

CASCATO 2024 Draft Schedule

Tuesday, 4 June

Plenary #1

- Welcome & Conference Opening (30 min)
- **J.S. Plaskett Award (45 min)**
 - TBD

Cosmology I [90 min]

- **Invited: Mustafa Amin (Rice University) [faculty/staff]**
 - TBD
- Enrique Paillas (University of Waterloo) [postdoc]
 - DESI 2024: Cosmological constraints from the measurements of baryon acoustic oscillations
- Alex Krolewski (University of Waterloo) [postdoc]
 - A new method to determine H_0 from cosmological energy-density measurements
- Raelyn Sullivan (University of British Columbia) [grad]
 - Unravelling the Universe's Twist: Investigating Cosmic Birefringence through CMB Polarization
- Richard Bloch (York University) [grad]
 - First constraints on the remote dipole field from kSZ tomography

Transients & Compact Objects I [90 min]

- **Invited: Tarraneh Eftekhari (Northwestern University) [postdoc]**
 - TBD
- Aryanna Schiebelbein-Zwack (University of Toronto) [grad]
 - Inferring Formation Parameters of Binary Black Holes with Population Studies
- Aditya Vijaykumar (Canadian Institute for Theoretical Astrophysics) [postdoc]
 - Inferring host galaxy properties of compact binaries
- Daryl Haggard (McGill University) [faculty/staff]
 - Multi-wavelength View of M87 during the 2018 EHT Campaign Including a Gamma-ray Flaring Episode
- John Ruan (Bishop's University) [faculty/staff]

- Signatures of Massive Black Hole Merger Host Galaxies from Cosmological Simulations

Star Formation & the ISM I [90 min]

- Rachel Pillsworth (McMaster University) [grad]
 - A galaxy-scale statistical view of filaments in MHD simulations of a Milky Way galaxy
- Terrence Tricco (Memorial University of Newfoundland) [faculty/staff]
 - The Accuracy of Dusty Turbulence Simulations
- Nicholas Owens (McMaster University) [grad]
 - Using hyperbolic conduction to model superbubbles
- Charmi Bhatt (Western) [grad]
 - Rotational Contour modelling of diffuse interstellar bands
- Ioana Zelko (Canadian Institute for Theoretical Astrophysics) [postdoc]
 - Unravelling the Radiative Properties of the Interstellar Medium: The First 3D Map of the Interstellar Dust Temperature
- Brandon Shane (Queen's University) [grad]
 - Tracing 3D Magnetic Field Structure Using Dust Polarization and the Zeeman Effect

ACURA Lunch session [90 min]

- SKA session [45 min]
- CASTOR session [45 min]

Long Wavelength Astronomy [60 min]

- Ryley Hill (University of British Columbia) [postdoc]
 - Resolving the cosmic infrared background with JWST and ALMA
- Blake Ledger (McMaster University) [grad]
 - CN as a tool for dense gas studies in star-forming galaxies
- Robert Main (McGill University) [postdoc]
 - The CHIME All-Sky Multiday Pulsar Stacking Survey - Overview and first results
- Arash Mirhosseini (University of British Columbia) [grad]
 - A blind search for 21-cm absorption systems with CHIME

Milky Way & the Local Group [60 min]

- Abigail Battson (Saint Mary's University) [grad]

- High-velocity stars ejected from globular clusters: NGC 3201 candidates from Gaia DR3
- Nathan Sandford (University of Toronto) [postdoc]
 - Chemodynamical Analyses of Ultra Faint Dwarf Galaxies: Star Formation, Galactic Outflows, and Dark Matter Profiles
- Jaclyn Jensen (University of Victoria) [grad]
 - Connecting the dots: linking the stellar debris of Boötes 3 to the Styx stellar stream with Gaia and UNIONS
- Gustavo Medina Toledo (University of Toronto)
 - An overview of the spectroscopic characterization and chemodynamical analysis of the RR Lyrae stars observed by the DESI survey

Astrostatistics & Astrominformatics [60 min]

