

# Eric W. Koch

## Curriculum Vitæ

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### Education

- 2016-expected July 2020 *University of Alberta*  
PhD. (Physics)  
Thesis: “The Molecular and Atomic Interstellar Medium in the Local Group”  
Adviser: Prof. Erik Rosolowsky
- 2014-2016 *University of Alberta*  
MSc. (Physics)  
Thesis: “The Atomic Interstellar Medium in M33”  
Adviser: Prof. Erik Rosolowsky
- 2010-2014 *University of British Columbia*  
Hon. BSc. (Physics)

### Employment

- 2014–present *University of Alberta*  
Graduate Research and Teaching Assistant
- 2013-2014 *University of British Columbia, Okanagan*  
Undergraduate Research Assistant with Prof. Jason Loeppky
- 2012 *University of British Columbia, Okanagan*  
Undergraduate Work-Study Program with Prof. Erik Rosolowsky
- 2011-2014 *University of British Columbia, Okanagan*  
Undergraduate Teaching Assistant

### Awards

- 2019 *University of Alberta*  
Andrew Stewart Memorial Graduate Prize
- 2019 *University of Alberta/The Ohio State University*  
Natural Sciences and Engineering Research Council of Canada Michael Smith Foreign Study Supplements with Prof. Adam Leroy
- 2018 *University of Alberta*  
Queen Elizabeth II Graduate Scholarship - Doctorate
- 2017-2019 *University of Alberta*  
Natural Sciences and Engineering Research Council of Canada Alexander Graham Bell Canada Graduate Scholarship - Doctorate
- 2016 *University of Alberta*  
Natural Sciences and Engineering Research Council of Canada Postgraduate Scholarship - Doctorate
- 2015 *University of Alberta*  
Queen Elizabeth II Graduate Scholarship - Masters
- 2010-2014 *University of British Columbia, Okanagan*  
Deputy Vice Chancellor Scholarship
- 2014 *University of British Columbia, Okanagan*  
Distinguished Graduate Award - Physics, Math, Statistics & Computer Science
- 2014 *University of Alberta*  
Natural Sciences and Engineering Research Council of Canada Alexander Graham Bell Canada Graduate Scholarship - Masters

- 2013 *University of Alberta*  
Natural Sciences and Engineering Research Council of Canada Undergraduate Summer Research Award with Prof. Craig Heinke
- 2013 *University of British Columbia, Okanagan*  
Top Oral Presenter - UBC-O Undergraduate Research Conference
- 2013 *University of British Columbia, Okanagan*  
Upper Year Physics Award
- 2012 *University of British Columbia, Okanagan*  
Natural Sciences and Engineering Research Council of Canada Undergraduate Summer Research Award with Prof. Erik Rosolowsky
- 2010 *University of British Columbia, Okanagan*  
President's Entrance Scholarship

