

# Conference Schedule Overview

## AUC 2022 Lethbridge, Canada

**Location: University of Lethbridge, Science Commons Atrium and Lecture Hall**

*Follow the link by clicking on each day to see the full schedule for that day*

- [Sunday, July 10th:](#)
  - Workshop Sessions
- [Monday, July 11th:](#)
  - Workshop Sessions
  - Roundtable Discussion
- [Tuesday, July 12th:](#)
  - Excursion to Waterton Parks
  - AUC 2022 Welcome Gala
  - Svedberg Lecture 1
- [Wednesday, July 13th:](#)
  - Symposium Sessions 1-4
    - New Methods and Methods Development
    - Cross-disciplinary Biophysics
    - Multi-wavelength AUC applications in Biology
    - Beckman Sponsored Session - Biopharma Applications
  - Poster Session 1
- [Thursday, July 14th:](#)
  - Symposium Sessions 5-8
    - Beadmodeling, SAXS/SANS and hydrodynamic simulations
    - Svedberg Lecture 2
    - High Concentration and Non-ideality
    - Protein Applications for AUC
    - Nucleic Acid Applications for AUC
  - Poster Session 2
- [Friday, July 15th:](#)
  - Symposium Sessions 9+10
    - Material Science Applications for Multi-wavelength AUC
    - Nanoparticle Applications for AUC
  - Business Meeting
  - Social Event
- [Printable Program and Session Schedule](#) (updated 7/8/22)

**AUC 2022 Science Commons, University of Lethbridge**

8:00 am - 19:00 pm	<b>Sunday, July 10th: Parallel Workshop Sessions</b>			
8:00 am - 8:45 am	Registration and Coffee			
8:45 am - 9:00 am	Opening Remarks and Welcome - BMO Auditorium Room 8002			
	BMO Auditorium - Room 8002 <b>Zoom #1</b>	Room 7202 <b>Zoom #2</b>	Room 7208 <b>Zoom #3</b>	Room 6010 <b>Zoom #4</b>
Session 1: 9:00 am - 11:00 am	Borries Demeler: Introduction to AUC	Johannes Walter: HDR-MULTIFIT – Turbidity and Particle size	John Philo: Confidence Limit Computation with SVEDBERG	Karen Fleming, Christine Ebel, and Caroline Mas: AUC of Membrane Proteins
11:00 am - 11:30 am	Coffee Break			
Session 2: 11:30 am - 13:30 pm	Borries Demeler and Amy Henrickson: Multi-wavelength AUC with UltraScan	Patrick Fleming: Calculation of hydrodynamics with HullRad	Ivo Nischang: AUC of Polymers, Micelles, Nanocarriers ( <b>no zoom</b> )	Tom Laue: Fundamentals of AUC Experiment Design
13:30 pm - 14:30 pm	Lunch Break			
Session 3: 14:30 pm - 16:30 pm	Saeed Mortezaazadeh, Emre Brookes and Mattia Rocco: US-SOMO Hydrodynamic Modelling	Jack Correia and Walter Stafford: High Concentration AUC	John Philo: Intro to SEDNTERP	Tom Laue: Fundamentals of AUC Experiment Design (Repeat)
16:30 pm - 17:00 pm	Coffee Break			
Session 4: 17:00 pm - 19:00 pm	Saeed Mortezaazadeh, Emre Brookes and Mattia Rocco: US-SOMO Hydrodynamic Modelling (continued)	Walter Stafford and Jack Correia: Multi-Wavelength AUC with SedAnal	Lukas Dobler and Rose Rosenberg: Challenges of Nanoparticle Analysis with AUC	Susumu Uchiyama: Multi-wavelength AAV Analysis with Sedfit
19:00 pm	Dinner			

