

Christoph Saulder

Curriculum Vitae

Agricolagasse 16
1160 Vienna, Austria
☎ +43 676 4332214
✉ christoph.saulder@equinoxomega.net
🌐 www.equinoxomega.net
📄 equinoxomega

Higher Education

- 04/2010 – 03/2016 **PhD (Dr.rer.nat.) in Astronomy**, *University of Vienna*, graduated (grade A), topic of the PhD thesis: *Observational tests of an inhomogeneous cosmology*, supervisors: Werner Zeilinger, Steffen Mieske, and Eelco van Kampen.
- 10/2007 – 04/2010 **MSc (Mag.rer.nat.) in Astronomy**, *University of Vienna*, graduated with distinction, topic of the master thesis: *Dynamics of the Local Group in different theories of gravity*, supervisor: Christian Theis.
- 10/2004 – 08/2007 **BSc (Bakk.rer.nat.) in Astronomy**, *University of Vienna*, graduated with distinction, topic of the bachelor thesis: *Lie-Integrator*, supervisor: Rudolf Dvorak.
- 05/2013 – ongoing **MSc in Physics**, *University of Vienna*.
- 04/2013 **BSc in Physics**, *University of Vienna*, accredited by changing from the diploma programme.
- 10/2004 – 04/2013 **diploma study in Physics**, *University of Vienna*, moved to new BSc programme.

Research position

- 11/2017 – ongoing **Research fellowship**, *Korea Institute for Advanced Study*, Seoul, South Korea.
- 11/2014 – 10/2017 **various part and full time jobs in the industry**.
- 01/2014 – 10/2014 **PhD studentship**, *European Southern Observatory*, Garching bei München, Germany.
- 11/2011 – 10/2013 **PhD studentship**, *European Southern Observatory*, Santiago, Chile.

Publication record

h-index: 3

5 publications:

3 first author papers published in refereed journals (2 with ≥ 10 citations each)

1 first author papers submitted to a refereed journal

1 first author conference proceedings paper

Awards and Funding

- 2011 Winner of an ESO studentship
- 2005-2009 3 times winner of a performance scholarship of the University of Vienna

Invited talks

- 03/12/2013 **Observational tests of an inhomogeneous cosmology**, *ESO*, Santiago, Chile.
- 16/04/2013 **Observational tests of an inhomogeneous cosmology**, *Vienna University of Technology*, Vienna, Austria.
- 02/10/2012 **Observational tests of an inhomogeneous cosmology**, *University of Valparaiso*, Valparaiso, Chile.

- 09/08/2012 **Observational tests of an inhomogeneous cosmology**, *University of Concepcion*, Concepcion, Chile.
- 12/10/2010 **Dynamics of the Local Group in different theories of gravity**, *Vienna University of Technology*, Vienna, Austria.

Conferences and Workshops

Contributed talks

- 03/07/2016 – “**Testing gravity with low dark matter galaxies**”, *Alpine Cosmology workshop*, Bolzano, Italy.
08/07/2016
- 20/07/2015 – “**Systematic variations of the Hubble flow**”, *Alpine Cosmology workshop*, Silvretta mountains, Austria & Switzerland.
24/07/2015
- 22/06/2015 – “**Systematic variations of the Hubble flow**”, *EWASS 2015 conference*, Tenerife, Spain.
26/06/2015
- 27/07/2012 “**Observational tests of an inhomogeneous cosmology**”, *Cosmology Today workshop*, Santiago, Chile.
- 10/06/2012 – “**Observational tests of an inhomogeneous cosmology**” & poster, *Dark Side of the Universe workshop*, Buzios, Brazil.
15/06/2012

Other contributions

- 18/11/2013 – **Poster “The peculiar(?) case of [BHF2008] 19” & Local Organising Committee member**, *Deconstructing Galaxies: Structure and Morphology in the Era of Large Surveys conference*, Santiago, Chile.
22/11/2013
- 22/07/2013 – **Poster “Observational tests of an inhomogeneous cosmology”**, *Ripples in the Cosmos conference*, Durham, UK.
26/07/2013
- 14/05/2012 – **Poster “Observational tests of an inhomogeneous cosmology”**, *Testing General Relativity with Astrophysical Systems conference*, Boston, USA.
17/05/2012
- 2005 – 2009 **LOC member**, *Second, Third, Fifth, and Sixth Vienna Central European Seminar on Particle Physics and Quantum Field Theory*, Vienna, Austria.
- 29/06/2006 **LOC member**, *First Vienna Seminar of Nobel Laureates 2006*, Vienna, Austria.

Invited research visits

- 08/07/2015 – Hosted by Eelco van Kampen at *ESO*, Garching bei München, Germany
09/07/2015
- 20/10/2014 – Hosted by Remco van den Bosch *MPIA*, Heidelberg, Germany
21/10/2014
- 08/08/2012 – Hosted by Michael Felhauer at *University of Concepcion*, Concepcion, Chile
10/08/2012
- 10/05/2012 – Hosted by Igor Chilingarian at *Harvard-Smithsonian CfA*, Boston, USA
15/05/2012

Research Interests

- | | |
|----------------------------|--|
| Cosmology | Large-scale Structure, Inhomogeneous cosmology |
| Extragalactic Astronomy | Early-type Galaxies, Surveys, Data Astronomy |
| Computational Astrophysics | Stellar Dynamical Numerical Simulations |

