award, US Human Proteome Organization 6<sup>th</sup> Annual Conference in Denver, CO  
4/10 12th Annual Department of Pathology Young Investigators' Day Award, Baltimore, MD  
3/11 Travel Award, US Human Proteome Organization 7<sup>th</sup> Annual Conference in Raleigh, NC  
3/11 Promoted to a faculty as a Research Associate of Pathology at Johns Hopkins  
10/13 Moved to Position: Director of Glycoproteomics Core Facility, University of Mississippi  
Medical Center

3/07-6/11

**Yan Li**, Ph.D.; Position: Research Fellow, Research Associate, Johns Hopkins University

Awards/grants/degrees received: Postdoctoral training

7/09 Prostate Cancer Fellowship Training Award from DOD-CDMRP, 7/2009-6/2011.  
9/09 Young Investigator Awards: Human Proteome Organization 8<sup>rd</sup> Annual World Congress.  
Toronto, Canada.  
10/09 Outstanding Poster Award, 1<sup>st</sup> place. AACC (American Association of Clinical Chemistry)  
- Translating Novel Biomarker to Clinical Practice. Bethesda, MD.  
9/10 Young Investigator Awards: Human Proteome Organization 9<sup>th</sup> Annual World Congress.  
Sydney, Australia  
11/10 Travel Award of the Society of Glycobiology annual conference.  
2/11 Promoted to Faculty as a Research Associate of Pathology at Johns Hopkins  
7/11 Moved to Position: Professor of Chinese Academy of Biophysics Institute

8/07-12/09

**Danni Li**, Ph.D.; Position: Clinical Chemistry Fellow, Johns Hopkins University

Awards/grants/degrees received: 7/07 Postdoctoral training.

1/10 Promoted to a faculty position as an Instructor of Pathology at Johns Hopkins.  
12/11 Promoted to Assistant Professor at Johns Hopkins  
8/12 Moved to Position: Assistant Professor of Lab Medicine and Pathology, Director of  
Clinical Chemistry, University of Minnesota Medical Center

8/10-7/12

**Mark Marzinke**, Ph.D.; Position: Clinical Chemistry Fellow, Johns Hopkins University

Awards/grants/degrees received: Postdoctoral training; Proteomics, mass spectrometry training to  
build career for disease biomarker discovery

4/12 14th Annual Department of Pathology Young Investigators' Day Award, Baltimore, MD  
8/12 Moved to Position: Assistant Professor of Pathology, Johns Hopkins University

6/11-8/13

**Xiangchun Wang**, Ph.D.; Position: Research Fellow, Johns Hopkins University

Awards/grants/degrees received: Postdoctoral training; Glycobiology, glycomics, mass spectrometry

11/11 Travel Award, Glycobiology Society Annual Meeting, Seattle, WA  
10/13 Moved to Position: Scientist, NIAID, NIH

9/11-6/15

**Jing Chen**, Ph.D.; Position: Research Fellow, Johns Hopkins University

Awards/grants/degrees received: Postdoctoral training; Clinical proteomics, cell biology, molecular  
biology, glycomics, mass spectrometry

11/13 Travel Award. The Society for Glycobiology Annual Meeting, St. Petersburg, FL.  
4/15 17th Annual Department of Pathology Young Investigators' Day Award, Baltimore, MD  
7/15 Moved to position: Scientist, Agilent

2/12-9/15

**Paul Aiyetan**, MS, M.D.; Position: Research Fellow, Johns Hopkins

Awards/grants/degrees received: Postdoctoral training; Proteomics, glycomics, bioinformatics

4/12 14th Annual Department of Pathology Young Investigators' Day Award, Baltimore, MD  
10/15 Postdoctoral fellow, JHU  
3/16 Moved to position: Scientist (Research and Development), Biotech Groups' Diagnostics  
Laboratory  
Current position: Bioinformatics Scientist, Frederick National Laboratory for  
Cancer Research