**AUC 2022 Science Commons, University of Lethbridge**

8:00 am - 19:00 pm	<b>Monday, July 11th: Parallel Workshop Sessions</b>			
8:00 am - 9:00 am	Registration and Coffee			
	Room 8002 (BMO Auditorium) <b>Zoom #1</b>	Room 7202 <b>Zoom #2</b>	Room 7208 <b>Zoom #3</b>	Room 6010 <b>Zoom #4</b>
Session 5: 9:00 am - 11:00 am	Ross VerHeul and Akash Bhattacharya: Getting the most out of AUC with the Optima AUC	Lukas Dobler and Rose Rosenberg: Challenges of Nanoparticle Analysis with AUC (Repeat)	John Philo: Time-derivative Analysis with the Program DCDT+	Amy Henrickson and Borries Demeler: Multi-wavelength AAV Analysis with UltraScan
11:00 am - 11:30 am	Coffee Break			
Session 6: 11:30 am - 13:30 pm	Saeed Mortezaazadeh, Emre Brookes and Mattia Rocco: US-SOMO Small Angle Scattering	Karen Fleming, Christine Ebel, and Caroline Mas: AUC of Membrane Proteins (Repeat)	John Philo: Confidence Limit Computation with SVEDBERG (Repeat)	Alexey Savelyev and Borries Demeler: GMP and Data Acquisition with UltraScan
13:30 pm - 14:30 pm	Lunch Break			
Session 7: 14:30 pm - 16:30 pm	Saeed Mortezaazadeh, Emre Brookes and Mattia Rocco: US-SOMO Small Angle Scattering (continued)	Johannes Walter: HDR-MULTIFIT – Turbidity and Particle size (Repeat)	Ivo Nischang: AUC of Polymers, Micelles, Nanocarriers ( <b>no zoom</b> )	Amy Henrickson and Borries Demeler: Multi-wavelength LNP analysis and D2O Density Matching with UltraScan
16:30 pm - 17:00 pm	Coffee Break			
Session 8: 17:00 pm - 19:00 pm	<p>Ask the Experts - round table discussion BMO Auditorium - Room 8002 <b>Zoom #1</b></p> <ul style="list-style-type: none"> <li>• Karen Fleming</li> <li>• Alexander Bepperling <ul style="list-style-type: none"> <li>• Christine Ebel</li> <li>• Ute Curth</li> <li>• John Philo</li> <li>• Jack Correia</li> <li>• Walter Stafford</li> <li>• Mattia Rocco</li> <li>• Todd Stone</li> <li>• Borries Demeler</li> </ul> </li> </ul>			
19:00 pm	Dinner			

**AUC 2022 Science Commons, University of Lethbridge**

8:00 am - 9:00 pm	<b>Tuesday, July 12th:</b>	
8:00 am - 5:00 pm	Tuesday, July 12th: Excursion to Waterton Parks	Bus leaves at 7:30 am at the Science Commons Returns at 5:00 pm, bring a lunch or lunch available for purchase in Waterton.
5:30 pm - 6:00 pm	Welcome Reception, Science Commons Atrium, 7th Floor On Zoom #1	<ul style="list-style-type: none"> <li>• Trushar Patel, Conference Chair</li> <li>• Dr. Matthew Letts, Dean for the School of Arts and Sciences</li> <li>• Dena McMartin, Vice President for Research</li> </ul>
6:00 pm - 9:00 pm	Gala Dinner, Science Commons Atrium, 7th Floor On Zoom #1	<p>Svedberg Award Lecture, Walter Stafford, Science Commons Lecture Hall, 7th + 8th Floor</p> <p><a href="#"><u>Time Derivative Sedimentation Velocity Analysis - A short history</u></a></p>

