

PERSONAL INFORMATION

Name: Aurel Schneider
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SUMMARY

SNSF Eccellenza professor and group leader at the Department of Astrophysics, University of Zurich. Expert in theoretical/numerical cosmology, astrophysical structure formation, and dark matter physics.

EDUCATION

10/2008 - 08/2012 Ph.D. in Physics, University of Zurich, Switzerland; title: *Dark matter and the free streaming scale*; advisor: Prof. Dr. Ben Moore; date of defence: 26/08/2012.
09/2006 - 08/2008 M.Sc. in Physics, University of Fribourg, Switzerland.
09/2003 - 08/2006 B.Sc. in Geography and Physics, University of Fribourg, Switzerland.

EMPLOYMENT HISTORY

09/2019 - today SNF Eccellenza Professor, Department of Astrophysics, University of Zurich.
09/2016 - 08/2019 SNF Ambizione Research Fellow, Institute for Particle Physics and Astrophysics, ETH Zurich (affiliated to the Cosmology group of Prof. Dr. Alexandre Refregier).
09/2014 - 08/2016 Postdoctoral Researcher, Institute for Computational Science, University of Zurich (Sinergia postdoc employed within the program: *Euclid - high-precision cosmology in the dark sector*).

09/2012 - 08/2014 Postdoctoral Researcher (CosmoComp fellow with Prof. Peter Thomas; Early Researcher Mobility fellow SNF), Astronomy Centre, University of Sussex, United Kingdom.

RESEARCH

Interests: Cosmology, Dark Matter, Structure Formation, Gravitational Lensing, Numerical Simulations, Astro-Particle Physics.

Publications: 62 papers in peer-reviewed journals, total citation number of 4745, h-index of 33 (as of 01/04/2024, Google Scholar).

INTERNATIONAL LEADERSHIP ROLES

Since 2022 Co-leader of the Cosmological Simulation Science Working Group (CS-SWG, ~80 members) of the *Euclid* Consortium.

Since 2023 Board member and Swiss representative of the Epoch of Reionisation (EoR) working group (~140 members) of the Square Kilometre Array Observatory (SKAO).

APPROVED RESEARCH GRANTS

Eccellenza Grant, Swiss National Science Foundation. Title: *Gravitational Probes of Dark Matter* (1.85M CHF)

Ambizione Grant, Swiss National Science Foundation. Title: *Exploring the Dark Matter Sector with Astronomical Surveys* (475k CHF).

CSCS Computing Project s720. Title: *Emulating the Euclid Universe: Predictions for Weak Lensing and Galaxy Clustering* (Principal Investigator; 10M CPU Hours)

CSCS Computing Project s592. Title: *Simulating the Euclid Universe and Correcting for Baryons* (Principle Investigator; 12M CPU Hours).

Early Researcher Mobility Grant, Swiss National Science Foundation. Title: *Dark Matters: From Particle Cosmology to Astrophysics* (100k CHF).

SUPERVISION

Supervision of Ph.D. candidates Jozef Bucko (2020-2024) and Thimotée Schaeffer (since October 2019), University of Zurich.

Supervision of postdoctoral researchers Dr. Sambit Giri (2019-2022) and Dr. Giovanni Aricò (since 2021).

Supervision of various Bachelor and Master students at ETH Zurich (Master thesis: N. Stoira, A. Weiss, T. Schaeffer) and the University of Zurich (Master thesis: M. Gitton, F. Vecchi, M. Kovac, F. Hervas Peters, J. Hubert, Z. Cai, N. Chrishon, J. Frey).

TEACHING

Introduction to Astronomy (5 ECTS, Spring 2024, 2023, 2022, 2021).

Individual Seminar Work in Computational Science (5 ECTS, Fall 2023, 2022, 2021).

Block-course as an invited guest lecturer at the Scola Normale Superiore in Pisa (2022).

Organiser of the *Academia Industry Modelling Week* (Fall 2020).

Several guest lectures for the courses *The Universe* (Spring 2020, UZH), *Theoretical Astrophysics* (Fall 2019, UZH), and *Astrophysics II* (Fall 2018, ETHZ).

Block-Course on Sterile Neutrinos (together with Dr. A. Merle, November 2017, Institute for Basic Science, Daejeon, South Korea).

Block-Course on Analytical Aspects of Nonlinear Structure Formation (Spring 2014, University of Sussex, UK).

REVIEWING ACTIVITIES

External reviewer for the *Dutch Research Council* (Veni Grants)

External reviewer for the *Fund for Scientific Research* (FNRS) of Belgium.

Regular referee for Physical Review D (PRD), Astrophysical Journal (ApJ), Monthly Notices of the Royal Service Astronomical Society (MNRAS), Journal of Cosmology and Astroparticle Physics (JCAP), Open Journal of Astrophysics (OJA).

SELECTION OF INVITED TALKS

2023 Physics Seminar at the Technische Universität München (TUM), Germany.
Epoch of Reionisation Workshop, Sexten, Italy.

2022 Astrophysics Seminar, Astronomy Centre, University of Sussex, UK.
Cosmology and particle physics seminar, University of Geneva, Switzerland.
Conference on Weak Gravitational Lensing, Cambridge, UK.

2021 Colloquium of the Institute for Cosmology and Gravitation, Portsmouth, UK.
CMB-S4 Summer Collaboration Meeting (invited external speaker).
SKA Science Conference (virtual conference).

- 2020 Seminar at the Max Planck Institute for Astrophysics, Munich, Germany.
Seminar at CEA-Saclay, Paris, France.
- 2019 Next Frontiers in the Search for Dark Matter, Conference, Firenze, Italy.
Virtual Seminar at the German Centre for Cosmological Lensing.
Fritz Zwicky der Wissenschaftler, Glarus, Switzerland (outreach talk at the Kantons-
schule Glarus).

REFERENCES

Prof. Dr. Ben Moore (PhD supervisor)

Department of Astrophysics, University of Zurich
Email: moore@physik.uzh.ch

Prof. Dr. Romain Teyssier (previous employer)

Department of Astrophysical Sciences, Princeton University
Email: teyssier@princeton.edu

Prof. Dr. Alexandre Refregier (previous employer)

Institute for Particle Physics and Astrophysics, ETH Zurich
Email: alexandre.refregier@phys.ethz.ch

Prof. Dr. Peter Thomas (previous employer)

Department of Physics and Astronomy, University of Sussex
Email: p.a.thomas@sussex.ac.uk

Zurich, 14/04/2024