

AUC 2025

the 27th International Analytical Ultracentrifugation
Workshop and Symposium

August 24-30, 2025 Tsinghua University, Beijing, China

**24-30th
August**



Workshop Schedule

24th

August

[Registration](#)

14:00 -18:00

[Location: Biomedicine Hall, Tsinghua University](#)

25th

August

[Workshop](#)

Topic



Location: Biomedicine Hall, Tsinghua University

Session 1

09:00-10:30

GUSI Basics & Advanced

Room E302

AUC GMP analysis with UltraScan

Room E303

Self-Association Analysis by AUC (SEDFIT/SEDPHAT)

Room E402

SV-AUC of Membrane Proteins

Room E403

Session 2

11:00-12:30

Multisignal SV

Room E302

AAV Size Analysis by AUC & Orthogonal Methods

Room E303

Cooperative SLS/DLS for Macromolecular & Colloidal Systems-1

Room E402

AUC Principles & Macromolecular Applications-1

Room E403

Session 3

13:30-15:00

Tools for multidimensional particle characterization via AUC

Room E302

US-SOMO Hydrodynamics-1

Room E303

Nanoparticle Separation & Analysis via AUC

Room E402

AUCAgent: A new Software for AUC Analysis

Room E403

Session 4

15:30-17:00

AUC of Disperse Colloidal Systems

Room E302

US-SOMO Hydrodynamics-2

Room E303

Comprehensive Characterization of Protein-based Vaccine Antigens

Room E402

Optima AUC cGMP Suite Introduction

Room E403

26th

August

[Workshop](#)

Topic



Location: Biomedicine Hall, Tsinghua University

Sessions 5

09:00-10:30

Self-Association Analysis by AUC (SEDFIT/SEDPHAT)

Room E302

SV-AUC of Membrane Proteins

Room E303

AUC of Disperse Colloidal Systems

Room E402

SV-AUC in cGMP Environment

Room E403

Sessions 6

11:00-12:30

Simulating AUC Data

Room E302

AAV Size Analysis by AUC & Orthogonal Methods

Room E303

Cooperative SLS/DLS for Macromolecular & Colloidal Systems-2

Room E402

AUC Principles & Macromolecular Applications-2

Room E403

Sessions 7

13:30-15:00

Tools for multidimensional particle characterization via AUC

Room E302

US-SOMO Hydrodynamics-1

Room E303

Nanoparticle Separation & Analysis via AUC

Room E402

AUCAgent: Automated AUC Analysis Software

Room E403

Sessions 8

15:30-17:00

US-SOMO Hydrodynamics-2

Room E302

AUC Characterization of Protein Vaccine Antigens

Room E303

Optima AUC cGMP Suite Overview

Room E402

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Symposium Schedule

28th August

Symposium



Location: Biomedicine Hall E109, Tsinghua University

Registration	08:00 – 08:30		
Opening	08:30 – 08:40		
Session 1			
New methods and methods development – Part 1	08:40 – 09:05		AUC LNP analysis with UltraScan's Custom Grid analysis Borries Demeler (University of Lethbridge, Canada)
Chair: Wenqi Li	09:05 – 09:30		SAXS-A-FOLD: a website for fast ensemble modeling optimizing the fit of AlphaFold or user-supplied protein structures with flexible regions to SAXS data Emre Brookes (University of Montana, U.S.A.)
	09:30 – 09:55		Fractionation of Colloidal Particles: From AUC to UC Mengdi Chen (East China Normal University, China)
	09:55 – 10:10		Inner Filter Effect Correction and Engineering Optimization for Fluorescence Detection in AUC Zhexian Liu (Tsinghua University, China)
group photo, Break	10:10 – 10:30		
Session 2			
Biopharma applications	10:30 – 10:55		Characterization methods of rAAV at different development stages. Susumu Uchiyama (Osaka University, Japan)
Chair: Shaowei Li	10:55 – 11:20		Unlocking the Power of AUC in PROTAC and Molecular Glue Discovery: The VATC Assay Lake Paul (BioAnalysis, LLC, U.S.A.)
	11:20 – 11:45		Advancing Analytical Ultracentrifugation: Beckman Coulter's Research and Future Horizons Lutz Ehrhardt (Beckman Coulter, Inc, Germany)
	11:45 – 12:10		The Application of AUC Technology in the Quality Control of Biopharmaceuticals Wenqi Li (Tsinghua University, China)
	12:10 – 12:25		Determination of extinction coefficient for full and empty recombinant adeno-associated virus particles by sedimentation velocity analytical ultracentrifugation Yuki Yamaguchi (Osaka University, Japan)
Lunch	12:25 – 14:00		
Session 3			
Protein applications – Part 1	14:00 – 14:25		Characterization methods of rAAV at different development stages. Mechanisms of transcriptional regulation by the RpiR family of proteins Renwick Dobson (University of Canterbury, New Zealand)
Chair: Renwick Dobson	14:25 – 14:50		The application of analytical ultracentrifugation for structural and mechanistic studies of autophagy receptors Lifeng Pan (Shanghai institute of Organic Chemistry, CAS, China)
	14:50 – 15:15		AUC Analysis of the Membrane Protein γ -Secretase Rui Zhou (Tsinghua University, China)
	15:15 – 15:40		Enterohaemorrhagic Escherichia coli AdhE spiroosome length correlates with enzymatic directionality and is perturbed by salicylidene acylhydrazides Olwyn Byron (University of Glasgow, U.K.)
	15:40 – 15:55		Defining the biological interactions of the transcriptional regulator HiNanR Ashleigh S Johns (University of Canterbury, New Zealand)
Break	15:55 – 16:25		
Session 4			
Cross-disciplinary research – Part 1	16:25 – 16:50		Analytical Ultracentrifugation and the Saving the Oseberg Viking Artefacts project Steve Harding (University of Nottingham, U.K.)
Chair: Xiaodong Ye	16:50 – 17:15		Versatility of Analytical Ultracentrifugation in Vaccine R&D Shaowei Li (Xiamen University, China)
	17:15 – 17:40		Small differences can have a huge impact: Support of clone selection of a glycoprotein by AUC Alexander Bepperling (Sandoz International GmbH, Germany)
	17:40 – 17:55		Determination of Broad Size-Density Distributions of Polymeric Nanoparticles by Analytical Ultracentrifugation Using Solvent Density Variation Chenyang Wang (University of Science and Technology of China, China.)