- Nayyer Raza (McGill University) [grad]
 - Insights into the predictions of a machine learning classifier for gravitational-wave events
- Weixiang Yu (Bishop's University) [postdoc]
 - Scalable Gaussian Process Modeling of AGN Light Curves in LSST
- Arefe Abghari (University of British Columbia) [grad]
 - Extracting the Hierarchical Wavelet Coefficients from Full-Sky Maps
- Kevin McKinnon (Canadian Institute for Theoretical Astrophysics) [postdoc]
 - Precise Proper Motions of faint Milky Way halo stars with BP3M

Harvey Richer Special Memorial Session [60 min]

The session is independently organized by Steffani Grondin and Gwendolyn Eadie (University of Toronto).

Next-Generation Spectroscopic Surveys Special Session [60 min]

The session is independently organized by Alex Krolewski and Will Percival (University of Waterloo).

- Hanyu Zhang (University of Waterloo) [postdoc]
 - Cosmological Implications from DESI Y1 BAO and Future Forecasts
- Andrew Sheinis (CFHT) [staff]

- Updates to the Maunakea Spectroscopic Explorer: Thousands of Fibers, Infinite Possibilities
- Marco Bonici (University of Waterloo) [postdoc]
 - An overview of the Euclid mission
- Alan Nguyen (University of Waterloo) [grad]
 - The Effects of Interlopers in Next-Generation Galaxy Surveys

Education & Public Outreach [60 min]

- Laurie Rousseau-Nepton (University of Toronto) [faculty/staff]
 - Indigenous Engagement Committee Report
- Terry Bridgew (Okanagan College) [faculty/staff]
 - Launch of the Westar Program
- Alice Curtin (McGill University) [grad]
 - Building more equitable spaces in STEM through game-based learning; the case of Science in Space: How to Telescope
- Heidi White (Université de Montréal) [faculty/staff]
 - Exoplanets in the Classroom: A Bilingual K-12 Educational Suite for Exploring Exoplanet Science

Public Talk

- **Invited: Jess McIver (University of British Columbia) [faculty/staff]**
 - TBD

Wednesday, 5 June

Plenary #2

- **Carlyle S. Beals Award (45 min)**
- **Dunlap Award (45 min)**

Galaxies I [90 min]

- **Invited: Jacqueline Antwi-Danso (University of Toronto) [postdoc]**
 - TBD
- Hyunseop Choi (Université de Montréal) [postdoc]
 - Multi-phase AGN feedback and a bright, extended [CII] halo in a LoBAL quasar at $z \sim 6.6$
- George Wang (University of British Columbia) [grad]
 - A 100 Mpc structure traced by hyperluminous galaxies around a massive $z = 2.85$ protocluster
- Nathan Steinle (University of Manitoba) [postdoc]
 - Galactic-scale magnetic fields and gravitational wave detections with LISA
- Ralph Pudritz (McMaster University) [faculty/staff]
 - Filamentary Hierarchies and Superbubbles: Multiscale Galaxy MHD Simulations of GMC and star cluster formation.

Exoplanets I [90 min]

- **Invited: Ryan Cloutier (McMaster University) [faculty/staff]**
 - TBD
- Katie Crotts (University of Victoria) [grad]
 - Expedition Unknown: Characterizing and Modelling GPI Debris Disks in the Search for Elusive Planets
- Christian Marois (NRC Herzberg) [faculty/staff]
 - Toward reflected light exoplanet imaging with CAL2: Project update of the NRC facility-class focal plane wavefront sensor for the Gemini Planet Imager 2 upgrade
- Michael Radica (Université de Montréal) [grad]
 - Ultraviolet-to-Infrared Atmosphere Spectroscopy of the Ultra-Hot-Neptune LTT 9779b
- Nicolas Cowan (McGill University) [faculty/staff]
 - Canada's Contribution to ESA's Ariel Mission

Instrumentation & Surveys I [90 min]

