

Curriculum Vitae

Monday 12th January, 2015

Personal

Legal name:	Mike Alexandersen	Work e-mail:	mikea@astro.ubc.ca
Citizenship:	Danish	Website:	http://www.phas.ubc.ca/~mikea/
Degree held:	M.Sc. in Astronomy (Ph.D. from June 2015)	Mobile:	(+1) 778-838-6504

Education

2010-Present	Ph.D. student in Astronomy, University of British Columbia (UBC), Canada. Expected completion: June 2015.
2007-2009	M.Sc. in astronomy, Niels Bohr Institute (NBI), University of Copenhagen (KU), Denmark.
2007 fall	Exchange semester as part of M.Sc., Washington State University, USA,
2004-2007	B.Sc. in Physics and Astronomy, NBI, KU, Denmark.
2002-2004	A-levels (British high-school equivalent), Woking 6th-form College, Surrey, UK.
1999-2002	GCSE's (British secondary school), Ash Manor School, Surrey, England.
1991-1999	Primary school, year 1 to 8, Three schools in Denmark.

Refereed publications

- **Alexandersen M.**, Gladman B., Greenstreet S., Kavelaars JJ., Petit J-M., Gwyn S., “A Uranian Trojan and the Frequency of Temporary Giant-Planet Co-Orbitals,” *Science*, August 2013, Vol 341, No. 6149, pp. 994-997.
- Jacobson R., Brozovic M., Gladman B., **Alexandersen M.**, Nicholson P.D., Veillet C., “Irregular satellites of the outer planets: Orbital uncertainties and astrometric recoveries in 2009-2011,” *Astronomical Journal*, November 2012, 144:132.
- **Alexandersen M.**, Gladman B., Veillet C., Jacobson R., Brozovic M., Rousselot P., “Discovery of two additional Jovian irregulars,” *Astronomical Journal*, July 2012, 144:21.

Submitted & in-prep publications

- **Alexandersen M.**, Gladman B., Kavelaars JJ., Petit J-M., Gwyn S., Shankman S., “A carefully characterised and tracked Trans-Neptunian survey, the size-distribution of the Plutinos and the number of Neptunian Trojans.” *submitted*.
- Pike R., Kavelaars JJ., Petit J-M., Gladman B., **Alexandersen M.**, Volk K., Shankman C., “The 5:1 Neptune Resonance as Probed by CFEPS: Dynamics and Population”, *submitted*.
- Shankman C., Kavelaars JJ., Gladman B., **Alexandersen M.**, Petit J-M., update to Shankman et al 2013, *in preparation*, submission expected January 2015.
- Bannister M., Gladman B., Kavelaars JJ., Petit J-M., Gwyn S., **Alexandersen M.**, first data-release from the Outer Solar System Origins Survey (OSSOS), *in preparation*, submission expected February 2015.
- **Alexandersen M.**, Gladman B., Pike R., “ $g-r$ colours of 16 Plutinos from a characterised survey”, *data attained*, submission expected summer 2015.

Observing and data analysis experience

- 2013 fall and 2014 fall Planned and programmed photometric observations of Trans-Neptunian Objects (TNOs), Gemini North Telescope, 32 hours obtained through queue.
- 2011, 2012, 2013 & 2014 fall Planned, programmed and analysed astrometric observations for Ph.D. thesis, Canada-France-Hawaii Telescope, roughly 90 hours obtained through queue.
- 2010, 2011 October Observed and analysed giant planet satellites, 200-inch Hale Telescope, Palomar Observatory, 2 nights at telescope each year.
- 2010 all year 2008 Analysed archived Swift X-Ray Telescope data for M.Sc. thesis.
Data reduction and cleaning of spectrographic data from the Fiber-fed Extended Range Optical Spectrograph at the ESO 1.52-m telescope, 76 hours.
- 2008 summer Planned, observed and analysed spectrographic observations of exoplanets host candidates, 8 day summer school at Nordic Optical Telescope.
- 2007 spring Planned, observed and analysed light-curve of eclipsing binary star DU Leo for Bachelor's thesis, 77-cm Brorfelde Schmidt Telescope, KU, four nights at telescope.
- 2005 spring Planned, observed and analysed observations of Saturn's rings and moons for first-year research project, 10-inch Schmidt-Cassegrain student telescope, many nights during five weeks.