**AUC 2022 Science Commons, University of Lethbridge**

8:00 am - 7:00 pm	<b>Wednesday, July 13th, Symposium Sessions 1-4 (on Zoom #1):</b>	
8:00 am - 9:00 am	<b>Breakfast, Science Commons Atrium</b>	
9:00 am - 10:30 am	<b>Session 1 - Chair: John Correia, University of Mississippi Medical Center</b>	<b>New Methods and Methods Development</b>
9:00 am - 9:30 am	Lukas Dobler, University of Konstanz	<a href="#">Band forming Experiments in the AUC</a>
9:30 am - 10:00 am	Saeed Mortezaadeh, University of Lethbridge	<a href="#">Systematic noise correction for Optima AUC data in UltraScan</a>
10:00 am - 10:30 am	John Philo, Alliance Protein Labs	<a href="#">SEDNTERP version 3: An improved tool for both AUC and light scattering</a>
10:30 am - 10:50 am	<b>Coffee Break</b>	
10:50 am - 12:20 am	<b>Session 2 - Chair: Christine Ebel, CNRS</b>	<b>Cross-disciplinary Biophysics</b>
10:50 am - 11:20 am	Ester Serrano, University of Glasgow	<a href="#">A new twist on drug design: AdhE spiroosomes as cross species anti-virulence targets</a>
11:20 am - 11:50 am	Ute Curth, Hannover Medical School	<a href="#">Lysine–cysteine redox switches with NOS bridges regulate enzyme function</a>
11:50 am - 12:20 pm	Markus Meier, University of Manitoba (no zoom)	<a href="#">Netrin-1 self-assembly into supramolecular structures and fibrils</a>
12:20 pm - 1:30 pm	<b>Lunch Break</b>	
1:30 pm - 3:00 pm	<b>Session 3 - Chair: Todd Stone, Catalent Biologics</b>	<b>Multi-wavelength AUC applications in Biology</b>
1:30 pm - 2:00 pm	Haben Gabir, University of Manitoba (no zoom)	<a href="#">Biophysical and Structural characterization of Netrin-1 Complexes</a>
2:00 pm - 2:30 pm	Özlem Akyüz, University of Konstanz	<a href="#">Insights into Protein-Stabilized Gold Nanoclusters from Multi-Wavelength Analytical Ultracentrifugation</a>
2:30 pm - 3:00 pm	Amy Henrickson, University of Lethbridge	<a href="#">Multi-wavelength Analytical Ultracentrifugation Methods to Identify Biopolymer Interactions</a>
3:00 pm - 3:20 pm	<b>Coffee Break</b>	
3:20 pm - 4:50 pm	<b>Session 4 - Chair: John Philo, Alliance Protein Laboratories</b>	<b>Beckman Sponsored Session - Biopharma Applications</b>
3:20 pm - 3:50 pm	Klaus Richter, Coriolis	<a href="#">AUC in Pharmaceutical development: Sweet spots in the methods universe</a>
3:50 pm - 4:20 pm	Takahiro Maruno, Osaka University	<a href="#">Comprehensive size distribution analysis of recombinant adeno associated virus vectors</a>
4:20 pm - 4:50 pm	Alexander Bepperling, Novartis	<a href="#">Density-matching SV-AUC for the analysis of mRNA lipid nanoparticles</a>
4:50 pm - 6:00 pm	<b>Break</b>	
6:00 pm - 7:30 pm	<b>Dinner</b>	
7:30 pm	<b>Poster Session</b>	

