
PERSONAL DETAILS

Nico Hamaus ([ORCID](#): 0000-0002-0876-2101)

Work address: Universitäts-Sternwarte München, Fakultät für Physik,
Ludwig-Maximilians-Universität München, Scheinerstr. 1, D-81679 Munich, Germany

Citizenship: German



LANGUAGES

German (native), English (fluent), French (proficient)

Linux, Shell script, \LaTeX , Python, Cython, Numpy, Jupyter Notebooks, IDL, Yorick,
R, Mathematica, Fortran, openMP, C++, Java, HTML, git, VS Code, CLASS, VIDE

RESEARCH INTERESTS

Cosmology, Large-Scale Structure, Cosmic Voids, Galaxy Surveys, Redshift-Space Distortions, Primordial Non-Gaussianity, Gravitational Lensing, Testing GR, Dark Energy, Dark Matter, Inflation, The Galactic Center Black Hole, Statistics, Simulations

EDUCATION

- 01/2020–07/2022 Habilitation
Ludwig-Maximilians-Universität (LMU) Munich, Germany
Title: *Cosmic Voids – Fundamental Physics from the Unexplored Universe*
Mentors: Ralf Bender, Otmar Biebel, Jochen Weller
- 08/2008–08/2012 Ph.D. in physics
University of Zurich (UZH), Switzerland
in collaboration with UC Berkeley, USA
Title: *Optimal Weights and Multiple Tracers in Large-Scale Structure*
Advisor: Uroš Seljak
- 09/2002–01/2008 Diploma (equiv. to M.Sc.) in physics and astronomy (*with distinction*)
Ludwig-Maximilians-Universität (LMU) Munich, Germany &
Max Planck Institute for Extraterrestrial Physics (MPE), Garching, Germany
Title: *Simulation of Flares from the Galactic Center Black Hole*
Advisors: Reinhard Genzel, Stefan Gillessen

ACADEMIC JOB HISTORY

- 06/2015– Senior research scientist, Faculty of Physics at the Ludwig-Maximilians-Universität (LMU) München, Germany
- 07/2013–06/2015 CNRS postdoctoral researcher, Institut d’Astrophysique de Paris (IAP) & Sorbonne Universités, Université Pierre et Marie Curie – Paris VI, France
- 09/2012–07/2013 International research fellowship, University of Illinois at Urbana-Champaign, USA
- 08/2008–08/2012 Ph.D. student, Institute for Theoretical Physics, University of Zurich, Switzerland & UC Berkeley and Lawrence Berkeley National Lab, USA
- 01/2008–04/2008 Research assistant, MPE Garching, Germany

PROJECTS

- COLLABORATIONS – [Dark Energy Survey](#) (DES), lead of the *Voids* working group (~ 40 members)
 – [Euclid](#), lead of the *EuclidVoids* working group (~ 100 members)
 – [Rubin LSST Dark Energy Science Collaboration](#) (DESC), junior associate
 – [eROSITA](#), project co-lead
 – [4MOST](#), proposal coordinator
 – [Excellence Cluster ORIGINS](#), member
 – [Cambridge-LMU strategic partnership](#), coordinator
- GRANTS AS PI – Funding for a Ph.D. student (205k€) by the German Research Foundation (DFG)
 – Recipient of 12 million CPU hours on C2PAP supercomputer at LRZ Munich
 – International research fellowship, University of Illinois at Urbana-Champaign (60k\$)
- PUBLICATIONS – 58 with major contribution, 14 as first (corresponding), 13 as second, 7 as third author
 – 4 in *Physical Review Letters* (3 as first author, 2 with editors' suggestion)
 – 2600+ citations and 29000+ reads on [SAO/NASA ADS](#) (major contribution only)
 – *g*-index: 51, *h*-index: 30, *i*10-index: 44, *i*100-index: 9