Computing skills

I have comprehensive knowledge of the **Python** and **IDL**, and also use **Fortran**, **IRAF**, **Bash**, and **Awk** on a regular basis. My preferred typesetting tool is **L^AT_EX**. I can use Linux, Windows and Macintosh confidently; **Ubuntu Linux** has been my daily platform for over three years, for both work and home use.

Oral presentations

- 2014/11/14 "TNOs as probes of planet building: the Plutino size- & colour-distributions", Division of Planetary Science (DPS), Tucson, Arizona, USA.
- 2014/07/02 "Transneptunians as probes of planet building: The Plutino size distribution", Asteroids, Comets and Meteors meeting, Helsinki, Finland.
- 2013/10/11 "Plutinos and Trojans as Probes of Planet Building", "dissertation talk", DPS, Denver, Colorado, USA.
- 2013/05/30 "The first known Uranian Trojan & the frequency of temporary giant-planet co-orbitals", Canadian Astronomical Society (CASCA), UBC, Canada.
- 2013/05/07 "A deeper survey for resonant objects in the outer Solar System", Canadian-France-Hawaii Telescope Users' Meeting, Campbell River, British Columbia, Canada.
- 2013/11/29 "A tour through the outer Solar System", 45 minute public lecture, part of the "Junior Fellow Speaker Series", St. John's College (SJC), UBC, Vancouver, Canada.
- 2013/02/20 "Rocks fall, everyone dies; Asteroid impact hazards", 20 minute public talk, part of "Six O'clock Series", SJC, UBC, Canada.
- 2012/06/05 "Discovery of two additional Jovian irregular satellites", CASCA, Calgary, Alberta, Canada.

- 2012/01/31 “Exploring the Solar System: Unknown moons and the search for asteroids”, 1 hour public talk, part of “Junior Fellow Speaker Series” at SJC, UBC, Canada.
- 2010/03/11 On X-ray and Gamma-ray astronomy, 40 minute public lecture, part of a “The Invisible Universe” event, Tycho Brahe Planetarium, Copenhagen, Denmark.
- 2010/01/26 “An almost automated search for dust scattered X-ray haloes around gamma-ray bursts using Swift XRT data”, 45 minute talk, University of Manitoba, Winnipeg, Canada.
- 2009/09/03 “Physics and history of X-ray telescopes”, colloquium, NBI, Denmark.

Poster presentations

- 2012/10/17 “Plutinos and Trojans as Probes of Planet Building”, DPS annual meeting, Reno, Nevada, USA.
- 2011/10/06 “Discovery of two additional Jovian irregulars”, joint meeting of the European Planetary Science Congress (EPSC) and DPS, Nantes, France.

Session chairing

- 2014/11/06 “TNOs and Centaurs”, poster session, DPS annual meeting, Tucson, Arizona, USA.
- 2013/11/01 Chaired the inaugural session (two talks) of the 2013 “Junior Fellow Speaker Series”, two 30 minute talks, St. John’s College, UBC, Canada.