## Professional Talks

- 2019 September *So-Star, Paris, France*  
"HI & CO kinematics on molecular cloud scales in the Local Group"
- 2019 April *Center for Astrophysics, Cambridge, USA*  
"Connecting atomic and molecular ISM kinematics on cloud scales in M33"
- 2019 April *Green Bank Telescope, Green Bank, USA*  
"Connecting atomic and molecular ISM kinematics on cloud scales in M33"
- 2019 March *NRAO, Charlottesville, USA*  
"Connecting atomic and molecular ISM kinematics on cloud scales in M33"
- 2019 March *University of Texas, Austin, USA*  
"Connecting atomic and molecular ISM kinematics on cloud scales in M33"
- 2019 January *Big Apple Magnetic Fields Workshop, New York, USA*  
"Turbustat: Python-based turbulence statistics"
- 2018 August *CHANG-ES Team Meeting, Calgary, Canada*  
"De-obfuscating HI & CO Comparisons in M33"
- 2018 July *PHAT/M33 Team Meeting, Ringberg, Germany*  
"Atomic Gas in M31 and M33"
- 2018 May *Olympian Symposium, Paralia Katerini, Greece*  
"Spatially-Varying Turbulent Properties in M33"
- 2017 June *Canadian Astronomical Society (CASA) Meeting, Edmonton, Canada*  
"Linking the Atomic and Molecular ISM in M33"
- 2016 August *Lorentz Centre - Apples to Apples Workshop*  
"Identifying Tools for Comparing Simulations and Observations of Star-forming Regions"
- 2016 February *Max Planck Institute for Extraterrestrial Physics*  
"Comparing Simulations and Observations of Star Formation using Experimental Design"
- 2016 February *Max Planck Institute for Radio Astronomy*  
"Comparing Simulations and Observations of Star Formation using Experimental Design"
- 2015 May *Florence Simulations-Observations Workshop (Florence, Italy)*  
"Critically Comparing Simulations and Observations of Star Formation"
- 2014 April *UBC-O Undergraduate Research Conference (Kelowna, Canada)*  
"Filament Identification through Mathematical Morphology"
- 2013 November *UBC-O Brown Bag Series (Kelowna, Canada)*  
"A New Low-Mass X-Ray Binary in the Galactic Centre"
- 2013 April *UBC-O Undergraduate Research Conference (Kelowna, Canada)*  
"Converging Flows in Star-Forming Regions"

## Poster Presentations

- 2019 June      *Linking the Milky Way and Nearby Galaxies, Helsinki, Finland*  
“Connecting atomic and molecular ISM kinematics on cloud scales in M33”
- 2013 June      *Canadian Astronomical Society Conference (Vancouver, Canada)*  
“Converging Flows in Star-Forming Regions”

## Observing Experience

- Three VLA projects as PI (180 hours awarded; 16B-236, 16B-242, 17B-162); one as co-I (24 hours awarded; 19B-037)
- One ALMA project as PI (8 hours awarded; 2019.1.01039.S); two as co-I (22 hours awarded; 2017.1.00901.S, 2019.1.01182.S)
- One GBT project as PI (41 hours awarded; 19B-221)
- One NOEMA project as co-I (16 hours awarded; W15BR)

## Professional Service

- 2018-Present      Referee for Monthly Notices of the Royal Astronomical Society
- 2017-Present      Seminar and journal club organizer for UAlberta Astronomy Group
- 2017-Present      Student Member of Canadian Astronomical Society (CASCAS)
- 2016-2017          UAlberta representative on the Canadian Astronomical Society Graduate Student Committee
- 2013-2014          UBC-Okanagan Physics representative on Quantitative Sciences Course Union Council

## Research Advising

I have acted as a research advisor for three undergraduate students at the University of Alberta, supervised by Prof. Erik Rosolowsky.

- Summer 2018      *Interpreting filaments in three dimensions*  
Dewanshu Haswani  
MITACS Internship
- Fall 2018          *Spiral Arm Propagation in M33 and its Implications on Molecular Cloud Formation*  
Steffen Senchyna  
Physics 499 Honours Research Project
- Fall 2018          *ISM Properties near Supernova Remnants in M33*  
Weizhuo Zhang  
Physics 499 Honours Research Project

## Outreach

- 2019 October      *Edmonton, Canada*  
“Judge for NASA/CSA Space Apps Challenge”
- 2019 May          *Pint of Science, Edmonton, Canada*  
“Frigid Fuel for Star Formation”
- 2018 December      *Royal Astronomical Society of Canada (Edmonton Centre)*  
“Unravelling Star Formation”
- 2018 May          *Northern Alberta Radio Club (Edmonton)*  
“Viewing the Sky with Radio Interferometry”
- 2017 February      *University of Alberta Observatory Public Observing Night*  
“Blowing Bubbles in a Galaxy”
- 2016 - 2018; 2019-Present      *University of Alberta Observatory*  
“Public Observing & School Tours”