- **Invited: Alan McConnachie (NRC Herzberg) [faculty/staff]**
 - TBD
- Viraja Khatu (CFHT) [faculty/staff]
 - A Glimpse of AGN Variability Survey Planning with CASTOR
- William Thomspon (NRC Herzberg) [postdoc]
 - Deploying focal plane wavefront sensing and coherent imaging at Subaru with SPIDERS, a pathfinder 4th generation planet imager
- Kelsey Hoffman (Bishop's University) [faculty/staff]
 - The Pandora Mission: Countdown to Launch
- Christopher Mann (NRC HAA) [postdoc]
 - Coherent differential imaging on SPIDERS

Lunch session [90 min]

- OIR review committee session [30 min]
- Herzberg Astronomy and Astrophysics session [60 min]

Cosmology II [60 min]

- Victor Chan (Southern Methodist University) [postdoc]
 - The Small-Correlated-Against-Large-Estimator for Cosmic Microwave Background Lensing
- Jordan Krywonos (York University & Perimeter Institute) [grad]
 - Exploring How Cross-Bin Correlations Impact Photometric Galaxy Clustering Constraints
- Roan Haggar (University of Waterloo) [postdoc]
 - Constraining cosmological parameters with the splashback radius
- Huanqing Chen (Canadian Institute for Theoretical Astrophysics) [postdoc]
 - Fluctuations and Evolution of the Ionizing Background and Mean Free Path during the Late Stages of Reionization

Transients & Compact Objects II [60 min]

- Mattias Lazda (University of Toronto) [grad]
 - SN 2012au: VLBI measurements reveal compact core embedded in extended radio emission
- Ariel Chitan (Western University) [grad]

- Massive black hole triplets in the Obelisk simulation.
- Philippe Landry (Canadian Institute for Theoretical Astrophysics) [postdoc]
 - Inference of multi-channel r-process element enrichment in the Milky Way using binary neutron star merger observations
- Karun Thanjavur (University of Victoria) [faculty/staff]
 - SDSS J2320+0024: Supermassive binary blackholes in their final tango?!

JWST [60 min]

- Breanna Crompvoets (University of Victoria) [grad]
 - Classifying YSOs in the Cosmic Cliffs JWST Data using a Probabilistic Random Forest
- Lisa Dang (Université de Montréal) [postdoc]
 - A Hell of a Phase Curve: Mapping the Surface and Atmosphere of the Lava Planet K2-141b with JWST
- Dori Blakely (University of Victoria) [grad]
 - The James Webb Interferometer: Joint model fitting of the protoplanets and disk around PDS 70 provides evidence for circumplanetary disk emission and additional asymmetric emission within the disk gap
- Lucas Kuhn (University of British Columbia) [grad]
 - From Shocks to Star Formation: Ionized Gas Diagnostics with JWST MIRI in MACS1931-26

EIC session [60 min]

The session is organized by the Equity and Inclusion Committee.

Thursday, 6 June

Plenary #3

- **Qilak Award (45 min)**
- NSERC Session (45 min)

Stars and Stellar Populations I [60 min]

- **Invited: Lyra Cao (Vanderbilt University) [postdoc]**
 - TBD
- Jay Allison (Université de Moncton) [grad]
 - Modelling Atomic Diffusion, g-mode Pulsation and Binary Interactions in HgMn Stars
- Alison Sills (McMaster University) [faculty/staff]
 - Star Cluster Formation, Binary Stars, and Multiple Populations: Missing Links

Plasma and High-Energy Astrophysics [60 min]

- **Invited: Sean Ressler (Canadian Institute for Theoretical Astrophysics) [postdoc]**
 - TBD
- Margaret Ridder (University of Alberta) [grad]
 - Testing the proposed radio emission mechanisms of cataclysmic variables with QS Vir
- Gibwa Musoke (Canadian Institute for Theoretical Astrophysics) [postdoc]
 - Forming of truncated accretion disks

Galaxies II [60 min]