Teaching & outreach

- 2010-present Various public lectures and talks (see Oral presentations section).
- 2010-present Teaching Assistant during every term at UBC, roughly 150 hours of work per semester. Courses: “Introductory Physics” (twice), “Elements of Physics”, “Introduction to the Solar System”, “Introduction to Stars and Galaxies”, “Exploring the Universe I: The Solar System”, “Topics in Planetary Astronomy” and “Astronomical Laboratory”.
- 2013 Jan-Jul Created daily “Word of the day” slides for the electronic displays at SJC.
- 2011 summer, Taught classes on “Asteroids and comets,” “Telescopes,” “Constellations,” “Mars rovers,” and made a $1 : 3 \times 10^9$ scale model of the Solar System at summer schools for 8-12 year olds and a group of home-schooled children.
- 2012 summer, 2013 summer, 2014 spring
- 2008 fall, 2009 Presented astronomy talks and the night sky through a telescope to 20 soon-to-be high-school students.
- spring & fall, 2010 spring
- 2007, 2008, Showed off telescopes and answering questions at Open House event at KU.
- 2009 spring
- 2006, 2008, Public star-gazing at NBI on Copenhagen Culture Night.
- 2009 fall

Leadership experience:

- 2012-2013 Head of the Life committee at St. John’s College (graduate student residence), Vancouver, Canada.

- 2012 Captained the Ultimate Frisbee team for St. John's College, which competed in the UBC intramural league.
- 2011-2014 Active member of the Social committee and Life committee at St. John's College, Vancouver, Canada. I also participate in planning orientation events and was, for two years, in charge of organising the "buddy system" for incoming residents.
- 2006-2009 Active in the Physics Discipline Council (Fysisk Fagråd) at the University of Copenhagen.
- 2006-2007, 2008-2009 Chairman of the board in Astronomical Student Society (Astronomisk Studenterforening - ASF).
- 2005-2007, 2008-2009 Member of the board of ASF.

Summer-schools, workshops and non-presenting conference attendances

- 2014/11/09 Outer Solar System Origins Survey (OSSOS) workshop, Tucson, Arizona, USA.
- 2014/06/26-27 OSSOS workshop, Beaune, France.
- 2013/05/05 OSSOS workshop, Campbell River, Canada.
- 2012/10/14 OSSOS workshop, Reno, Nevada, USA.
- 2009/06/29-07/03 "Current problems in extragalactic dust" workshop, Niels Bohr Institute (NBI), Copenhagen, Denmark.
- 2009/06/16-18 "Nordic Meeting", Danish Physical Society.
- 2009/04/02-03 "Particle Physics and Cosmology - From the Smallest Scales to the Largest", Nordforsk meeting, NBI.
- 2008 August Observational astronomy summer school, Nordic Optical Telescope, La Palma, Spain.
- 2006/05/08-11 "Complex molecules in space, present status and prospects with ALMA" conference, Fuglsøcentret, Denmark.
- 2003 summer "Kopernikursus", physics and astronomy summer-school, Middelfart, Denmark.

Funding & awards

- 2013 Attended "9th Annual President's Student Leader Recognition Event" hosted by the president of UBC; nominated for my community involvements at St. John's College.
- 2007 Awarded the Ole Rømer scholarship (DKK 10000, ~US\$1900) by the Niels Bohr Fund, towards my exchange semester at Washington State University.

Media appearances

- 2013 August Interviewed by LA Times and Smithsonian Magazine, among others, with regard to our discovery of a Uranian Trojan. (Telephone interviews)
- 2012 July Interviewed with regard to our discovery of two Jovian satellites. (Telephone interview)

Professional Societies, membership

- Canadian Astronomical Society/Société Canadienne d'Astronomie (CASCA)
- American Astronomical Society (AAS)
- Division of Planetary Sciences (DPS)

Miscellaneous

Language skills: I speak Danish and English fluently, and know various non-conversational levels of German, French and Spanish. I have a strong interest in learning additional languages.

Military Service: At physical examination for military service in 2009, I was found highly suited for service but was exempted from serving (luck of the draw).

Driver's licence: I have held a license for automobiles since 2006/02/09, with no fines or other penalties. The vast majority of my driving experience was with stick-shift transmission in Denmark and England, although I also have some experience with automatic shift and mountain roads.

CPR-certification: I got my CPR + AED level A certification on 2013/11/02. I previously had CPR training in 2002.