3/12-8/15

**Jian-Ying Zhou**, Ph.D.; Position: Research Associate, Johns Hopkins University

- Awards/grants/degrees received: Glycobiology, cell biology, mass spectrometry, proteomics, glycomics  
9/15 Moved to Position: Scientist, Abbott
- 3/14-8/15 **Xingwang Jia**, Ph.D.; Position: Research Fellow, Johns Hopkins University  
Awards/grants/degrees received: Postdoctoral training; Proteomics, glycomics, clinical chemistry  
9/15 Moved to position: Clinical Chemist, 301 Hospital, Beijing, China
- 6/14-10/15 **Yuri Poluektov**, Ph.D.; Position: Research Fellow, Johns Hopkins  
Awards/grants/degrees received: Postdoctoral training; Proteomics, glycomics, bioinformatics, immunology  
5/16 Moved to position: Fellow, FDA
- 5/15-5/16 **Lingquan Deng**, Ph.D.; Position: Research Fellow, Johns Hopkins University  
Awards/grants/degrees received: Research training; Proteomics, glycomics, and cell biology  
12/15 Travel Award. The Society for Glycobiology Annual Meeting, San Francisco, CA  
5/16 Moved to position: Scientist, GlycoMimetics
- 1/11-11/16 **Shuang Yang**, Ph.D.; Position: Research Associate, Johns Hopkins University  
Awards/grants/degrees received: Postdoctoral training; Proteomics, glycoproteomics, mass spectrometry training to build career for technology development for glycan separation and analysis  
11/11 Travel Award, Glycobiology Society Annual Meeting, Seattle, WA.  
4/12 14th Annual Department of Pathology Young Investigators' Day Award, Baltimore, MD  
9/12 Travel Award. 11<sup>th</sup> World Conference of HUPO, Boston, MA  
9/12 Best Presentation Award, 3<sup>rd</sup> place. 11<sup>th</sup> World Conference of HUPO, Boston, MA  
5/13 Best Poster Award. NIH Glycosciences Research Day, Bethesda, MD.  
6/13 Travel Award, 22<sup>nd</sup> International Symposium on Glycoconjugates, Dalian, China  
10/13 Promoted to junior faculty position as Research Associate  
11/16 Moved to position: Staff, Laboratory of Bacterial Polysaccharides, Center for Biological Evaluation and Research, Food and Drug Administration
- 09/11-01/17 **Shisheng Sun**, Ph.D.; Position: Research Fellow, Johns Hopkins University  
Awards/grants/degrees received: Postdoctoral training; Proteomics, glycomics, mass spectrometry  
9/12 Travel Award. The 11<sup>th</sup> World Conference of HUPO, Boston, MA  
11/13 Travel Award. The Society for Glycobiology Annual Meeting, St. Petersburg, FL.  
3/16 Travel Award. USHUPO, Boston, MA  
4/16 18th Annual Department of Pathology Young Investigators' Day Award, Baltimore, MD  
Moved to position: Professor, Northwestern University, Xian, China
- 09/15-04/17 **Yang Liu**, Ph.D.; Position: Research Technologist, Johns Hopkins University  
Awards/grants/degrees received: Research training; Proteomics, glycomics, and cell biology  
Moved to position: Research Technologist, Genomic Analysis, CA.
- 11/11-06/17 **Punit Shah**, Ph.D.; Position: Laboratory Manager, Johns Hopkins University  
Awards/grants/degrees received: Postdoctoral training; Proteomics, glycomics, mass spectrometry  
4/13 15th Annual Department of Pathology Young Investigators' Day Award, Baltimore, MD  
12/13 Promoted to junior faculty position as Research Associate  
9/15 Laboratory Manager  
Moved to position: Senior Scientist, Berg Health
- 06/16-06/17 **Jian-Liang Zhou**, Ph.D.; Position: Research Fellow, Johns Hopkins University  
Awards/grants/degrees received: Research training; Proteomics and glycomics  
Moved to position: Associate Professor of Pharmacy, Department of Traditional Chinese Medicines, Zhejiang Institute for Food and Drug Control, China
- 11/11-09/17 **Weiming Yang**, Ph.D.; Position: Research Fellow, Johns Hopkins University  
Awards/grants/degrees received: Postdoctoral training; Proteomics, glycomics, mass spectrometry  
Move to position: Research Associate, Johns Hopkins University

- 11/12-02/17 **Lijun Chen**, Ph.D; Position: Research Fellow, Johns Hopkins University  
Awards/grants/degrees received: Research training; Mass spectrometry
- 11/15-06/18 **Ventzi Hristova**, Ph.D.; Present Position: Clinical Chemistry Fellow, Johns Hopkins University  
Awards/grants/degrees received: Research training; Proteomics, glycomics, and cell biology  
4/17 19th Annual Department of Pathology Young Investigators' Day Award, Baltimore, MD  
Move to position: Scientist,
- 03/17-06/18 **Quanzi Ouyang**, Ph.D.; Present Position: Research fellow, Johns Hopkins University  
Awards/grants/degrees received: Research training; Proteomics and glycomics  
Move to position:
- 02/17-07/18 **Christian Toonstra**, Ph.D.; Present Position: Research fellow, Johns Hopkins University  
Awards/grants/degrees received: Research training; Proteomics and glycomics  
Move to position: Postdoctoral fellow, University of Minnesota
- 01/17-12/18 **Ganglong Yang**, Ph.D.; Present Position: Research fellow, Johns Hopkins University  
Awards/grants/degrees received: Research training; Proteomics and glycomics  
Move to position:

#### Thesis committees

- 2013-2015 David Clark, PhD candidate, University of Maryland, School of Dentistry, dissertation committee member, graduated with Ph.D
- 2014-2016 Chris Mitchell, PhD candidate, Johns Hopkins University, Department of Biochemical, Cellular & Molecular Biology, dissertation committee chair, graduated with Ph.D
- 2015-2018 Christopher Saeui, PhD candidate, Johns Hopkins University, Department of Biomedical Engineering, dissertation committee member
- 2015-present William Fondrie, PhD candidate, University of Maryland, School of Dentistry, dissertation committee member.
- 2017-present Srona Sengupta, PhD candidate, Johns Hopkins University, Immunology Program, dissertation committee member.

#### Educational Program Building / Leadership

- 2007-present Sponsor post-doc training grant applications and serves as advisor and sponsor of applications of postdoc fellowship
- 4/1/08 - 3/31/10 Identification of subtype-specific extracellular proteins from ovarian tumors  
HERA Foundation  
PI: Tian Y  
Role: Mentor, 0%; Notes: The objective of this project is to identify extracellular proteins in different subtypes of ovarian tumor and determine the tissue-specificity.
- 7/1/09 - 6/30/11 Glycoproteomic profiling of prostate cancer for biomarker discovery  
DoD-W81xwh-09-1-0136  
DOD-CDMRP  
PI: Li  
Role: Mentor, 0%; Notes: The objective of this project is to determine the glycoprotein biomarkers to predict the outcome of the prostate cancer using glycoproteomic

## RESEARCH ACTIVITIES

### Research Focus

My research interests are centered on the structural and functional analyses of proteins and multiple protein modifications by glycosylation, phosphorylation, and acetylation. Recently, our lab has developed several novel glycoproteomic and

glycomic technologies to study protein glycosylation and applied the technologies to study cell surface glycoproteins and glycoproteins secreted to body fluids. These technologies enable the identification and quantification of glycoproteins, glycosites, glycans associated with each glycosite and their occupancies. Researchers in the group participate in several national programs in characterization of glycoproteins including the Early Detection Research Network (EDRN), Clinical Proteomic Tumor Analysis Consortium (CPTAC), and Programs of Excellence in Glycosciences (PEG).

### Research Program Building / Leadership

2/07-present Mass Spectrometry Facility for the Center for Biomarker Discovery and Translation (CBDT) at Johns Hopkins: I led the development, established the Facility, serve as the director of the Facility.

