Curriculum Vitae

Dr. R. Elliot Meyer

Department of Astronomy and Astrophysics
University of Toronto
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EDUCATION

PhD 2012 – 2019

University of Toronto, Department of Astronomy and Astrophysics
Direct entry Ph.D.

Graduate Thesis

Project: Variation in the Initial Mass Function of Nearby Galaxies: Observations and Instrumentation

Advisor: Professor Dae-Sik Moon

BSc 2008 – 2012

University of Toronto at Victoria University
Honours Bachelor of Science with Specialization in Physics

Undergraduate Thesis

Project: Investigating stellar populations and galactic structure in 6 early type galaxies with the SAURON integral field spectrograph

Advisor: Dr. Anne-Marie Weijmans, Post-doctoral Fellow of the Dunlap Institute for Astronomy and Astrophysics

WORK EXPERIENCE

Sep 2019 – Present

Postdoctoral Researcher

University of Toronto, Department of Astronomy and Astrophysics

HONOURS AND AWARDS

2010 & 2011	NSERC Undergraduate Student Research Award
2008 & 2009	Arthur Leonard Schawlow Scholarship for Physics from Victoria University in the University of Toronto
2009	University of Toronto – Faculty of Arts and Science Deans List

SCIENTIFIC INTERESTS

- Development of cutting-edge astronomical instruments, with a focus on spectrographs for large telescopes
- Understanding the formation and history of extragalactic stellar populations (including fundamental parameters such as the IMF)

INSTRUMENTATION & OBSERVATIONAL EXPERTISE

- Mechanical design of WIFIS subsystems using CAD software (e.g. Solidworks)
- Optical analysis of WIFIS subsystems using a ray tracer (e.g. Zemax)
- Trade study of dispersion elements for the IRIS instrument for TMT
- Instrument alignment with CMM (e.g. Faroarm)
- Instrument calibration and assembly
- Instrument commissioning and telescope operations
    - Bok telescope: 40+ nights
- Development of hardware control software including graphical user interfaces
- Machining (e.g. CNC, 3D printing, drill press, lathe, mill)
- Programming experience
    - Python (incl. numpy, matplotlib, emcee, astropy, pandas), LaTeX, shell programming, arduino, HTML, CSS, SQL, MatLab

PUBLICATIONS

First Author

Meyer, R. E., Sivanandam, S., Moon, D-S., *"Initial Mass Function Variation in two Elliptical Galaxies using Near-Infrared Tracers",* 2019, ApJ, 875, 151

Meyer, R. E., Moon, D-S., Sivanandam, S., Ma, K., Henderson, C., Blank, B., Chou, C-Y., Jarvis, M., Eikenberry, S. S. *"The Wide Integral Field Infrared Spectrograph (WIFIS): optomechanical design and development"*, Proc. SPIE 9908, Ground-based and Airborne Instrumentation for Astronomy VI, 99083Q (2016)

Meyer, R. E., Shaojie, C., Wright, S. A., Moore, A. M., Larkin, J. E., Simard, L., Marie, J., Mieda, E., Gordon, J. *"The infrared imaging spectrograph (IRIS) for TMT: reflective ruled diffraction grating performance testing and discussion*", Proc. SPIE 9147, Ground-based and Airborne Instrumentation for Astronomy V, 91479C (2014)

Noteworthy Contributions to Other Publications

Sivanandam, S., Moon, D-S., **Meyer, R. E.**, Grunhut, J., Zaritsky, D., Eisner, J., Ma, K., Henderson, C., Blank, B., Chou, C-Yi., Jarvis, M. E., Eikenberry, S., Chun, M-Y., Park, B-G. *"The Wide Integral Field Infrared Spectrograph: Commissioning Results and On-sky Performance"* Proc. SPIE, 10702, 1070218 (2018)

Daemgen, S., **Meyer, R. E.**, Jayawardhana, J., Petr-Gotzens, M. G. "*The Frequency of Accretion Disks Around Single Stars: Chamaeleon I*", 2015, A&A, 586, A12

Chen, S., **Meyer, R. E.**, Wright, S. A., Moore, A. M., Larkin, J. E., Maire, J., Mieda, E., Simard, L. *"The infrared imaging spectrograph (IRIS) for TMT: volume phase holographic grating performance testing and discussion"*, Proc. SPIE 9147, Ground-based and Airborne Instrumentation for Astronomy V, 91478X (2014)

Wright, S. A., Werthimer, D., Treffers, R R., Maire, J., Marcy, G. W., Stone, R. P. S., Drake, F., **Meyer, E.,** Dorval, P, Siemion, A. *"A near-infrared SETI experiment: instrument overview"*, Proc. SPIE 9147, Ground-based and Airborne Instrumentation for Astronomy V, 91470J (2014)

TEACHING EXPERIENCE

Teaching Assistant

AST320 – Introduction to Astrophysics

AST326 – Introduction to Astronomical Instrumentation (Senior TA)

AST251 – Life on Other Worlds

AST201 – Stars and Galaxies

AST101 – Introduction to Astronomy

CERTIFICATIONS

2017 Kitt Peak National Observatory Bok Telescope Operator Certification

2015 CAM2 Measure FARO Arm Certification

2012 Completion Certificate for the Dunlap Institute Summer School Introduction to Astronomical Instrumentation: Tools and Techniques for Pioneering Astronomers

VOLUNTEER AND PUBLIC OUTREACH

2018 *'Is Anybody Out There? - A Panel Discussion on Life on Other Worlds'*
Panelist

2015 *"A Quarter Century of Hubble: From Almost Failure to Scientific Icon"*
Public Talk – **University of Toronto AstroTours**

Illusionoid S05E09: Indigo of Charon
Panelist Q&A during the Illusionoid Podcast (live taping)

2014 – 2016 Graduate Astronomy Students Association (UofT)
President

2013 – 2016 University of Toronto AstroTours Executive Committee
Webmaster, Telescope Operator, Planetarium Presenter