SERVICE

- COMMITTEES – S.O.C. of the [Excellence Cluster ORIGINS RU-C meeting 2021](#), online
 – S.O.C. of the [Cambridge-LMU strategic partnership meeting 2021](#), online
 – S.O.C. of the [The Non-Gaussian Universe conference 2019](#) at the CTC, Cambridge
 – S.O.C. of the [Cambridge-LMU strategic partnership meeting 2019](#), Munich
 – L.O.C. of *The Dark Universe 2017* conference, Munich
 – PostDoc and fellowship search committee member for the *PhysCos* group at LMU
 – Ph.D. defense committee member for Dr. Carles Sanchez at UAB Barcelona
 – Meetings steering committee member of the DES collaboration since 2015
- JOURNAL REFEREE – Astronomy & Astrophysics
 – Astrophysical Journal
 – Journal of Cosmology and Astroparticle Physics
 – Monthly Notices of the Royal Astronomical Society
 – Physical Review D
 – Physical Review Letters
 – Proceedings of the Royal Society A
 – Revista Mexicana de Astronomía y Astrofísica

SPECIAL ACHIEVEMENTS

- 11/2022 – Invited for panel interview for an [ERC consolidator grant](#) (up to 2M€)
- 06/2022 – Featured in Scientific American: “[Astronomers Might See Dark Matter by Staring into the Void](#)”
- 10/2018 – Featured in Quanta Magazine: “[Astronomers Creep Up to the Edge of the Milky Way’s Black Hole](#)”
- 01/2017 – Featured in the American Physical Society (APS) wall calendar 2017 for month of June
- 08/2016 – Physical Review Letters *Physics Synopsis*: “[Emptiness Constrains the Universe](#)”
- 08/2016 – Press releases by [OSU](#), [NSF](#), [LMU](#), [CNRS](#), [IAP](#), and [INAF](#). Coverage by more than 30 news portals, such as [Astronomy Now](#), [International Business Times](#), [SPACE.com](#), [Weser Kurier](#), [Deutschlandfunk](#), [Slate Magazine](#), [The Star Spot](#), [Spektrum.de](#)
- 06/2014 – Physical Review Letters editors' suggestion and highlighted *Physics Focus* article on “[Universal Formula for Cosmic Voids](#)”. Coverage by [Inside Science](#) and [Spektrum.de](#)