### Inventions, Patents, Copyrights

#### Awarded

02/27/07 Aebersold R, **Zhang H**. Methods for quantitative proteome analysis of glycoproteins. United States patent # 7,183,118.

04/03/07 Rush J, **Zhang H**, Zha X, Comb MJ, Tan Y. Immunoaffinity isolation of modified peptides from complex mixtures. United States patent # 7,198,896.

08/21/07 Comb MJ, Tan Y, **Zhang H**. Production of motif-specific and context-independent antibodies using peptide libraries as antigens. United States patent # 7,259,022.

11/27/07 Rush J, **Zhang H**, Zha X, Comb MJ, Tan Y. Immunoaffinity isolation of modified peptides from complex mixtures. United States patent # 7,300,753.

09/14/10 Aebersold R, **Zhang H**. Affinity capture of peptides by microarray and related method. United States patent # 7,794,947.

12/10/13 **Zhang H**, Li Y, Sokoll LJ, Zhang Z, Chan DW. Biomarkers for prostate cancer. United States patent #8,603,734.

03/07/17 Rush J, **Zhang H**, Zha X, Comb MJ, Tan Y. Immunoaffinity isolation of modified peptides from complex mixtures. United States patent # 9,587,013.

03/14/17 **Zhang H**, Tian Y, Chan DW, Chen J. Biomarkers for aggressive prostate cancer. United States Patent # 9,594,086.

02/13/18 Li D, Chan DW, **Zhang H**, Wang X. Biomarkers for aggressive prostate cancer. United States patent # 9,891,224.

04/10/18 **Zhang H**, Yang S, Li S. Isobaric aldehyde-reactive tags for and analysis of glycans using same. United States patent # 9,939,444.

04/09/19 Li S, Zhang H, Yang S. Quaternary ammonium containing isobaric tag for quantitative glycan profiling. US Patent # 10,254,291.

#### Pending

6/18/02 Comb MJ, Tan Y, **Zhang H**. Positive identification of phospho-proteins using motif-specific, context-independent antibodies coupled with database searching. WO Patent 2003107003.

5/21/04 Aebersold R, **Zhang H**. Compositions and methods for quantification of serum glycoproteins. WO Patent 20051142211.

10/17/05 **Zhang H**, Aebersold R. Tissue-and serum-derived glycoproteins and methods of their use. WO Patent 2007047796.

7/25/08 **Zhang H**, Meany DL, Chan DW, Zhang Z, Li Y, Sokoll LJ. Detection of prostate cancer using PSA glycosylation patterns. Pending US application 20140193832, WO Patent 2010011357.

6/6/11 **Zhang H**, Yang S. Glycan and glycopeptide capture and release using reversible hydrazone-based method. **Pending US application** 20140135235, WO Patent 2012170491.

9/10/13 **Zhang H** et al. Methods for quantitative analysis of glycans and glycosylation sites on glycoproteins using solid-phase extraction of glycopeptides and glycans (SPEGAG). Pending PCT application WO #2014/040,072.

9/10/13 **Zhang H** et al. Glycomic analysis by glycoprotein immobilization for glycan extraction and liquid chromatography on microfluidic chip. Pending PCT application WO 2014/040,066.

10/9/13 Veltri R, **Zhang H**, Christudass C, Liu Z, Epstein JI, Carter HB. Active surveillance biomarkers for assessing cancer patients for treatment. Provisional applications filed.

6/30/14 Li D, **Zhang H**, Chan DW. Serum angiogenic factors as prognostic biomarkers in prostate cancer. Pending US application 14/375,535.

9/29/14 **Zhang H** et al. Solid phase extraction of global peptides, glycopeptides, and glycans using chemical immobilization in a tip. Pending PCT/US application #2014/058,087.

11/20/14 **Zhang H**, Toghi Eshghi S. Mass spectrometry imaging of glycans from tissue sections and improved analyte detection method. Pending US application 14/402,478.

9/9/14

**Zhang H, Shah P, Li QK, and Chan DW.** Glycoproteins in aggressive prostate cancer patients.  
Provisional application filed.

## SYSTEM INNOVATION AND QUALITY IMPROVEMENT ACTIVITIES

### System Innovation Focus

In mass spectrometry core facility, we aim to develop proteomics, glycoproteomics, and mass spectrometry technologies and apply to clinical specimens by establishing standard operating procedures, automated robotic protocols, and data quality control

### System Innovation and Quality Improvement efforts within JHMI:

2013 Establishing SOPs for sample preparation for proteomics and glycoproteomics, data acquisition by mass spectrometry, and data analysis

## ORGANIZATIONAL ACTIVITIES

### Institutional Administrative Appointments

2015-2016 Member, Search Committee on Endowed Chairs of Bloomberg Distinguished Professorships

### Editorial Activities

2008 Guest Editor of 2 Special Issues of Clinical Proteomics on Glycoproteomics  
2013 Guest Editor of Special Issue of Clinical Proteomics on Glycoproteomics and Glycomics  
2017 Guest Editor of Special Issue of Proteomics-Clinical Applications on Glycoprotein Analysis

### Editorial Board appointments

2008-present Member, Editorial Board of Clinical Proteomics  
2011-present Associate Editor of Clinical Proteomics

### Journal peer review activities

2003 – Present

Journal of Proteome Research, Molecular & Cellular Proteomics, Rapid Communications in Mass Spectrometry, Nano Letters, Nature Protocols, Nature Biotechnology, Molecular BioSystems, Expert Reviews of Proteomics, Bioinformatics, The Analyst, Mass Spectrometry Reviews, Cancer Research, Journal of Proteomics, Biomarkers, Theronostics, PLOS ONE, Analytical Chemistry, Clinical Proteomics, Proteomics, Proteomics-Clinical Applications

