Priv.-Doz. Dr. Annalisa Pillepich

Tenured Research Group Leader
Max Planck Institute for Astronomy

Königstuhl 17 · 69117 Heidelberg · Germany

RESEARCH INTERESTS & METHODS

I am a physicist turned computational astrophysicist, still thinking like a cosmologist and marveling at the beauty, complexity and information content of galaxies. I build simulated universes to learn from the Universe about galaxies, and from galaxies about the Universe.

A highlight of my career so far is the IllustrisTNG project, a suite of cosmological magneto-hydrodynamical simulations that has become a reference for understanding galaxies and the large-scale structure of the Universe. With Dylan Nelson, I am PI of TNG50, its highest-resolution run, and of the spin-off TNG-Cluster.

I am PI of the ERC Consolidator Grant COSMIC-KEY on baryonic physics for cosmology, and founder of ERGO-ML, a programme of machine-learning inference with simulations. I am also co-PI of VESTRAL, a new suite of cosmological galaxy simulations at the frontier of the field, with a multi-phase interstellar medium, sub-parsec resolution and single-star physics (PIs Nelson/Smith; co-PIs Pillepich/Klessen) — see below.

Research themes:

- Numerical galaxy formation and cosmology: gravity and magneto-hydrodynamics simulations
- Supermassive black holes, feedback, halo gas, and clusters of galaxies
- Galaxy evolution across cosmic time, including the Milky Way's structure and assembly
- Baryonic effects for cosmology: dark matter, dark energy, cosmological-parameter inference
- Forward modelling, simulation-based inference and machine learning; X-ray observables
- Primordial fluctuations, non-Gaussianity, 21-cm, and analytical perturbation theory

PROFESSIONAL APPOINTMENTS (HIGHLIGHTS)

Sep 2020 - present	**Max Planck Institute for Astronomy, Heidelberg** Tenured Research Group Leader and Staff Member (W2 since 2026) *Maternity leave: Apr 2023 - Aug 2023*
Jun 2016 - Aug 2020	**Max Planck Institute for Astronomy, Heidelberg** W2 Independent Research Group Leader
Nov 2013 - May 2016	Center for Astrophysics, **Harvard University** Post-doctoral researcher
Nov 2010 - Oct 2013	**University of California at Santa Cruz, USA** Swiss National Science Foundation Post-doctoral Fellow UCSC Post-doctoral Scholar
Nov 2005 - May 2010	**ETH Zürich, Switzerland** Research and Teaching Assistant

EDUCATION AND ACADEMIC TITLES

2025 **Habilitation: Heidelberg University, Germany — Privatdozentin,** i.e. the post-doctoral qualification conferring the *venia legendi*, the right to teach and supervise independently
"Simulating galaxies from dwarfs to clusters: the diverse and far-reaching effects of SMBHs"

2010 **PhD in Physics: ETH Zürich, Switzerland**
Advisors: Prof. C. Porciani and Prof. S. Lilly
"Constraining Primordial Non-Gaussianity from the Large Scale Structure of the Universe"

2005 **Master in Physics, 110/110 (highest mark)**
Universita' degli Studi di Pisa, Italy
Advisor: Prof. S. Matarrese
"Cosmological Perturbation Theory in a Matter Dominated Universe: the Gradient Expansion"

2003 **Bachelor in Physics, 110/110 cum Laude (highest honours)**
Universita' degli Studi di Pisa, Italy
Supervisor: Prof. E. Vicari, Final Work Title: *"Cosmological Models"*

SCIENTIFIC PUBLICATION METRICS

(see attached Publication List, if applicable — SciX, as of 11.2026)

Total of >220 refereed publications in peer-reviewed journals,
of which 12, 47, and 36 as 1st, 2nd and 3rd author, respectively

Total of > 35'500 citations, of which > 6'500 from first-author papers
h-index = 80
first-author papers with > 1000 citations = 3
first-author papers with > 100 citations = 10
co-author papers with > 100 citations = 67

ACADEMIC DISTINCTIONS, GRANTS, AWARDS, AND HONOURS (HIGHLIGHTS)

2026 **W2 position** (MPG/MPIA), as recognition of independence and achievements

2023 **ERC Consolidator Grant 2022 COSMIC-KEY**
PI and principal author: about €1,994,000