- Allison Man (University of British Columbia) [faculty/staff]
 - Unraveling the nature of the cold interstellar medium in distant quiescent galaxies
- Connor Stone (Université de Montréal) [postdoc]
 - Caustics: the gravitational lensing simulator of the future
- Yunting Wang (University of British Columbia) [grad]
 - Probing the Faintest Galaxies Below the Confusion Limit
- Solveig Thompson (University of Calgary) [grad]

- Hide and Seek: A Census of Black Holes in Virgo Ultra-Compact Dwarf Galaxies

Star Formation & the ISM II [60 min]

- **Invited: Kelsey Johnson (University of Virginia) [faculty/staff]**
 - TBD
- Samuel Fielder (University of Victoria) [grad]
 - An ALMA View of Star Formation in the Aquila Molecular Cloud
- Yanlong Shi (Canadian Institute for Theoretical Astrophysics) [postdoc]
 - Seed black hole accretion in star clusters

Exoplanets II [60 min]

- Jiaqing Bi (University of Toronto) [postdoc]
 - Shoulder of Dust Rings Explained by Dust Dynamics Under Planet-Disk Interactions
- Charles Cadieux (Université de Montréal) [grad]
 - Atmospheric Characterization of the Temperate Planet LHS 1140 b with JWST/NIRISS – Is LHS1140 b a Mini-Neptune or a Water-World?
- Alexandrine L'Heureux (Université de Montréal) [grad]
 - TOI-2120 b: A temperate sub-Neptune transiting a M4.5 dwarf revealed by SPIRou and TESS
- Emily Deibert (NOIRlab/Gemini South) [postdoc]
 - High-Resolution Spectroscopy of Ultra-Hot Jupiter Atmospheres with GHOST

Galaxies III [60 min]

- Aromal Pathayappura (Western University) [postdoc]
 - Probing ultra-fast outflows in BAL quasars using multi-epoch spectroscopy
- Khadeejah Motiwala (Queen's) [grad]
 - Are gas-rich UDGs and field dwarfs distinct?
- Darshak Patel (Waterloo) [grad]
 - Early UNIONS Results: Dependence of Halo Mass on Galaxy Size at Fixed Stellar Mass, Colour, and Redshift
- Hamid Hassani (University of Alberta) [grad]
 - Galactic Genesis to Twilight: Charting Stellar Evolution in Nearby Galaxies with PHANGS-JWST Mid-IR Observations

Lunch session [90 min]

- VLOT discussion [90 min]

Instrumentation & Surveys II [60 min]

- Nadine Manset (CFHT) [faculty/staff]
 - CFHT updates and plans for the upcoming 10 years
- Felix Thiel (Queen's University) [grad]
 - Construction and First Ground-based Tests of the Balloon-borne VLBI EXperiment (BVEX) Telescope and Receiver
- Mayukh Bagchi (Queen's University) [grad]
 - An RFSOC-based backend and timing reference system for balloon borne VLBI experiments
- Momen Diab (University of Toronto) [postdoc]
 - Astrophotonics for adaptive optics

Stars and Stellar Populations II [60 min]

- Sacha Perry-Fagant (Université de Montréal) [grad]
 - Score-Based Diffusion Models for Bayesian Posterior Inference over Star Formation Histories
- Michael Power (Memorial University of Newfoundland) [grad]
 - The Curious Case of V CVn
- Anna O'Grady (Carnegie Mellon University) [postdoc]
 - Identifying Yellow Supergiant Binaries in the Magellanic Clouds
- Catherine Lovekin (Mount Allison University) [research scientist]
 - Asteroseismology of the eclipsing binary KIC 10727668

Galaxies IV [60 min]

- Vivian Yun Yan Tan (York University) [grad]
 - Milky Way progenitors since $z=5$: Resolved mass assembly and star-formation rates with JWST
- Angelo George (Saint Mary's University) [grad]
 - From UV to Visible Light: Unveiling the Secrets of Galaxy Size Evolution in the COSMOS Field
- Joe Bhargal (University of British Columbia) [grad]
 - Searching for Protoclusters at $z \sim 2$
- D Cocroft (University of Toronto, Canadian Institute for Theoretical Astrophysics) [grad]

- Black Holes w/in AGN Disks