### Advisory Committees, Review Groups/Study Sections

2012-2015 Member of Board of Directors, United States Human Proteomic Organization (USHUPO)  
2012-present Chair of Cancer Human Proteome Project (Ca-HPP) of Human Proteomic Organization (HUPO)  
2015-2019 Member of Executive Committee for World Human Proteomic Organization (HUPO) Biology/Disease Human Proteome Project (B/D-HPP)  
2015-2018 Council Member of World Human Proteomic Organization (HUPO)  
2015-present Associate Chair of Member Connection Committee, Chinese American Society for Mass Spectrometry (CASMS)  
2/09 Member, NIH Review Panel for Studies of Antimicrobial and Prebiotic Activity of Oligosaccharides (R01)  
7/10 Member, Technical Evaluating Panel-Reviewer for the Interagency Agreement  
11/10-07/15 Member, NIH Early Detection Research Network Standing Review Committee for Associate Membership applications to review application proposals three times a year  
2/11 Reviewer, Netherlands Genomics Initiative-The Zenith project on Genomics and/or Bioinformatics  
2011-2012 Reviewer, NIH small business SBIR-STTR  
10/13 Member, PLCO Special Emphasis Panel/Scientific Review Group 2014/01 ZCA1 SRLB-Y (J1) B  
6/14 Member, PLCO Special Emphasis Panel/Scientific Review Group 2014/10 ZCA1 TCRB-Y (01) S  
7/14 Member, NIH IMST-B (40) P: A Resource for Biomedical Mass Spectrometry (Site Visit at Washington University for Renewal Application)  
9/14 Reviewer, the Keck Foundation  
6/15 Member, review panel for 2015/10 ZDK1 GRB-S (O3) S - RFA-DK-14-021: Human Islet Research Network Consortium on Beta Cell Death and Survival (HIRN-CBDS)

6/15	Member, review panel for NIH IMST-M (41), Bio-Organic Biomedical Mass Spectrometry (renewal application by University of California at San Francisco)
7/15	Member, Technical Evaluating Panel-Reviewer for the Interagency Agreement
3/16	Member, Panel reviewer for the NIH common fund for novel and innovative tools to facilitate identification, tracking, manipulation, and Analysis of Glycans and their functions
6/16	Mail Reviewer, Cellular Aspects of Diabetes and Obesity [CADO] Study Section
6/16	Reviewer, Enabling and Bioanalytical and Imaging Technologies (EBIT) study session
7/16	Reviewer, PLCO Special Emphasis Panel/Scientific Review study session
4/17	Panel reviewer for the NIH common fund for novel and innovative tools to facilitate identification, tracking, manipulation, and Analysis of Glycans and their functions
06/18	Standing Member, Enabling and Bioanalytical and Imaging Technologies (EBIT) study session.
10/18	Standing Member, Enabling and Bioanalytical and Imaging Technologies (EBIT) study session.
02/19	Standing Member, Enabling and Bioanalytical and Imaging Technologies (EBIT) study session.
06/19	Standing Member, Enabling and Bioanalytical and Imaging Technologies (EBIT) study session.
10/19	Standing Member, Enabling and Bioanalytical and Imaging Technologies (EBIT) study session, Washington DC.
02/20	Standing Member, Enabling and Bioanalytical and Imaging Technologies (EBIT) study session, Washington DC.
06/20	Standing Member, Enabling and Bioanalytical and Imaging Technologies (EBIT) study session.
10/20	Standing Member, Enabling and Bioanalytical and Imaging Technologies (EBIT) study session.
02/21	Reviewer, NIH Innovative Molecular Analysis Technologies (IMAT) program.
02/21	Standing Member, Enabling and Bioanalytical and Imaging Technologies (EBIT) study session.
06/21	Standing Member, Enabling and Bioanalytical and Imaging Technologies (EBIT) study session.
10/21	Standing Member, Enabling and Bioanalytical and Imaging Technologies (EBIT) study session.
06/22	Standing Member, Enabling and Bioanalytical and Imaging Technologies (EBIT) study session.

### Professional Societies

2003-present	American Society for Mass Spectrometry (ASMS)
2006-present	United States Human Proteomic Organization (USHUPO)
2009-present	Society for Glycobiology
2010-present	American Chemical Society (ACS)
2010-present	World Human Proteomic Organization (HUPO)
2015-present	America Association for Cancer Research (AACR)
2015-present	Chinese American Society for Mass Spectrometry (CASMS)

### Conference Organizer (*separate into JHMI/Regional - National - International activities*)

#### National activities

3/08	Organizing Committee Member: 4 <sup>th</sup> Conference of US Human Proteome Organization (USHUPO), Bethesda, MD
3/13	Organizing Committee Member: 9 <sup>th</sup> US HUPO Annual Conference, Baltimore, MD
2015	Monday Networking Night, Chinese American Society for Mass Spectrometry
08/21	Session organizer and chair: Chinese American Society for Mass Spectrometry.

#### International activities

2012-2019	Organizing World Human Proteomic Organization (HUPO) Cancer Biology/Disease Human Proteome Project (Cancer B/D-HPP)
2018	Organizing Committee. HPLC2018, 47 <sup>th</sup> International Symposium on High Performance Liquid Phase Separations and Related Techniques, Washington DC.

### Session Chair (*separate into JHMI/Regional – National - International activities*)

#### National activities

01/06	Session chair: BuzZ session. 6 <sup>th</sup> Annual Plasma Proteome, San Diego, CA
03/08	Session organizer and chair: The 4 <sup>th</sup> Conference of USHUPO, Bethesda, MD
03/10	Session chair: 6 <sup>th</sup> Conference of USHUPO, Denver, CO

- 03/12 Session organizer and chair: 8<sup>th</sup> Conference of USHUPO, San Francisco, CA
- 03/13 Session organizer and chair: 9<sup>th</sup> USHUPO Annual Conference, Baltimore, MD
- 03/13 USHUPO short course organizer on “Glycoproteomics and glycomics”, 9<sup>th</sup> US HUPPO Annual Conference, Baltimore, MD
- 09/16 Session chair, Glycoproteomics – Technical limitations & Prospects. The 15<sup>th</sup> Human Proteome Organization World Congress (HUPPO), Taipei, Taiwan
- 03/18 Session chair, Glycoproteomics and glycomics for clinical biomarker discovery. USHUPO2018, Minneapolis, MN.
- 07/18 Co-organizer and Session chair: HPLC2018, 47<sup>th</sup> International Symposium on High Performance Liquid Phase Separations and Related Techniques, Washington DC.
- 07/20 Session organizer and chair: Career Development. American Society for Mass Spectrometry
- 03/21 Session organizer and chair: Protein post-translational modifications. US Human Proteome Organization (USHUPO).