2021- 2024 **Highly Cited Researcher, Clarivate award**
Ranked in the top 1% by citations for the "Space Science" field in a given year

2021 **"EXPLORATORY PROJECT EP 3.4, EXC 2181 STRUCTURES"**
"From the fine-structure features of stellar haloes to the histories of their galaxies"
PI and author: about €45,000 for a 1-year PhD salary

2020 **Tenure** at the Max Planck Institute for Astronomy: permanent research group leader position, awarded after an open international competition (2019) and a formal evaluation (2020)

2019 **"HLRS Golden Spike Award"**
Awarded by the High-Performance Computing Center Stuttgart (HLRS)

2019 - 2022 **"SFB881 The Milky Way System"**
DFG Heidelberg-wide Collaborative Research Centre: Third funding period
Co-PI and author: about €501,000 for a PhD and postdoctoral position

2019 - 2025 **"EXC 2181 STRUCTURES"**
Heidelberg-wide Cluster of Excellence
Associate member (CP1: Cosmic Structure Formation): funds for a postdoctoral position

2014 **"Clusters of Galaxies in the last 5 Billion Years: from the Brightest Cluster Galaxy to the Intra-Cluster Light"**
HST, Cycle 22, Theory Proposal: AR-13897
PI and principal author: USD100,251

2010 - 2012 **Swiss National Science Foundation Fellowship for Prospective Researchers**

2000 - 2005 **Undergraduate Fellowship "Fondazione Collegio Puteano", Pisa, Italy**

GRANTS FOR COMPUTING TIME AT NATIONAL/INTERNATIONAL COMPUTING FACILITIES

2025 **CosmoGASSISM: Cosmological galaxy simulations at sub-parsec resolution**
Steinbuch Centre for Computing at KIT: Computing proposal
Co-I and principal author
61 million CPU core hours allocated on HoreKA at KIT (value: approx. €1,716,000)

2022 "**TNG-Cluster**: extending IllustrisTNG to the most massive objects in the Universe"
Steinbuch Centre for Computing at KIT: Computing proposal
Co-PI and principal author
64 million CPU core hours allocated on HoreKA at KIT (value: approx. €2,400,000)

2017 - 2018 **"IllustrisTNG-Dwarf**: Predictive galaxy formation from the smallest to the largest scales"
Gauss Centre for Supercomputing: Computing Proposal Extensions / 44101 / GCS-Dwar
Co-PI and principal author
30+25 million CPU core hours allocated on Hazel Hen at HLRS (value: approx. €2,100,000)

2016 **"IllustrisTNG-Dwarf**: Predictive galaxy formation from the smallest to the largest scales"
Gauss Centre for Supercomputing: Computing Proposal / 44101 / GCS-Dwar
Co-PI and principal author
84 million CPU core hours allocated on Hazel Hen at HLRS (value: approx. €3,155,000)

2016 **"The Illustris++ Project: Predicting galaxy formation in a representative volume…"**
Gauss Centre for Supercomputing: Computing Project Extension / 44057 / GCS-ILLU
Co-I and principal author
19.5 million CPU core hours allocated on Hazel Hen at HLRS (value: approx. €730,000)

2014 **"IllustrisTNG: The Next Generation Cosmological Hydrodynamics Simulations"**
XSEDE Computing Proposal: TG-AST140063
PI and principal author
5 million CPU core hours allocated on TACC/Stampede (value: approx. USD173,000)

SOC CHAIR AND PRIMARY ORGANISER OF INTERNATIONAL SCIENTIFIC MEETINGS

2026 2nd Edition of Building galaxies from scratch conference BUGS2026, ~ 130 participants
2019 Ringberg Workshop "Machine learning tools for research in astronomy", ~ 60 participants
2018 MPIA Conference "Stellar Halos across the Cosmos", ~ 100 participants
2017 Ringberg Workshop "Galaxy evolution in groups and clusters", ~ 60 participants

+SOC member of another dozen scientific conferences

LEADERSHIP AND PROFESSIONAL SERVICES

I see service to the scientific community as part of the job, and contribute regularly through:

2022 - 2024 Member of the ADS User Group
2018 — External committee member of a number of international PhD dissertations
2016 — Reviewer for Supercomputing Time Allocations:
DiRAC High Performance Computing resource (UK)
Leibniz-Rechenzentrum (SuperMUC; Germany)