**AUC 2022 Science Commons, University of Lethbridge**

8:00 am - 7:00 pm	<b>Thursday, July 14th, Symposium Sessions 5-8 (on Zoom #1):</b>	
8:00 am - 9:00 am	<b>Breakfast, Science Commons Atrium</b>	
9:00 am - 10:30 am	<b>Session 5 - Chair: Olwyn Byron, University of Glasgow</b>	<b>Beadmodeling, SAXS/SANS and hydrodynamic simulations</b>
9:00 am - 10:00 am	Svedberg Keynote Lecture: Jose Garcia de la Torre, Universidad de Murcia (remote)	<a href="#">50 years with beads and springs. A self-review of some contributions and a few new projects</a>
10:00 am - 10:30 am	Mattia Rocco, Ospedale Policlinico San Martino	<a href="#">US-SOMO-AF: a database of hydrodynamic, circular dichroism, and SAXS-derived parameters for the AlphaFold-predicted protein structures</a>
10:30 am - 10:50 am	<b>Coffee Break</b>	
10:50 am - 12:20 am	<b>Session 6 - Chair: Walter Stafford, Harvard University</b>	<b>High Concentration and Non-ideality</b>
10:50 am - 11:20 am	Jack Correia, University of Mississippi	<a href="#">Sedimentation Velocity Studies of Pooled Human Serum</a>
11:20 am - 11:50 am	Alexander Yarawsky, Cincinnati Childrens Hospital Medical Center	<a href="#">Strong nonideality effects at low protein concentrations: considerations for elongated proteins</a>
11:50 am - 12:20 pm	Tom Laue, University of New Hampshire (remote)	<a href="#">B<sub>22</sub> measured/B<sub>22max</sub> provides a rigorous means to select for high protein solubility and low viscosity</a>
12:20 pm - 1:30 pm	<b>Lunch Break</b>	
1:30 pm - 3:00 pm	<b>Session 7 - Chair: Karen Fleming, Johns Hopkins University</b>	<b>Protein Applications for AUC</b>
1:30 pm - 2:00 pm	Todd Stone, Catalent	<a href="#">AUC in Pharmaceutical Product Development - A New Spin with an "Old" Instrument</a>
2:00 pm - 2:30 pm	Taylor Devlin, Johns Hopkins University	<a href="#">Observing chaperone-client interactions by sedimentation velocity analytical ultracentrifugation</a>
2:30 pm - 3:00 pm	Christine Ebel, Institut de Biologie Structurale	<a href="#">Structure and Motion of Membrane Proteins as Seen by SANS</a>
3:00 pm - 3:20 pm	<b>Coffee Break</b>	
3:20 pm - 4:50 pm	<b>Session 8 - Chair: Ute Curth, Hannover Medical School</b>	<b>Nucleic Acid Applications for AUC</b>
3:20 pm - 3:50 pm	Higor Pereira, University of Lethbridge	<a href="#">Nucleolin Interacts with Short-hairpin/3' stem-loop in Flavivirus 3' Terminal Region</a>
3:50 pm - 4:20 pm	Maduni Ranasinghe, University of Lethbridge	<a href="#">Biophysical characterization of DNA minicircle topoisomers to derive anisotropy and partial specific volume using a global analysis of analytical ultracentrifugation data</a>
4:20 pm - 4:50 pm	Borries Demeler, University of Lethbridge	<a href="#">Density Matching Multi-Wavelength Analytical Ultracentrifugation to Measure Drug Loading of Lipid Nanoparticle Formulations</a>
4:50 pm - 6:00 pm	<b>Break</b>	
6:00 pm - 7:30 pm	<b>Dinner</b>	
7:30 pm	<b>Dukes Pub &amp; Grill/Free Time</b>	

**AUC 2022 Science Commons, University of Lethbridge**

8:00 am - 2:00 pm	<b>Friday, July 15th, Symposium Sessions 9+10 (on Zoom #1):</b>	
8:00 am - 9:00 am	<b>Breakfast, Science Commons Atrium</b>	
9:00 am - 10:30 am	<b>Session 9 - Chair: Ivo Nischang, Friedrich Schiller University Jena</b>	<b>Material Science Applications for Multi-wavelength AUC</b>
9:00 am - 9:30 am	Paola Ivonne Cardenas Lopez, Friedrich-Alexander-University, Erlangen-Nurnberg	<a href="#">Multidimensional characterization of noble metal alloy nanoparticles by multi-wavelength analytical ultracentrifugation</a>
9:30 am - 10:00 am	Helmut Cölfen, University of Konstanz	<a href="#">Analysis of Magic-Size Nanocrystals in Crude Reaction Mixtures Using Multiwavelength Analytical Ultracentrifugation</a>
10:00 am - 10:30 am	Johannes Walter, Friedrich-Alexander-University Erlangen-Nurnberg	<a href="#">Combined hydrodynamic and spectral characterization of fluorescent nanoparticles via multiwavelength emission analytical ultracentrifugation</a>
10:30 am - 10:50 am	<b>Coffee Break</b>	
10:50 am - 12:20 am	<b>Session 10 - Chair: Helmut Cölfen, University of Konstanz</b>	<b>Nanoparticle Applications for AUC</b>
10:50 am - 11:20 am	Jeffrey Fagan, National Institute of Standards and Technology	<a href="#">Analyzing Carbon Nanotube Dispersions in complex solution conditions through Analytical Ultracentrifugation</a>
11:20 am - 11:50 am	Ivo Nischang, Friedrich Schiller University Jena (no zoom)	<a href="#">Quantitative Study of Nanoparticle Systems for Nanomedicine</a>
11:50 am - 12:20 pm	Lisa Fuhrer, University of Konstanz	<a href="#">Analysis of Particles and their Interactions</a>
12:20 pm - 1:30 pm	<b>Lunch Break</b>	
1:30 pm - 2:00 pm	<b>Business Meeting for AUC 2024</b>	
5:00 pm	<b>Social Event - Details TBD</b>	

**Saturday:**

Bus Departure, 7:00 am, University of Lethbridge Transit Loop to Calgary Airport, YYC