#### International activities

- 09/12 Session leader: Cancer Proteomics and Human Proteome Project, 11<sup>th</sup> World Conference of HUPPO, Boston, MA
- 09/13 Session organizer: Human Cancer Proteome Project. 12<sup>th</sup> World Conference of HUPPO, Yokohama, Japan
- 10/14 Session organizer and chair: Human Cancer Proteome Project. 13<sup>th</sup> World Conference of HUPPO, Madrid, Spain
- 09/15 Session chair: Proteomics. 43<sup>rd</sup> International Symposium on High Performance Liquid Phase Separations and Related Techniques, Beijing, China
- 09/15 Session organizer and chair: Human Cancer Proteome Project. 14<sup>th</sup> World Conference of HUPPO, Vancouver, Canada
- 09/16 Session organizer and chair: Human Cancer Proteome Project. 15<sup>th</sup> World Conference of HUPPO, Taipei, Taiwan
- 09/17 Session organizer and chair: Human Cancer Proteome Project. 16<sup>th</sup> World Conference of HUPPO, Dublin, Ireland
- 10/18 Session organizer and chair: Human Cancer Proteome Project. 17<sup>th</sup> World Conference of HUPPO, Orlando, USA
- 09/19 Session organizer and chair: Clinical Proteomics. 18<sup>th</sup> World Conference of HUPPO, Adelaide, Australia.

#### **RECOGNITION** *(in chronological order, earliest first by start date under each subcategory)*

##### Awards, Honors

- 1997 Pre-doctoral Fellowship, American Heart Association
- 2003 Technology Development Award, Cell Signaling Technology
- 2004 Young Scientist Award, Human Proteome Organization (HUPPO) 3<sup>rd</sup> Annual World Congress
- 2012 Elected as a Board of Director, United States Human Proteomic Organization (USHUPO)
- 2015 Elected as a Council Member of World Human Proteomic Organization (HUPPO)

##### Invited Talks

- 07/03 Glycopeptide profiling of serum proteins and potential application in cancer diagnosis, 94<sup>th</sup> Annual Meeting of American Association for Cancer Research, Washington, DC
- 02/04 A platform for high throughput quantitative analysis of serum proteins, IBC’s 2<sup>nd</sup> Annual Biomarkers: Application of Proteomics, Microarray and Metabolite Profiling Technologies, Reston, VA
- 08/04 Glyco-biomarkers for diseases, 1<sup>st</sup> Human Disease Glycomics/Proteome Initiative (HGPI) Workshop, Osaka, Japan
- 02/05 Analysis of prostate cancer by quantitative glycoproteomics using tissue specimens, Molecular Diagnostics: New Applications and Technologies Accelerating Drug Development, Princeton, NJ
- 07/05 Analysis of prostate cancer by quantitative glycoproteomics using tissue specimens, 7<sup>th</sup> International Dalian Institute of Chemical Physics (DICP) Symposium on Separation and Detection of Biomolecules, Dalian, China
- 10/05 Detection of cancer tissue-derived proteins in blood via glycopeptide analysis and mass spectrometry, 21<sup>st</sup> Asilomar