2012 — Reviewer for peer-reviewed journals:
MNRAS, ApJ, JCAP, ASCOM, Universe, A&A, Science, Nature Astronomy, Science Advances

2009 — Reviewer for funding agencies and Review panel member (alphabetical order):
Austrian Science Fund (FWF, Austria)
Dutch Research Council (NWO, The Netherlands)
European Research Council, ERC Starting and Advanced Grants (EU)
Hubble Space Telescope, Cycle 21 (HST; USA)
Humboldt Foundation (Germany)
Israel Science Foundation (Israel)
NASA Hubble Fellowship Program (NHFP; USA)
National Commission for Scientific and Technological Research (ALMA-CONICYT, Chile)
National Fund for Scientific and Technological Development (Fondecyt, Chile)
National Research, Development and Innovation Office of Hungary
Natural Sciences and Engineering Research Council of Canada (NSERC; Canada)
National Science Foundation (NSF; USA)
Swiss National Science Foundation (SNSF, Switzerland)

MAIN SCIENTIFIC COLLABORATIONS

*I am part of, or **lead,** the following international scientific collaborations (highlights):*

2025 – NewAthena Science Community (WG1 and WG2 membership)
2021 – **VESTRAL** simulations core team (PIs: D. Nelson/M.C.Smith; co-PIs: A. Pillepich/R. Klessen)
2021 – **TNG-Cluster simulation** team (PIs: A. Pillepich/D. Nelson)
2022-2024 Line Emission Mapper (LEM) X-ray Probe for the 2030s, Science Team (PI: Ralph Kraft)
2019-2026 EXC 2181 STRUCTURES (associate member, "Cosmic Structure Formation")
2016-2024 Collaborative Research Center SFB881 "The Milky Way System" (co-I)
2014-2024 **IllustrisTNG developer team** (PI: V. Springel; PIs of TNG50: A.Pillepich/D. Nelson)
2012 — eROSITA German Consortium (external collaborator)

SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

Prior to my current post, I have been the main scientific contact of a few junior colleagues at my previous host institutions, in particular of 5 PhD students at Harvard University. Since 2016, I have been the official and/or day-to-day supervisor of a number of postdocs, PhD students, and undergraduate students at Heidelberg University and at MPIA:

Team postdocs:

2026/10 —	Dr. Elena Arjona Galvez
2026/08 —	Dr. Wonki Lee
2024/11 —	Dr. Joey Braspenning
2024/11 —	Dr. Akanksha Kapahtia
2023/11 - 2024/08	Dr. Urmila (Mila) Chadayammuri (now astronomy editor at Nature)
2020/07 - 2023/03	Dr. Nhut Truong (now research associate at NASA/Goddard)
2018/09 - 2021/12	Dr. Martina Donnari (SFB881 funding)
2017/09 - 2020/08	Dr. Elad Zinger (now researcher at Hebrew University)
2017/11 - 2021/07	Dr. Gandhali Joshi (now postdoc at University College London)
2016/09 - 2017/08	Dr. Mark Lovell (now fellow at Univ. of Durham and Univ. of Iceland)

Postdoctoral MPIA fellows and postdoctoral researchers shared between my group and the University:

2024/12 —	Dr. Eric Rohr (STRUCTURES funding; then postdoc at MPA)
2021/10 - 2023/08	Dr. Matthew Smith (STRUCTURES funding; then postdoc at MPA)
2020/10 - 2023/09	Dr. Joe Lewis (STRUCTURES funding; then postdoc at IAP Paris)
2019/09 - 2021/03	Dr. Maxime Trebitsch (STRUCTURES funding; then postdoc in Groeningen)
2017/09 - 2021/08	Dr. Allison Merritt (then in industry)
2017/09 - 2019/05	Dr. Gergo Popping (then staff at ESO)

*PhD Students: (*Official and day-to-day Advisor for PhD Thesis at MPIA, IMPRS Heidelberg, and HGSFP)