SELECTED MEETINGS AND PRESENTATIONS

- 11/2022 *AstroParticle Symposium*, Institut Pascal, Université Paris-Saclay, Orsay, France (invited talk)
- 06/2022 *Interpretable and higher-order statistics for late-time cosmology*, Institute for Fundamental Physics of the Universe, Trieste, Italy (talk)
- 05/2022 *Advances in Cosmology through Numerical Simulations*, Munich Institute for Astro-Particle Physics, Garching, Germany (talk)
- 04/2022 *Euclid Consortium Meeting*, University of Oslo, Norway (co-organizer parallel session)
- 11/2021 *The Accelerating Universe 2.0: The Physics and Astrophysics of Dark Energy and Gravitation*, Munich Institute for Astro-Particle Physics, Garching, Germany (talk)
- 01/2021 Cambridge-LMU strategic partnership meeting, online (co-organizer)
- 12/2019 *CoSyne: Cosmological Synergies in the upcoming decade*, international conference at Institut d'Astrophysique de Paris (IAP), France (invited talk)
- 10/2019 *Astrophysical Colloquium*, Georg-August-Universität Göttingen, Germany (invited talk)
- 09/2019 Cambridge-LMU conference on *The Non-Gaussian Universe*, Stephen Hawking Centre for Theoretical Cosmology, University of Cambridge, UK (talk)
- 07/2019 *Dynamics of Large Scale Structure*, Munich Institute for Astro-Particle Physics, Garching, Germany (talk)
- 06/2019 *String Theory and Cosmology*, Gordon Research Conference, Castelldefels, Spain (invited talk)
- 06/2019 *The Nature of Dark Matter and Large Scale Structure*, University of Cyprus Nicosia, Cyprus (invited talk)
- 04/2019 Cambridge-LMU strategic partnership kick-off meeting, Munich, Germany (talk)
- 03/2019 *DPG Frühjahrstagung München19*, Deutsche Physikalische Gesellschaft, Munich, Germany (talk)
- 01/2019 *University Observatory Munich Colloquium*, LMU Munich, Germany (invited talk)
- 10/2018 *Analytics, Inference, and Computation in Cosmology*, Institut Henri Poincaré, Paris, France (invited talk)
- 09/2018 *Bahcall Lunch Talk*, Institute for Advanced Study, Princeton, USA (invited talk)
- 09/2018 *Cosmology with cosmic voids*, Princeton University and Center for Computational Astrophysics, New York, USA (invited talk)
- 03/2018 *Ringberg Meeting of USM & MPE*, Ringberg castle, Tegernsee, Germany
- 03/2018 *53rd Rencontres de Moriond – Cosmology 2018*, La Thuile, Italy (talk)
- 10/2017 *The Dark Universe 2017*, LMU, Munich, Germany (talk)
- 06/2017 *Euclid Consortium Meeting*, UCL, London, United Kingdom (talk)
- 04/2017 *Ringberg Meeting of USM & MPE*, Ringberg castle, Tegernsee, Germany
- 02/2017 *Euclid Galaxy Clustering SWG Meeting*, ICE, Barcelona, Spain (talk)
- 12/2016 *Excellence Cluster Universe Science Week*, MPE, Garching, Germany (invited talk)
- 07/2016 *BAO & RSD: Dark Light on Obscure Acronyms*, SCFA, Sesto, Italy (invited talk)
- 06/2016 *From the Vacuum to the Universe*, Humboldt Kolleg, Kitzbühel, Austria (invited talk)

06/2016	<i>The 2016 Meeting of the German SKA Community</i> , KIT, Karlsruhe, Germany
05/2016	<i>The Dark Energy Survey Collaboration Meeting</i> , SLAC, Stanford, USA (talk)
03/2016	<i>Ringberg Meeting of USM & MPE</i> , Ringberg castle, Tegernsee, Germany (talk)
12/2015	<i>Excellence Cluster Universe Science Week</i> , MPE, Garching, Germany (invited talk)
10/2015	<i>The Dark Energy Survey Collaboration Meeting</i> , IFT, Madrid, Spain (talk)
07/2015	<i>Theoretical and Observational Progress on Large-Scale Structure of the Universe</i> , ESO, Garching, Germany (talk)
08/2014	<i>Cosmo 2014</i> , KICP, Chicago, USA (talk)
08/2014	<i>Cosmic Voids Workshop</i> , CCAPP, Columbus, USA (invited talk)
07/2014	<i>Collisionless Fluids</i> , IAP, France (invited talk)
06/2014	<i>IAU Symposium 308 – The Zeldovich Universe</i> , Tallinn, Estonia (talk)
02/2014	<i>Tracing the Cosmic Web</i> , Lorentz Center, Leiden, Netherlands (invited talk)
10/2013	<i>The Return of de Sitter II</i> , MPA, Munich, Germany
07/2013	<i>LSS13</i> , CSF, Ascona, Switzerland (talk)
07/2012	<i>Perturbative Approaches to Redshift-Space Distortions</i> , UZH, Switzerland (invited talk)
05/2012	<i>CosmoBias Workshop</i> , LAM, Marseille, France (invited talk)
04/2012	<i>MPA-IFT Spring Workshop on Large-Scale Structure</i> , Madrid, Spain (talk)
06/2011	<i>Conference on Cosmology since Einstein</i> , HKUST, Hong Kong (poster)
05/2011	<i>Cosmological Non-Gaussianity</i> , University of Michigan, USA (talk)
05/2010	<i>IEU-APCTP Workshop on Cosmology and Fundamental Physics</i> , Seoul, South Korea (invited talk)
05/2010	<i>APCTP-IEU Focus Program on Cosmology and Fundamental Physics</i> , Pohang, South Korea (invited talk)
10/2009	<i>LBNL Cosmology Group Seminar</i> , Berkeley, USA (invited talk)
07/2009	<i>CosmoStats</i> , CSF, Ascona, Switzerland
07/2008	<i>Summer School in Cosmology</i> , ICTP Trieste, Italy
12/2007	<i>MPE Tea Meeting</i> , Garching, Germany (talk)