Outreach and Press

- 22/04/2016 “Long night of research” public outreach event - station “our solar system on small scales”; Vienna, Austria
- 30/10/2013 Experiments for children at the family day celebrating the 50th anniversary of ESO in Chile; Sanitago, Chile
- 10/10/2013 Educative workshop on “planets and rockets” with experiments for children at the National Science Fair; Sanitago, Chile
- 13/08/2013 Talk with experiments on “The solar system and beyond” for children at Deutsche Schule St. Thomas Morus; Sanitago, Chile
- 02/07/2013 Talk with experiments on “The solar system and beyond” for children at Colegio Dunastair; Sanitago, Chile
- 16/04/2013 Interview on the Austrian radio Ö1 announcement: <http://oe1.orf.at/programm/334457>
- 12/03/2013 Meeting with the Austrian Minister of Science at the Austrian embassy; Santiago, Chile
- 19/12/2012 Interview with me in the Austrian newspaper Kurier newspaper article: <http://kurier.at/chronik/oberoesterreich/sterne-nur-0-5-des-universums/2.182.065>
- 06/12/2012 Meeting with the Austrian President at ESO; Santiago, Chile press release: <http://www.eso.org/public/announcements/ann12097/>
- 23/11/2012 Guiding a group of Austrian journalists through the ESO premises; Santiago, Chile
- 10/11/2012 ESO outreach at 170th anniversary of the Universidad de Chile on Cerro Calan; Santiago, Chile
- 16/11/2011 Meeting with a delegation of several members of the Austrian parliament at ESO; Santiago, Chile
- 15/06/2011 Public observations of the lunar eclipse at the Institute for Astronomy of the University of Vienna; Vienna, Austria
- 14/05/2011 Day of Astronomy at University of Vienna; Vienna, Austria

Technical projects

- 09/2012 *La Silla observatory*, Chile: Developing Python-scripts for the Wide-Field Imager to create health-check plots from the quality control pipeline and to send them to a static web page (with Fernando Selman)
- 07/2012 *Paranal observatory*, Chile: Creating shell-scripts to dynamical update the zero-points for several instruments, such as OmegaCam, VIMOS, and VIRCam (with Steffen Mieske)

Computer skills

- Programming and Script-languages **advanced skills:** Fortran, C/C++, MPI, Pascal/Delphi, Python, LaTeX, Bash-Shell, ABAP, SQL
basic skills: Java, R, Basic, JavaScript, HTML, CSS, PHP, microcontroller programming
- Software user experience Gnuplot, GIMP, Origin, NEMO, Topcat, SAO DS9, Galfit, MaximDL, Windows, Linux (Ubuntu, Fedora, SUSE), Office (MS, LibreOffice, Openoffice), SAP, Navision

Languages

- **German** (Native)
- **French** (Good)
- **English** (Fluent)
- **Russian** (Moderate)
- **Spanish** (Very good)

References

Steffen Mieske, *European Southern Observatory*, e-mail: smieske@eso.org, phone +56 22 463 3118, ESO Vitacura, Alonso de Cordova 3107, Vitacura, Casilla 19001, Santiago de Chile, Chile.

Eelco van Kampen, *European Southern Observatory*, e-mail: evkampen@eso.org, phone +49 89 3200 6875, ESO Headquarters, Karl-Schwarzschild-Str. 2, 85748 Garching bei München, Germany.

Remco van den Bosch, *Max Planck Institut for Astronomy*, e-mail: bosch@mpia.de, phone +49 6221 528 247, Max Planck Institut for Astronomy, Königstuhl 17, 69117 Heidelberg, Germany.

Werner Zeilinger, *University of Vienna*, e-mail: werner.zeilinger@univie.ac.at, phone +43 1 4277 51865, Institute for Astrophysics, University of Vienna, Türkenschanzstr. 17, 1180 Vienna, Austria.

Complete publication list

Submitted papers

Saulder, C., Mieske, S., Zeilinger, W. W. & van Kampen, E.: *Hubble flow variations as a test for inhomogeneous cosmology* submitted to *Astronomy & Astrophysics*. preview: http://www.equinoxomega.net/files/papers/timescape_paper.pdf

Refereed papers

Saulder, C., van Kampen, E., Chilingarian, I., Mieske, S. & Zeilinger, W. W.: *The matter distribution in the local universe as derived from SDSS DR12 and 2MRS data* in publication in *Astronomy & Astrophysics*, Volume 596, id.A14, 33 pp. ADS-link: <http://cdsads.u-strasbg.fr/abs/2015arXiv151105856S>

Saulder, C., van den Bosch, R. & Mieske, S.: *Dozens of compact and high dispersion early-type galaxies in SDSS* in *Astronomy & Astrophysics*, Volume 578, id.A134, 36 pp. ADS-link: <http://cdsads.u-strasbg.fr/abs/2015A%26A...578A.134S>

Saulder, C., Mieske, S., Zeilinger, W. W. & Chilingarian, I.: *Calibrating the fundamental plane with SDSS DR8 data* in *Astronomy & Astrophysics*, Volume 557, id.A21, 36 pp. ADS-link: <http://cdsads.u-strasbg.fr/abs/2013A%26A...557A..21S>

Conference proceedings

Saulder, C., Mieske, S. & Zeilinger, W. W.: *Observational aspects of an inhomogeneous cosmology* in *Proceedings of VIII International Workshop on the Dark Side of the Universe (DSU 2012)* ADS-link: <http://cdsads.u-strasbg.fr/abs/2012dsu..workE..18S>