2024-2028 Bipradeep Saha
2023-2027 Dimitris Chatzigiannakis
2023-2027 Anirudh Ravishankar
2023-2026 Marine Prunier, with University' de Montreal; then postdoc at MIT
2020-2024 Eric Rohr, then postdoc at Heidelberg University and MPIA
2020-2024 Lukas Eisert, then Research Associate, LSST at SLAC, Stanford and Rubin Observing Specialist
2019-2024 Diego Sotillo-Ramos, then postdoc in Madrid
2018-2022 Christoph Engler, then in industry
2016-2020 Kiyun Yun

Master Students and long-term interns:

2026 Alessandro Di Gregorio: "Simulating the universe and its galaxies with dynamical Dark Energy"
2026 Gaetano Dinatale: "How early in cosmic history does a Kennicutt-Schmidt relation set in?"
2026 Jehanne Delhomelle: "The effects of galaxy interactions on star formation at Cosmic Noon with TNG50"
2025 Maxim Oweyssi: "Inferring the total mass of galaxy clusters from their X-ray images"
2025 Shera Jafaritabar: "The merger history of massive galaxy clusters from their X-ray and radio maps"
2025 Shalini Kurinchi-Vendhan: "Effects of SMBH feedback in a multi-phase cold ISM"
2025 Ainhoa Zubiaur Arsuaga: "eROSITA-like bubbles with different SMBH feedback models?"
2025 Maitri Purohit: "Cosmological parameters from galaxy cluster counts"
2025 Maulik Parekh: "The Gas Fraction of Mock-Observed Galaxy Groups with Cosmological Simulations"
2024 Shalini Kurinchi-Vendhan (Fulbright): "Jellyfish galaxies with IllustrisTNG and their SMBH activity"
2024 Florian Lacroix (with Anna de Graaff): "Mock kinematics of TNG50 galaxies with JWST/NIRSpec"
2024 Florian Dedieu: "Perpendicular or tilted? On the inclination of eROSITA-like CGM bubbles"
2024 Shravani Pandit: "Physical properties of the intra-group medium with TNG50"
2023 Noa Hoffmann: "Characterizing and Mocking the Stellar Halos of TNG50 Milky Way & M31-like Galaxies"
2022 Martin Fournier: "Properties of the Magellanic Cloud Analogs in TNG50"
2022 Nikhil Bisht: "Radial Migration of Stars of Milky Way/M31 analogs in TNG50"
2021 Junia Goeller: "The Star Formation Properties of Jellyfish Galaxies in TNG50"
2020 Kaj Kramer: "The alpha abundances of satellite and halo stars in TNG50 MW/M31-like galaxies"
2019 Lukas Eisert: "From the morphologies of stellar haloes to the assembly histories of galaxies"
2018 Sebastian Schulz: "The IRX - beta dust attenuation relation: Insights from IllustrisTNG"
2018 Moritz Fischer: "How different are in-situ and ex-situ stellar population properties?"

Bachelor Students and short-term interns:

2026 Michelle Park (Stanford): “The effects of galaxy interactions on star formation with the VESTRAL simulations”
2026 Marc Noe: “The Role of AGN Feedback on the Large-Scale Metal Distribution around Galaxies in TNG50”
2025 Sunna Gottschewski: “The star-forming (and disky) past of brightest cluster galaxies”
2024 Lokesh Manickavasaham: “Evolution Across Cosmic Times of the Most Massive Clusters”
2024 Archis Mukhopadhyay (DAAD-WISE): “The magnetic fields of jellyfish galaxies in IllustrisTNG”
2022 Maria Renee Meza (MPIA summer intern): “Star formation, bars and SMBHs of Milky Way-like galaxies”
2020 Rahul Ramesh (DAAD-WISE): “The stellar mass assembly of galaxies in groups and clusters”
2018 Lisa-Marie Zessner (now PhD student at MPS): “Stellar metallicity Gradients in TNG Stellar Halos”
2018 Patrick Ondratschek (now PhD student at MPS): “The stellar density profiles of TNG stellar haloes”
2017 Luis Hellmich (summer intern): “Effects of baryons on the subhalo mass function”
2017 Max Sasserath (with Hans-Walter Rix): “Predicted satellite galaxy abundance around the Milky Way”

TEACHING ACTIVITY

Teaching is not part of my duties at MPIA, a research institute, but I value it: I teach regularly at Master and PhD level at Heidelberg University, where I recently received my Habilitation (Privatdozentin), and I taught and assisted courses at my previous institutions.