SUPERVISION OF GRADUATE STUDENTS

10/2022–	M.Sc. student Joy Sanghavi at LMU
09/2022–	M.Sc. student Kai Lehman at LMU
04/2022–07/2022	B.Sc. student Lennard Dufner at MPA
04/2021–06/2022	M.Sc. student Apolline Chappard at LMU
04/2021–03/2022	M.Sc. student Thomas Vannieuwenhuyse at LMU (now Ph.D. student at ESO)
11/2020–09/2021	M.Sc. student Giordano Viviani at LMU (now Ph.D. student at EPFL)
09/2020–	Ph.D. student Nico Schuster at LMU
05/2020–08/2021	M.Sc. student William d'Assignies at ENS Paris (remotely, now trainee at EPFL)

03/2020–09/2020	M.Sc. student Anna Pugno at LMU (now Ph.D. student at University of Bonn)
04/2020–07/2020	M.Sc. student Maja Niemeyer at LMU (now Ph.D. student at MPA)
05/2019–04/2020	M.Sc. student Jin-Ah Choi at LMU (now Ph.D. student at TUM)
10/2018–11/2019	M.Sc. student Yang Liu at LMU
09/2018–08/2019	M.Sc. student Johannes Diehl at LMU (now Ph.D. student at MPP)
04/2019–06/2019	M.Sc. student Olivier Hauterville at LMU
06/2017–12/2020	Ph.D. student Marie Aubert at CPPM Marseille (remotely, now PostDoc in Lyon)
03/2017–12/2018	Ph.D. student Yuedong Fang at UPenn (remotely, now PostDoc at LMU)
09/2017–11/2018	M.Sc. student Nico Schuster at LMU (now Ph.D. student at LMU)
06/2015–10/2018	Ph.D. student Giorgia Pollina at LMU (now PostDoc at LMU)
06/2015–10/2018	Ph.D. student Tea Tutis at LMU
03/2017–03/2018	M.Sc. student Simon Bach at LMU
09/2015–09/2016	M.Sc. student Norbert Konrad at LMU
06/2015–06/2016	M.Sc. student Szymon Styrnik at LMU
09/2012–10/2014	Ph.D. student Alice Pisani at IAP (now faculty at Cooper Union / Flatiron Institute)