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Symposium Schedule

29th August

Symposium



Location: Biomedicine Hall E109, Tsinghua University

Session 5

New methods
and methods
development
- Part 2

Chair:
Mengdi Chen

Break

Session 6

Cross-disciplinary
research
- Part 2

Chair:
Alexander
Bepperling

Lunch

Poster session

Session 7

Protein
applications
- Part 2

Chair:
Susumu Uchiyama

Break

Session 8

Nanoparticles
and polymers

Chair:
Johannes Walter

closing

08:30 – 08:55 Strategies for the characterization of functional particle systems by analytical ultracentrifugation

Johannes Walter (FAU, Germany)

08:55 – 09:20 Advances in the van der Waals (vdW) bead modeling method in US-SOMO

Mattia Rocco (Proteomica e Spettrometria di Massa, Italy)

09:20 – 09:45 An Integrative Method for 3D Structure Determination of Large RNAs

Xianyang Fang (Institute of Biophysics, CAS, China)

09:45 – 10:00 AUCAgent: A new software for AUC data analysis

Chengshi Zeng (Tsinghua University, China)

10:00 – 10:20

10:20 – 10:45 Human DDX1 interacts and unwinds NEAT1 RNA G-quadruplexes and modulates paraspeckle formation

Trushar Patel (University of Lethbridge, Canada)

10:45 – 11:10 Molecular macroions studied by the AUC - What new information can we obtain?

Tianbo Liu (University of Akron, U.S.A.)

11:10 – 11:35 ICE2 is Essential for the Little Elongation Complex (LEC)-Mediated Small Nuclear RNA Transcription by RNA Polymerase II

Jiafu Long (Nankai University, China)

11:35 – 11:50 The Applications of Analytical Ultracentrifugation Sedimentation Velocity in the Characterization of HPV Virus-Like Particles and Vaccine Development

Shuyue Zhang (Xiamen University, China)

11:50 – 13:00

13:00 – 14:00

14:00 – 14:25 Analytical Ultracentrifugation as a Tool for Exploring COSAN Assemblies

Christine Ebel (University Grenoble Alpes, France)

14:25 – 14:50 The function of C9ORF72

Shiqian Qi (Sichuan University, China)

14:50 – 15:15 Structural insights into the complete high-affinity IgE receptor (FcεRI) and implications for allergic responses

Qiang Su (Shenzhen Medical Academy of Research and Translation, China)

15:15 – 15:30 Analytical Ultracentrifugation Reveals the Process and Mechanism of HEV Virus-Like Particle Disassembly Triggered by Neutralizing Antibody 8C1

Wenhui Xue (Xiamen University, China)

15:30 – 16:00

16:00 – 16:25 Multidimensional Colloids Characterization

Wolfgang Peukert (FAU, Germany)

16:25 – 16:50 Absolute properties of (synthetic) polymers

Ivo Nischang (Friedrich Schiller University Jena, Germany)

16:50 – 17:15 Probing Soybean Protein-Polyelectrolyte Interactions and Structural Transitions in Soybean Proteins Using Analytical Ultracentrifugation

Xiaodong Ye (University of Science and Technology of China, China)

17:15 – 17:30 Application of Multi-Speed Sedimentation Velocity Method to Characterize Human-Serum-Albumin-based Nanoparticle Drug Carriers

Qing Chang (Tsinghua University, China)

17:30 – 17:45 AUC a powerful Biopharma comparability assessment tool for studying peptide and protein aggregation - case study peptides, mAb and ADC.

Ravi Krovidi (Protein Advanced Analytics Pvt Ltd, India)

17:45 – 17:55

closing