2026	**Heidelberg University, Core Course (WS26/27)** For Master students: **“Cosmology”**
2019 —	**Heidelberg University, Block Course, 7 times (SS19–SS26)** For Master and PhD students: **“Cosmology”**
2020	**Heidelberg University, Master Seminar (WS20/21)** For Master students: **“Observational and Numerical Galaxy Evolution”**
2019	**Heidelberg University, Master Seminar (WS19/20)** For Master students: **“Numerical Galaxy Formation”**
2018	**Heidelberg University, 41st Heidelberg Physics Graduate Days** For Master and PhD students: **“Simulations for galaxy formation and evolution”**
2005-2010	**ETH Zürich, Teaching Assistant for undergraduate-level courses:** • 2 semesters in Electromagnetism (frontal class) • 1 semester in Introduction to Quantum Mechanics (frontal class) • 1 semester in Astrophysics (exercise responsible) • 3 semesters in Advanced Physics Laboratory Courses

CONTRIBUTIONS TO THE HEIDELBERG ACADEMIC COMMUNITY

In addition to the teaching and mentoring activities listed above and my international academic service (see above), I contribute to the academic life of MPIA, Heidelberg University, and their associated institutions through a number of activities.

2023 –	Member of the Postdoc Mentoring Program (PomP) of my institute
2021 –	Member of the Organisational Team of the Heidelberg Physics Graduate Days
2019 –	Member of the PhD Advisory Committee (PAC) of my institute
2017 –	Selection Committee Member for the Ernst Patzer Prize
2016 –	Postdoc search committee (almost yearly; chair in 2024/25 and 2022/23)
2016 –	Member of ~12 IMPRS-HD PhD thesis committees (students supervised by others)
2016 –	Design, procurement and oversight of the MPIA-dedicated supercomputers at the MPCDF
2016 –	Two dozens of invited or self-initiated science lectures and seminars in Heidelberg

OUTREACH

2025 Lecture at the 7th Shaw-IAU Workshop on Astronomy for Education
2022 Vortrag at “Die lange Nacht der Astronominnen”, Garching b. München
2021 “Cosmological Jellyfish”, citizen science project, on Zooniverse.org
2020 “Universi al Computer”, article for the astronomy magazine Coelum
2018 “Abbiamo messo l’Universo in una scatola”, article for La Lettura - Corriere della Sera

INVITED RESEARCH COLLOQUIA AND SEMINARS AT SCIENTIFIC INSTITUTES

Over the last ten years, I have been invited to about 50–60 colloquia and seminars at institutes across the world (fewer since 2023, owing to maternity leave and early childcare).