Conference on Mass Spectrometry, Pacific Grove, CA

- 01/06 Identification of proteotypic *N*-linked glycopeptides for serum biomarker discovery, 6<sup>th</sup> Annual Plasma Proteome, San Diego, CA
- 08/06 Keynote Challenges and technologies in the plasma proteome analysis for marker discovery, Chinese HUPO (CNHUPO) 4<sup>th</sup> Annual Conference, Xian, China
- 04/07 Glycopeptide analysis technology, Cell Signaling Technology, Beverly, MA
- 04/07 Selective isolation of subproteomes using covalent ligation of specific functional moieties, the Association of Biomolecular Resource Facilities (ABRF) 2007, Tampa, FL
- 05/07 Glycoproteomic analysis of breast cancer tissues and identification of glycoproteins associated with advanced cancer, The Breast Cancer Conference. Baltimore, MD
- 07/07 Identification of disease-associated glycopeptides as candidate biomarkers, Hepatitis B Foundation and the Institute for Hepatitis and Virus Research, Pennsylvania Biotechnology Center, PA
- 08/07 Glycoproteomics technologies for biomarker discovery, Northwestern University, Xian, China
- 08/07 Glycopeptides in cancer detection, Chinese HUPO (CNHUPO) 5<sup>th</sup> Annual Conference, Guangzhou, China
- 11/07 Glycoproteomics, proteomics, and mass spectrometry, Case Western Reserve University, Cleveland, OH
- 03/08 Mapping expression patterns of extracellular proteomes. 4<sup>th</sup> US HUPO Annual Conference, North Bethesda, MD
- 03/08 Targeted proteomics for cancer biomarker discovery. 2008 Early Detection Research Network (EDRN) 5<sup>th</sup> Scientific Workshop. Bethesda, MD
- 04/08 N-Glycosites as molecular signatures of extracellular proteins for different cell types and diseases, Glycobiology Interest Group, Baltimore, MD
- 05/08 The selective isolation of peptides for subproteomic analysis, Department of Anesthesiology, University of Washington, Seattle, WA
- 07/08 N-linked glycosylation and cancer detection, Department of Biochemistry Seminar Program, Johns Hopkins University, Baltimore, MD
- 02/09 Glycoproteins for pathologic prediction of prostate cancer, 3<sup>rd</sup> Annual Prostate Cancer Research Day, Department of Urology, Johns Hopkins Mt. Washington Conference Center, Baltimore, MD
- 02/09 Glycoproteomics using mass spectrometry and protein arrays, 5<sup>th</sup> US HUPO Annual Conference, San Diego, CA
- 03/09 Glycomics for prostate cancer detection, 18<sup>th</sup> Early Detection Research Network (EDRN, NCI) Steering Committee Meeting, Houston, TX
- 03/09 Proteomic analysis of ovarian tumors identified proteins associated with drug resistance, Ovarian Cancer Research Meeting, Johns Hopkins University, Baltimore, MD
- 04/09 Glycoproteins in cancer diagnosis, Pathology Grand Rounds, Johns Hopkins University, Baltimore, MD
- 07/09 Changes in glycoproteins and glycans in disease development, Northwestern University, Xian, China.
- 08/09 Glycoproteins and glycosylation patterns: a new paradigm for biomarker discovery, The 6<sup>th</sup> Early Detection Research Network (EDRN, NCI) Scientific Workshop, Bethesda, MD
- 09/09 Glycoproteomics and glycomics analyses using protein microarray, HUPO 8<sup>th</sup> Annual World Congress, Toronto, Canada
- 12/09 Altered glycosylation in breast cancer: sialylation and metastasis, The Breast Cancer Conference. Johns Hopkins University, Baltimore, MD
- 03/10 Glycoproteomics and glycomics: A New Paradigm for Biomarker Discovery, Abbott, Chicago
- 04/10 Glycoproteomics and glycomics: A New Paradigm for Molecular Analysis of Disease Progression, Glycobiology Interest Group (GIG) meeting, Baltimore, MD
- 08/10 Biomarker development laboratory, EDRN planning and steering committee meeting, Rockville, MD
- 10/10 Mass spectrometric analyses of glycoproteins and glycans, Washington-Baltimore Mass Spectrometry Discussion Group, Columbia, MD

- 11/10 Glycomics using lectin microarray and mass spectrometry, Northwestern University, Xian, China
- 12/10 Mass spectrometric analysis of proteins from FFPE- or OCT-embedded tissues, Cambridge Healthtech Institute, Providence, RI
- 03/11 Proteomics and early detection, 22<sup>nd</sup> EDRN steering committee meeting, Los Angeles, CA
- 03/11 From genomics, to proteomics, to glycoproteomics, and to glycomics, UCLA Proteomics Seminar Series, Los Angeles, CA
- 03/11 Proteomics analysis of glycosylation, 7<sup>th</sup> US HUPO Annual Conference, Raleigh, NC
- 06/11 Glycoproteins as disease biomarkers, NIH&FDA Glycosciences Research Day, Bethesda, MD
- 07/11 Identification of disease biomarkers using glycoproteomics and glycomics, Institute of Biophysics, Beijing, China
- 07/11 Glycoprotein biomarkers, Beijing Proteome Research Center, Beijing, China
- 09/11 Glycoproteomics and bioinformatics analyses of biomarkers for the early detection of aggressive prostate cancer, The 23<sup>rd</sup> EDRN steering committee meeting, Bethesda, MD
- 03/12 Targeted proteomics, The 8<sup>th</sup> Conference of USHUPO, San Francisco, CA
- 03/12 Roles of platelet glycoproteins and glycans on platelet reactivity and cardiovascular disease, Programs of Excellence in Glycosciences (PEG), San Diego, CA
- 09/12 Aberrant protein expression or PTMs associated with cancer, The 11<sup>th</sup> World Conference of HUPO, Boston, MA
- 09/12 Glycosylation changes during disease progression, New England Biolabs, Ipswich, MA
- 10/12 Integrated analysis of proteins and protein modification: Changes beyond gene expression, EDRN meeting, San Antonio, TX
- 12/12 Protein post-translational modifications in tumor tissues and cells, Cell Signaling Technology, Danvers, MA
- 01/13 Glycosylation and diseases, The Texas Medical Center, Methodist Hospital, Houston, TX
- 03/13 Clinical proteomics, The 9<sup>th</sup> US HUPO Annual Conference, Baltimore, MD
- 05/13 Glycomics analysis using solid-phase glycan extraction and mass spectrometry, The Sixth Frontiers at the Chemistry and Biology Interface Symposium, University of Maryland College Park, MD
- 05/13 Structural analysis of glycoproteins and glycans, University of Mississippi Medical Center, Jackson, MS
- 05/13 Cancer-specific glycoproteins and their roles in cancer detection, US-China Prevention Research Collaboration Meeting, Bethesda, MD
- 06/13 Structure analysis of glycoproteins using mass spectrometry, Institute of Marine & Environmental Technology, Baltimore, MD
- 07/13 Proteomic biomarker discovery for translational medicine: Team approaches, University of Maryland, School of Medicine, Baltimore, MD
- 07/13 Glycomic analysis by glycoprotein immobilization for glycan extraction and liquid chromatography on microfluidic chip, Dalian Biophysical Chemical Institute, Dalian, China
- 09/13 An integrated approach for glycoproteomics research, Shandong University and Johns Hopkins University Joined Conference, Johns Hopkins University, Baltimore, MD
- 09/13 Glycoprotein biomarkers distinguishing between aggressive and indolent forms of prostate cancer, The 26<sup>th</sup> Early Detection Research Network (EDRN) Steering Committee meeting, Seattle, WA.
- 09/13 Human proteome project in cancer, The 12<sup>th</sup> International HUPO Congress, Yokohama, Japan
- 09/13 An integrated approach of proteomics, glycoproteomics and glycomics for the structural and functional study of glycoproteins, The 12<sup>th</sup> International HUPO Congress, Yokohama, Japan
- 09/13 New HPP Initiatives: Cancer – HPP, the HUPO Initiative Assembly in Kyoto, Uji Obaku Plaza, Kyoto University, Japan
- 10/13 Structural and functional analyses of glycoproteins, University of Maryland, College Park, Silver Spring, MD
- 10/13 Structural and functional analyses of glycoproteins using mass spectrometry, Glycobiology Interest Group, Johns