TEACHING EXPERIENCE

10/2022–02/2023	Supervisor for <i>Numerical Astrophysics Labs</i> at USM / LMU (3 ECTS)
04/2022–07/2022	Supervisor for <i>Numerical Astrophysics Labs</i> at USM / LMU (3 ECTS)
10/2021–02/2022	Lecturer for <i>Cosmology and Large-Scale Structure</i> seminar at USM / LMU (3 ECTS)
04/2021–07/2021	Teaching assistant for <i>Statistical Methods</i> at USM / LMU (6 ECTS)
10/2020–02/2021	Lecturer for <i>Astrophysics II</i> at USM / LMU (6 ECTS)
04/2020–07/2020	Teaching assistant for <i>Statistical Methods</i> at USM / LMU (6 ECTS)
10/2019–02/2020	Teaching assistant for <i>Cosmology and Large-Scale Structure</i> at USM / LMU (6 ECTS)
09/2019–09/2019	Supervisor for <i>Experimental Astrophysics Labs</i> (P3B-Astro) at USM / LMU (3 ECTS)
04/2019–07/2019	Teaching assistant for <i>Essentials of Advanced Astrophysics</i> at USM / LMU (9 ECTS)
10/2018–02/2019	Teaching assistant for <i>Cosmology and Large-Scale Structure</i> at USM / LMU (6 ECTS)
04/2018–07/2018	Teaching assistant for <i>Cosmology and Large-Scale Structure</i> at USM / LMU (6 ECTS)
10/2017–02/2018	Teaching assistant for <i>Cosmology and Large-Scale Structure</i> at USM / LMU (6 ECTS)
09/2017–09/2017	Supervisor for <i>Experimental Astrophysics Labs</i> (P3B-Astro) at USM / LMU (3 ECTS)
06/2017–06/2017	Lecturer for <i>Postdoc/Staff Lecture Series on Cosmology</i> at MPA
04/2017–07/2017	Teaching assistant for <i>Statistical Methods</i> at USM / LMU (6 ECTS)
10/2016–02/2017	Teaching assistant for <i>Essentials of Advanced Astrophysics</i> at USM / LMU (9 ECTS)
04/2016–07/2016	Teaching assistant for <i>Einführung in die Kosmologie</i> at USM / LMU (6 ECTS)
02/2016–03/2016	Supervisor for <i>Experimental Astrophysics Labs</i> (P3A-Astro) at USM / LMU (3 ECTS)
09/2015–10/2015	Supervisor for <i>Experimental Astrophysics Labs</i> (P3B-Astro) at USM / LMU (3 ECTS)

- 02/2012–06/2012 Teaching assistant for *Physics II* at UZH / ETH (8 ECTS)
02/2011–06/2011 Teaching assistant for *Introduction to Astrophysics* at UZH / ETH (10 ECTS)
02/2010–06/2010 Teaching assistant for *Quantum Mechanics II* at UZH / ETH (10 ECTS)
02/2009–06/2009 Teaching assistant for *Theoretical Cosmology* at UZH / ETH (10 ECTS)

PUBLIC OUTREACH

- 01/2021 Expert in online panel for “[The Big Bang and Black Holes: In Celebration of Stephen Hawking’s Birthday](#)” at the Centre for Theoretical Cosmology in Cambridge.
03/2017 Science-talk interview “[Dunkle Energie und kosmische Leere](#)” in *Spektrum.de*
01/2017 Public lecture on “Kosmologie – Die Lehre von Aufbau und Entwicklung des Universums” at Nicolaus-Copernicus-Planetarium Nürnberg, Germany
05/2016 Article “Spuren des Urknalls – Von der Geburt des Universums und seiner Entwicklung” in Lehrerzeitschrift *Unterricht Physik*
08/2014 “Celebrating the Cosmic Web” at the Center of Science and Industry, Columbus, USA
09/2011 “Ausserirdische in Science... und Fiction” at Scientifica (UZH), Zurich, Switzerland

REFERENCES

In chronological order of academic career (most recent on top):

Prof. Jochen Weller

Universitäts-Sternwarte München, Ludwig-Maximilians-Universität München
Scheinerstr. 1, D-81679 München, Germany
Email: jochen.weller@lmu.de | Phone: +49 89 2180 5976

Prof. Benjamin Wandelt

Institut d’Astrophysique de Paris, Institut Lagrange de Paris, Sorbonne University
98bis Boulevard Arago, 75014 Paris, France
Email: bwandelt@iap.fr | Phone: +33 1 44 32 81 43

Prof. Uroš Seljak (Ph.D. advisor, Gruber Cosmology Prize 2021)

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359 Campbell Hall, Berkeley, CA 94720, USA
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Prof. Vincent Desjacques

Technion, Israel Institute of Technology
Lidow Physics Complex, Haifa, 3200003, Israel
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Dr. Stefan Gillessen (M.Sc. co-advisor)

Max Planck Institute for Extraterrestrial Physics
Gießenbachstrasse 1, 85748 Garching, Germany
Email: ste@mpe.mpg.de | Phone: +49 89 30000 3839

Prof. Reinhard Genzel (M.Sc. advisor, Nobel Prize in Physics 2020)

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