2027	Colloquium, University of Zurich, Switzerland(scheduled)
	Colloquium, University of Vienna, Austria (scheduled)
2026	Colloquium, INAF Bologna, Italy
2025	Colloquium, Università degli Studi di Napoli Federico II, Dipartimento di Fisica, Italy
	Colloquium, Università degli Studi di Pisa, Dipartimento di Fisica, Italy
	Colloquium, University of Oslo, Institute for Theoretical Astrophysics, Norway
2024	Colloquium, University of Cologne, Dept. of Astronomy, D (virtual)
	Colloquium, University of Geneva and EPFL, Dept. of Astronomy, Switzerland
2023	Colloquium, FORTH Institute of Astrophysics, Greece (virtual)
	Seminar at the IAC Tenerife, Spain (virtual)
	Colloquium, Leibniz-Institut für Astrophysik Potsdam, IAP, Germany
	Seminar at Lund University, Sweden (virtual)
2022	Colloquium, University of Warwick, Dept. of Physics, UK (virtual)
	Colloquium at Symposium in Computational Physics May 2022, Heidelberg, Germany
	Institute seminar at ICRAR, Perth, Australia
	Colloquium, University of Vienna, Dept. of Astronomy, Austria (virtual)
	Colloquium, Sapienza University of Rome, Italy (virtual)
2021	OSU Colloquium, Ohio State University, USA (virtual)
	Seminar at the IAC Tenerife, Spain (virtual)
	Seminar at Universidade Cruzeiro do Sul, Sao Paulo, Brazil (virtual)
	IAP Colloquium, Paris, France (virtual)
2020	Seminar at University of Victoria, Canada (virtual)
	Colloquium at ICRAR/University of Western Australia, Australia (virtual)
	Colloquium at CU Boulder, USA (virtual)
	ITC Colloquium at Harvard University, USA (virtual)
	Astronomy Colloquium at University of Sussex, UK
2019	Public Colloquium at Reykjavik University, Iceland
	Colloquium at IRAP Toulouse, France
	Seminar at Liverpool University, UK
	Seminar at MPE, Germany
	Colloquium at ASIAA, Taipei, Taiwan
2018	Seminar at the Institute for Astronomy, Tenerife, Spain
	Joint Astronomy Colloquium at Garching, Germany
	Colloquium at Durham, UK
	Colloquium at UC Santa Cruz, USA
	Cosmology Seminar at Stanford University, USA
	Colloquium at ETH Zurich, Switzerland
	Seminar at the 73rd Netherlands Astronomers Conference, Netherlands
	Colloquium at INAF Osservatorio Astronomico di Trieste, Italy
2017	Colloquium at Universite' de Montpellier, France
	Colloquium at St. Andrews University, UK
	Colloquium at the Universitäts-Sternwarte München, Germany
	Heidelberg Joint Astronomical Colloquium, Germany
	Colloquium at the CCA Simons Foundation, New York, USA
	Keynote Seminar at the 22nd Symposium for Astroparticle Physics, Netherlands
2016	Koenigstuhl Colloquium, Heidelberg, Germany
2015	Lunch Seminar, Tufts University, USA
	Brown Bag Talk, Harvard University, USA
2014	Cosmology Seminar at the Univ. of Minnesota, Minneapolis, USA
2013	Colloquium at IPMU, Kashiwa, Japan
	Seminar at the "CITA Seminar Series", Toronto, Canada
2012	Colloquium at UW Astronomy Department, Seattle, USA
2010	Colloquium at MPE, Garching, Germany
	Colloquium at the Institut de Physique Theorique, CEA, France
2008	Colloquium at the Lab. de Phys.Subatomique et Cosmologie, Grenoble, France

+ tens of other self-initiated seminars and scientific presentations seminars, also at local institutions

INVITED TALKS AT INTERNATIONAL CONFERENCES, MEETINGS AND SCHOOLS

Over the past ten years, I have received approximately 60 invitations to give scientific talks at international conferences, workshops, and other scientific meetings; I have accepted most of them, a number remotely during periods of parental leave and childcare.

2027 *"East Asian workshop on galaxy clusters (CL2027)", Sendai, Japan*
"From gas accretion to the multiphase ISM: How Stars form in Galaxies", Sesto, Italy

2026 *"Early Galaxies and Infant Black Holes", Rome, Italy*
"Ringberg Workshop on Computational Galaxy Formation", Ringberg Castle, Germany
"8th ICM Theory and Computation Workshop", Brno, Czech Republic

2025 *"2025 Merging Cluster Workshop", Seoul, Korea (virtual)*
"XRISM International Conference 2025", Kyoto, Japan (virtual)
"IAU Symposium 403. The Hidden Beauty of the Galactic Outskirts", Cordoba, Spain
"Machine Learning for Astrophysics" Vancouver, Canada
"Contents of the Fermi Bubbles and Related Topics", Green Bank Observatories, USA
Review talk at MIAPbP program Unveiling a Universe of Black Holes, Garching, Germany

2024 *"A decade of Illustris", Gargonza, Italy*
"7th ICM Theory & Computation Workshop", Ann Arbor, USA
"To Our Cosmic Horizon and Beyond: A Celebration of 20 Years of ITC", Harvard, USA
Plenary at German Astronomical Society meeting, Cologne, Germany

2023 *"New simulations for new problems in galaxy formation", Paris, France*
"MIST2023: Cosmic turbulence and Magnetic fields: physics of baryonic …", Cargese, France