Hopkins University, Baltimore, MD

- 11/13 Long-term reproducibility assessment of proteomics data generated using iTRAQ labeling and LC-MS/MS platform for large-scale quantitative proteomics, the 1st annual Clinical Proteomic Tumor Analysis Consortium (CPTAC) Scientific Symposium, Bethesda, MD
- 01/14 Glycoproteomics and glycomics approaches to study function of protein glycosylation, Georgia Institute of Technology, Atlanta, GA
- 01/14 Proteomics, glycoproteomics, and glycomics using automated sample preparation and mass spectrometry, 2014 SSI Life Science Retreat and Service Summit, Washington Conference Center, Baltimore, MD
- 02/14 Automation and clinical utility of mass spectrometry-based assays, The 4th Shimadzu International Collaborative Laboratory Forum, Ho Chi Minh city, Vietnam
- 03/14 Periostin Expression in aggressive prostate cancer, The 27<sup>th</sup> Early Detection Research Network (EDRN) Steering Committee meeting, Houston, TX
- 03/14 Glycoproteins and glycans on platelet reactivity and cardiovascular disease, Programs of Excellence in Glycosciences (PEG), Inter-PEG 2014, Washington DC
- 04/14 O-glycoproteomics, National Cancer Institute's Clinical Proteomic Tumor Analysis Consortium (CPTAC) Data Jamboree, Bethesda, MD
- 04/14 Analysis of glycoproteins using multi-omics approaches, Georgetown Univ, Washington, DC
- 05/14 Integrated Analyses of transcriptome, proteome and glycoproteome reveal over expression of fucosylated proteins in aggressive prostate cancer, The International Symposium on Clinical and Translational Medicine. Shanghai, China
- 06/14 Over expression of fucosylated proteins in aggressive prostate cancer, University of Maryland School of Medicine, Department of Pharmacology, Baltimore, MD
- 07/14 Integrated glycoproteomic analysis of prostate cancer cells determines alterations in glycoprotein expression, glycosite occupancy, glycan structures, and glycosite-specific glycosylation. Chinese National Symposium on Bio-Mass Spectrometry, Shanghai, China
- 09/14 Integrated genomic, proteomic, and glycoproteomic analyses of tumor tissues reveal alterations of glycosylation in tumor subtypes, Early Detection Research Network (EDRN) Workshop, Bethesda, MD
- 10/14 HPP Initiatives: Cancer – HPP, International HUPO Congress 2014, Madrid, Spain
- 11/14 Genome, proteome, and glycoproteome analyses of ovarian tumors, National Cancer Institute's Clinical Proteomic Tumor Analysis Consortium (CPTAC) Steering committee meeting, Bethesda, MD
- 11/14 Integrated genomic, proteomic, and glycoproteomic analyses of prostate cancer cells, Annual Society Meeting of Glycobiology, Honolulu, Hawaii
- 12/14 Integrated Analyses of Genome, Proteome and Glycoproteome Reveal Altered Glycosylation in Tumor Subtypes, University of Maryland, School of Pharmacy, Baltimore, MD
- 03/15 Integrated Analyses of Genome, Proteome and Glycoproteome Reveal Altered Glycosylation in Tumor Subtypes, Beijing Proteome Research Center, Beijing, China
- 03/15 Integrated Analyses of Genome, Proteome and Glycoproteome Reveal Altered Glycosylation in Tumor Subtypes, Dalian Chemical Physical Institute, Dalian, China
- 03/15 Integrated Analyses of Genome, Proteome and Glycoproteome Reveal Altered Glycosylation in Tumor Subtypes, the 11<sup>th</sup> Annual Conference of USHUPO, Tempe, AZ
- 04/15 Structural and Functional Analysis of Glycoproteins Using Proteomics, Glycoproteomics, and Glycomics, MedImmune, Gaithersburg MD
- 09/15 Glycoproteomic and proteomic analyses reveal glycoprotein alteration in protein abundance, glycosite occupancy, glycans and glycosite-specific glycosylation, The 43rd International Symposium on High Performance Liquid Phase Separations and Related Techniques, Beijing, China
- 09/15 Comprehensive analysis of glycoproteins, The 14<sup>th</sup> World Conference of HUPO, Vancouver, Canada
- 12/15 Proteomic and Glycoproteomic Analyses Reveal Altered Protein Glycosylation, Targeted Proteomics Workshop and International Symposium, Mumbai, India

