

## Jo Bovy

Department of Astronomy and Astrophysics  
University of Toronto  
Assistant Professor  
Canada Research Chair in Galactic Astrophysics

### Education and Training:

|                                |              |              |           |
|--------------------------------|--------------|--------------|-----------|
| Institute for Advanced Study   | Astrophysics | Postdoctoral | 2011–2015 |
| New York University            | Physics      | PhD          | 2006–2011 |
| Katholieke Universiteit Leuven | Physics      | MA           | 2001–2005 |

### Appointments:

|                     |                            |   |
|---------------------|----------------------------|---|
| Assistant Professor | Astronomy & Astrophysics   | University of Toronto, 2015–present     |
| Long-term Member    | School of Natural Sciences | Institute for Advanced Study, 2011–2015 |

### Selected Honors and Awards:

Alfred P. Sloan Fellow, 2016  
R. Jack and Forest Lynn Biard Lecturer in Astrophysics, Caltech, 2016  
Canada Research Chair in Galactic Astrophysics (Tier 2), 2015  
John N. Bahcall Fellowship, Institute for Advanced Study, 2014  
Sofja Kovalevskaja Award, Alexander von Humboldt Foundation, 2014 (declined)  
Hubble Postdoctoral Fellowship, 2011  
Dr. Pliny A. and Margaret H. Price Prize in Cosmology and AstroParticle Physics, Ohio State University, 2010

### Professional Activities and Affiliations:

Chair, APOGEE-1 Science Working Group, 2014-2015  
Member, SDSS-III BOSS quasar target selection team; BOSS Architect, 2010–2014  
Co-coordinator & conference organizer, KITP program “Galactic Archaeology and Precision Stellar Astrophysics”, 2015  
SOC co-chair, workshop “Stellar Streams in the Local Universe”, Ringberg Castle, 2015  
Writer and maintainer of `galpy`, a Python library for galactic dynamics for use in education and advanced-dynamics computations, 2010–present

### Selected Peer-reviewed Publications:

Bovy J, Farrar GR. Connection between a Possible Fifth Force and the Direct Detection of Dark Matter. *Phys Rev Lett.* 2009;102:101301.  
Bovy J. Substructure boosts to dark matter annihilation from Sommerfeld enhancement. *Phys Rev D.* 2009;79:083539.  
Bovy J, Hogg DW, Rix HW. Galactic Masers and the Milky Way Circular Velocity. *Astrophys J.* 2009;704:1704.  
Bovy J, Hennawi JF, Hogg DW, et al. Think Outside the Color Box: Probabilistic Target Selection and the SDSS-XDQSO Quasar Targeting Catalog. *Astrophys J.* 2011;729:141.  
Bovy J, Myers AD, Hennawi JF, et al. Photometric Redshifts and Quasar Probabilities from a Single, Data-driven Generative Model. *Astrophys J.* 2012;749:41.  
Bovy J, Rix HW, Hogg DW. The Milky Way Has No Distinct Thick Disk. *Astrophys J.* 2012;751:131.

- Bovy J, Rix HW, Liu C, et al. The Spatial Structure of Mono-abundance Sub-populations of the Milky Way Disk. *Astrophys J.* 2012;753:148.
- Bovy J, Tremaine S. On the Local Dark Matter Density. *Astrophys J.* 2012;756:89.
- Bovy J, Allende Prieto C, Beers TC, et al. The Milky Way's Circular-velocity Curve between 4 and 14 kpc from APOGEE data. *Astrophys J.* 2012;759:131.
- Rix HW, Bovy J. The Milky Way's stellar disk. Mapping and modeling the Galactic disk. *A&A Rev.* 2013;21:61.
- Bovy J, Dvorkin C. Low-mass Suppression of the Satellite Luminosity Function Due to the Supersonic Baryon-Cold-dark-matter Relative Velocity. *Astrophys J.* 2013;768:70.
- Bovy J, Rix HW. A Direct Dynamical Measurement of the Milky Way's Disk Surface Density Profile, Disk Scale Length, and Dark Matter Profile at  $4 \text{ kpc} \lesssim R \lesssim 9 \text{ kpc}$ . *Astrophys J.* 2013;779:115.
- Bovy J. Dynamical Modeling of Tidal Streams. *Astrophys J.* 2014;795:95.
- Nidever DL, Bovy J, Bird JC, et al. Tracing Chemical Evolution over the Extent of the Milky Way's Disk with APOGEE Red Clump Stars. *Astrophys J.* 2014;796:38.
- Bovy J. `galpy`: A Python Library for Galactic Dynamics. *Astrophys J Suppl.* 2015;216:29.
- Hayden, MR, Bovy J, Holtzman, JA, et al. Chemical cartography with APOGEE: Metallicity distribution functions and the chemical structure of the Milky Way disk. *Astrophys J.* 2015;808:132.
- Bovy J. The chemical homogeneity of open clusters. *Astrophys J.* 2016;817:49.
- Bovy J. Detecting the disruption of dark-matter halos with stellar streams. *Phys Rev Lett.* 2016;116:121301.

#### **Research Grants:**

- Science PI NASA Hubble Fellowship Grant No. HST-HF-51285.01-A:  
Dynamical modeling in the Milky Way and beyond, 2011–2014
- PI NSERC Discovery Grant, 165,000 CAD  
The Milky Way's disk in the age of *Gaia*, 2015–2020
- PI Canada Research Chair in Galactic Astrophysics (Tier 2), 500,000 CAD, 2015–2020