2022 *"Multi-phase, Multi-temperature and Complex: how AGN feedback…", ESO, Germany*
"What is the Milky Way telling us about galaxy formation", Perth, Australia
"What matter(s) around galaxies 2022", Champoluc, Italy
"6th ICM Theory and Computation Workshop", Copenhagen, Denmark
Plenary at IAU2022 on "Resolving the Rise and Fall of Star Formation in Galaxies", Busan, Korea
"The Physical Properties of Groups of Galaxies", Bertinoro, Italy
"Properties and impact of large-scale multiphase AGN outflows", EAS2022, Valencia (ES)
"SynCRETism 2022 - Particle physicists dining with Astrophysicists", Crete, Greece
"Special session on Line Emission Mapper", 240th AAS meeting, Pasadena, USA (virtual)
"LEGA-C" meeting, Bruges, Belgium
"Galaxy Clusters 2022: Challenging Our Cosmological Perspectives", STScI, USA (virtual)
"Ringberg Workshop on Computational Galaxy Formation", Germany
"Dawn Winter School", Copenhagen, Denmark (virtual)

2021 *"Dark World to Swampland" Workshop, Korea/Spain (virtual)*
"Predictive Power of Computational Astrophysics", IAU362, Chamonix, France (virtual)
"ML4Jets" i.e. ML for particle physics, Heidelberg, Germany (virtual)
"XXXII IUPAP Conference on Computational Physics", Coventry, UK (virtual)
"Gamma rays to shed light on dark matter", ISAPP School, Spain (virtual)
"Fundamentals of Gaseous Halos", KITP, Santa Barbara, USA (virtual)

2020 *"Linking the Galactic and Extragalactic", Wollongong, Australia (virtual)*
"Virgo Consortium Meeting", Durham, UK

2019 *"Subaru Telescope 20th anniversary Conference", Hawaii, USA*
"Fornax3D Collaboration Meeting", Heidelberg, Germany
"22nd Results and Review Workshop of the HLRS", Stuttgart, Germany
"Extremely big eyes on the Early Universe", Rome, Italy
"Tracing cosmic evolution with clusters of galaxies", Sexten, Italy
"Stars without borders", Ljubljana, Slovenia
"Light in the suburbs: structure and chemodynamics of galaxy halos", Sexten, Italy
"News from the Dark", Montpellier, France
"Metals in galaxies, near and far", Leiden, Netherlands
"Physics of the Intracluster Medium: Theory and Computation", Budapest, HU
"Panchromatic Panoramic Studies of Galaxy Clusters", Taipei, Taiwan

"Linking galaxies from the epoch of initial star formation to today", Sydney

2018 *"Virgo Consortium Meeting", Leiden, Netherlands*
"Cosmology in Dubrovnik 2018", Dubrovnik, Croatia
"Birth, life and fate of massive galaxies…", Favignana, Italy
"The Physics of Galaxy Scaling Relations", Kingston, Canada
"eROSITA Consortium meeting", Garching, Germany
"Mock Durham: Galaxy Formation for Surveys", Durham, UK
"EWASS: Unveiling the low surface brightness Universe", Liverpool, UK
"Computational galaxy formation", Ringberg, Germany
"SnowCluster 2018", Salt Lake City, USA
"ASPECS team meeting", Ringberg, Germany

< 2017 *"Carving through the Codes: Challenges in Computational…", Davos, Switzerland*
"Baryonic Stellar Haloes", Galapagos, Ecuador
"The Galaxy Ecosystem", ESO, Garching, Germany
"A Decade of the Star-Forming Main Sequence", Leiden, Netherlands
"Fornax Deep Survey Meeting", Groningen, Netherlands
"Dwarf Galaxy Workshop", ESO Garching, Germany
"Computational galaxy formation", Ringberg, Germany
"eROSITA and followup", Ringberg, Germany
"Cosmology with Galaxy Clusters in the XXI Century", Madrid, Spain
"Arepofest-1", Heidelberg, Germany
"The almost-Gaussian Universe", CEA, France

+ tens of contributed seminars at other international and collaboration meetings.

ACADEMIC SUPERVISORS AND MENTORS

- Prof. Hans-Walter Rix, Max Planck Institute for Astronomy, Heidelberg, Germany
- Prof. Lars Hernquist, Harvard University, Cambridge, USA
- Prof. Piero Madau, University of California Santa Cruz, USA

- Prof. Volker Springel, Max Planck Institute for Astrophysics, Munich, Germany
- Prof. Cristiano Porciani (PhD advisor), University of Bonn, Germany