- 03/16 Data Analysis and Future Analytical Trends of Glycoproteins, *Frontiers in Glycan Analysis*, University of Georgia, Complex Carbohydrate Research Center, Athens, GA
- 04/16 Structural and Functional Analyses of Glycoproteins Using Mass Spectrometry, The 1<sup>st</sup> Phoenix Mini-Symposium on Frontiers of Proteomics, the National Center for Protein Sciences-Beijing (Phoenix Center) and Beijing Proteome Research Center, Beijing, China
- 06/16 Characterization of Glycoproteins for Therapeutic Development. Bristol-Myers Squibb Company, Princeton, NJ
- 06/16 Glycoprotein Analysis Using Mass Spectrometry. 2016 NIH & FDA Glycoscience Research Day. NIH Natcher Conference Center, Bethesda, MD
- 07/16 Automation of glycoprotein analysis. New England Biolabs, Ipswich, MA
- 08/16 Selection of Tandem Mass Spectra for Identification of Intact N- and O-linked Glycopeptides. The 4<sup>th</sup> workshop on Computational Proteomics, Dalian, China
- 09/16 Structural and Functional Analyses of Protein N-linked Glycosylation. University of Maryland, College Park, MD
- 09/16 Keynote Speaker, Glycoproteomics – Technical limitations & Prospects. The 15<sup>th</sup> Human Proteome Organization World Congress (HUPO), Taipei, Taiwan
- 11/16 Proteomics and Glycoproteomics Research: What We Now Know. Fudan University, Shanghai, China
- 11/16 Proteomics and Glycoproteomics: What We Learn Beyond Genomics, Dalian Chemical Physical Institute, Dalian, China
- 12/16 Proteomics and Glycoproteomics: What We Learn Beyond Genomics. Pathology Grand Rounds, Johns Hopkins University, Baltimore, MD
- 01/17 Comprehensive Analysis of Protein Glycosylation by Mass Spectrometry. Glycobiology Interest Group Meeting, Baltimore, MD
- 02/17 Keynote Speaker, Genomic, Proteomic and Glycoproteomic Analyses of Tumors. The Swiss Proteomics Society and the Life Science Switzerland 2017, Zurich, Switzerland
- 02/17 Structural and Functional Analysis of Glycoproteins Using Mass Spectrometry. Department of Biochemistry and Molecular & Cellular Biology, Georgetown University, Washington DC
- 03/17 Structural and Functional Analysis of Glycoproteins Using Mass Spectrometry. Proteomic Interest Group Lecture, National Institutes of Health, Bethesda, MD
- 03/17 Methods for Quantitative Analysis of Glycoproteins. PITTCO2017, Chicago, IL
- 03/17 Proteogenomic analyses of cancer genes and proteins. USHUPO2017, San Diego, CA
- 04/17 Deciphering cell surface proteins associated with defective genomic alterations using glycoproteogenomics for targeted therapy. Sino-American Pharmaceutical Professionals Association DC chapter (SAPA-DC). Rockville, MD
- 04/17 Structural and Functional Analysis of Glycoproteins. University of Buffalo, Buffalo, NY
- 04/17 DICP Symposium on Bioanalytical methods, techniques and applications: Highly efficient Separation and Characterization of Biological Samples. Dalian, China
- 05/17 Tumor Associated Glycoproteins. NIH & FDA Glycoscience Day, National Institutes of Health, Bethesda, MD
- 08/17 Functional Analysis of Protein Glycosylation Genes. Posttranslational Modification Networks, Gordon Research Conference, The Hong Kong University of Science and Technology, Hong Kong, China
- 08/17 Functional analysis of Protein Glycosylation by Glycoproteomics. Department of Pathology and Laboratory Medicine, University of Pennsylvania, Philadelphia, PA
- 09/17 Fucosylated glycoproteins associated with advanced prostate cancer. The 16<sup>th</sup> Human Proteome Organization World Congress (HUPO), Dublin, Ireland
- 03/18 Glycoproteomics and glycomics for clinical biomarker discovery. Session Chair. USHUPO2018, Minneapolis, MN.
- 03/18 Functional analysis of protein glycosylation in cancer. Dalian Medical University, Dalian, China
- 05/18 Enrichment of Phospho- and Glyco-peptides for Simultaneous Proteomic Analyses of Multiple Protein Modifications. Inova Schar Cancer Institute, Inova Center for Personalized Health, John P. Murtha Cancer Center,

Walter Reed National Military Medical Center, Uniformed Services University of the Health Sciences, Annandale, VA

- 06/18 Plenary Lecture, Deciphering Novel Roles of Protein Glycosylation Using Mass Spectrometry. 2<sup>nd</sup> Mass Spectrometry Symposium at the Medical College of Wisconsin, Milwaukee, WI
- 06/18 Keynote speaker, Multi-omic analysis of tumor tissues reveals a large number of glycopeptides and their association with glycosylation enzymes. GlycoT2018, Qingdao, China
- 07/18 Keynote Lecture, Co-analysis of Glycoproteomics, Phosphoproteomics, and Global Proteomics from the Same Sample. HPLC2018, 47<sup>th</sup> International Symposium on High Performance Liquid Phase Separations and Related Techniques, Washington DC
- 08/18 Multi-omic analysis of tumor tissues reveals a large number of glycopeptides and their association with glycosylation enzymes. 1<sup>st</sup> Annual North American Mass Spec Summer School, Madison, WI.
- 09/18 Multi-omic analysis of tumor tissues reveals a large number of glycopeptides and their association with glycosylation enzymes. New Jersey Mass Spectrometry Discussion Group. Bridgewater, NJ.
- 03/19 Fucosylated and urinary glycoprotein biomarkers for aggressive prostate cancer. EDRN meeting. Nashville, TN.
- 06/19 Integrated proteogenomic characterization of clear cell renal cell carcinoma. The 13<sup>th</sup> National Cancer Center International Symposium "Cancer Proteogenomics: The Force Awakens". Seoul, Korea.
- 01/20 Discovery of urinary glycoproteins for aggressive prostate cancer. The 7<sup>th</sup> US-Japan Workshop on Biomarkers for Cancer early Detection. Tokyo, Japan.
- 02/20 Proteogenomic characterization of cancer. Departmental Seminar. Department of Biochemistry and Molecular Biophysics, University of Pennsylvania. Philadelphia, PA.
- 03/20 Comprehensive analysis of glycoproteins. PITTCON Conference 2020. McCormick Place. Chicago, IL.
- 08/21 Proteogenomic characterization of pancreatic ductal adenocarcinoma. Chinese American Society for Mass Spectrometry. Talk given virtually.
- 09/21 Data-independent acquisition approach for proteomic and PTM analyses at single-cell level. Think tank meeting of National Institute on Aging. Talk given virtually.
- 09/21 Proteogenomic characterization of pancreatic ductal adenocarcinoma. American Association for Cancer Research: Pancreatic Cancer. Talk given virtually.
- 11/21 Proteogenomic characterization of cancer. Department of Biochemistry and Molecular Biology. Tulane University. Talk given virtually.