

---

**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 *The 2016 Meeting of the German SKA Community*, KIT, Karlsruhe, Germany
- 05/2016 *The Dark Energy Survey Collaboration Meeting*, SLAC, Stanford, USA (talk)
- 03/2016 *Ringberg Meeting of USM & MPE*, Ringberg castle, Tegernsee, Germany (talk)
- 12/2015 *Excellence Cluster Universe Science Week*, MPE, Garching, Germany (invited talk)
- 10/2015 *The Dark Energy Survey Collaboration Meeting*, IFT, Madrid, Spain (talk)
- 07/2015 *Theoretical and Observational Progress on Large-Scale Structure of the Universe*, ESO, Garching, Germany (talk)
- 08/2014 *Cosmo 2014*, KICP, Chicago, USA (talk)
- 08/2014 *Cosmic Voids Workshop*, CCAPP, Columbus, USA (invited talk)
- 07/2014 *Collisionless Fluids*, IAP, France (invited talk)
- 06/2014 *IAU Symposium 308 – The Zeldovich Universe*, Tallinn, Estonia (talk)
- 02/2014 *Tracing the Cosmic Web*, Lorentz Center, Leiden, Netherlands (invited talk)
- 10/2013 *The Return of de Sitter II*, MPA, Munich, Germany
- 07/2013 *LSS13*, CSF, Ascona, Switzerland (talk)
- 07/2012 *Perturbative Approaches to Redshift-Space Distortions*, UZH, Switzerland (invited talk)
- 05/2012 *CosmoBias Workshop*, LAM, Marseille, France (invited talk)
- 04/2012 *MPA-IFT Spring Workshop on Large-Scale Structure*, Madrid, Spain (talk)
- 06/2011 *Conference on Cosmology since Einstein*, HKUST, Hong Kong (poster)
- 05/2011 *Cosmological Non-Gaussianity*, University of Michigan, USA (talk)
- 05/2010 *IEU-APCTP Workshop on Cosmology and Fundamental Physics*, Seoul, South Korea (invited talk)
- 05/2010 *APCTP-IEU Focus Program on Cosmology and Fundamental Physics*, Pohang, South Korea (invited talk)
- 10/2009 *LBNL Cosmology Group Seminar*, Berkeley, USA (invited talk)
- 07/2009 *CosmoStats*, CSF, Ascona, Switzerland
- 07/2008 *Summer School in Cosmology*, ICTP Trieste, Italy
- 12/2007 *MPE Tea Meeting*, 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 *Numerical Astrophysics Labs* at USM / LMU (3 ECTS)
- 04/2022–07/2022 Supervisor for *Numerical Astrophysics Labs* at USM / LMU (3 ECTS)
- 10/2021–02/2022 Lecturer for *Cosmology and Large-Scale Structure* seminar at USM / LMU (3 ECTS)
- 04/2021–07/2021 Teaching assistant for *Statistical Methods* at USM / LMU (6 ECTS)
- 10/2020–02/2021 Lecturer for *Astrophysics II* at USM / LMU (6 ECTS)
- 04/2020–07/2020 Teaching assistant for *Statistical Methods* at USM / LMU (6 ECTS)
- 10/2019–02/2020 Teaching assistant for *Cosmology and Large-Scale Structure* at USM / LMU (6 ECTS)
- 09/2019–09/2019 Supervisor for *Experimental Astrophysics Labs* (P3B-Astro) at USM / LMU (3 ECTS)
- 04/2019–07/2019 Teaching assistant for *Essentials of Advanced Astrophysics* at USM / LMU (9 ECTS)
- 10/2018–02/2019 Teaching assistant for *Cosmology and Large-Scale Structure* at USM / LMU (6 ECTS)
- 04/2018–07/2018 Teaching assistant for *Cosmology and Large-Scale Structure* at USM / LMU (6 ECTS)
- 10/2017–02/2018 Teaching assistant for *Cosmology and Large-Scale Structure* at USM / LMU (6 ECTS)
- 09/2017–09/2017 Supervisor for *Experimental Astrophysics Labs* (P3B-Astro) at USM / LMU (3 ECTS)
- 06/2017–06/2017 Lecturer for *Postdoc/Staff Lecture Series on Cosmology* at MPA
- 04/2017–07/2017 Teaching assistant for *Statistical Methods* at USM / LMU (6 ECTS)
- 10/2016–02/2017 Teaching assistant for *Essentials of Advanced Astrophysics* at USM / LMU (9 ECTS)
- 04/2016–07/2016 Teaching assistant for *Einführung in die Kosmologie* at USM / LMU (6 ECTS)
- 02/2016–03/2016 Supervisor for *Experimental Astrophysics Labs* (P3A-Astro) at USM / LMU (3 ECTS)
- 09/2015–10/2015 Supervisor for *Experimental Astrophysics Labs* (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](mailto: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](mailto:bwandelt@iap.fr) | Phone: +33 1 44 32 81 43

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

Physics and Astronomy Departments, University of California, Berkeley  
359 Campbell Hall, Berkeley, CA 94720, USA  
Email: [useljak@berkeley.edu](mailto:useljak@berkeley.edu) | Phone: +1 510 666 2627

**Prof. Vincent Desjacques**

Technion, Israel Institute of Technology  
Lidow Physics Complex, Haifa, 3200003, Israel  
Email: [dvince@physics.technion.ac.il](mailto:dvince@physics.technion.ac.il) | Phone: +972 77 877 1458

**Dr. Stefan Gillessen** (M.Sc. co-advisor)

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

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

Max Planck Institute for Extraterrestrial Physics  
Gießenbachstrasse 1, 85748 Garching, Germany  
Email: [genzel@mpe.mpg.de](mailto:genzel@mpe.mpg.de) | Phone: +49 89 30000 3280