Sasha (Alexander A.) Kaurov, Ph.D

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Interdisciplinary researcher with 10+ years of experience in astronomy, astrophysics and cosmology, and 2+ years in sociology. Interested in meaningful incorporation of novel technology into education and science outreach.

20+ published research papers (Google scholar).



PROFESSIONAL EXPERIENCE

Harvard University Boston, MA

Research Associate, History of Science

March 2022 — Present

Dean's Competitive Fund for Promising Scholarship, Co-PI Naomi Oreskes

- Working paper: Evaluating the discussion of climate change by religious leaders in the USA by collecting and analyzing publicly available sermons recordings from thousands of churches.
- Led the project "Trends in American scientists' political donations and implications for trust in science" in collaboration with V. Cologna, C. Tyson, and N. Oreskes, published in Nature's Humanities and Social Sciences Communications 9, 368 (2022)

Columbia University New York, NY

Summer lecturer *July 2022 — August 2022*

• Led a 30-hour course on "The Origins of the Universe" for 20 high school students.

Blue Marble Space Institute of Science

Seattle, WA

Research Associate

November 2021 — Present

Notable project:

• "Simulations of ⁶⁰Fe entrained in ejecta from a near-Earth supernova: Effects of observer motion" E. Chaikin, A. Kaurov, B. D. Fields, C. A. Correa MNRAS, Volume 512, Issue 1, Pages 712–727 (2022)

The Institute for Advanced Study

Princeton, NJ

Visitor, Interdisciplinary Program Postdoctoral member, School of Natural Sciences Selected projects:

September 2016 — July 2021 September 2021 — Present

- "Highly Magnified Stars in Lensing Clusters: New Evidence in a Galaxy Lensed by MACS J0416.1-2403" A. Kaurov, L. Dai, T. Venumadhav, J. Miralda-Escudé, B. Frye, *The Astrophysical Journal 880 (1)*, 58 (2019)
- "Implication of the Shape of the EDGES Signal for the 21 cm Power Spectrum" A. Kaurov, T. Venumadhav, L. Dai, M. Zaldarriaga The Astrophysical Journal Letters, Volume 864, Issue 1, article id. L15, 5 pp. (2018)

Fermilab Batavia, IL

Research Assistant, Astrophysics group

September 2012 — July 2013

• "Cosmic Reionization On Computers II. Reionization History and Its Back Reaction on Early Galaxies" N. Gnedin, A. Kaurov *The Astrophysical Journal, Volume 793, Number 1* (2014)

The University of Chicago

Chicago, IL

Research assistant Teaching assistant *September 2013 — July 2016*

September 2011 — July 2012

EDUCATION

The University of Chicago

Chicago, IL

Ph.D. in Astronomy and Astrophysics — scientific advisor Nickolay Gnedin

June 2016

The Saint-Petersburg's Polytechnic University

Saint-Petersburg, Russia B.Sc. in Nuclear Astrophysics

June 2011

COMMUNITY SERVICE / NON-PROFIT

Earthlings Hub (earthlingshub.org)

co-Founder

Founded in March 2022, Earthlings Hub addresses the educational needs of families and orphanages displaced by the war in Ukraine. More than a hundred scientists, teachers, and psychologists collaborate to offer students a balancing and enriching inquiry-based educational program going beyond the standard school curriculum and incorporating exposure to scientific research. Earthlings Hub is administered by US-based international 501(c)(3) non-profit Blue Marble Space.

The Science Mentors (thesciencementors.com)

2020 — Present

co-Founder

Co-developed scientific programming and built infrastructure to individually match 300+ mentee-mentor pairs of early career scientists from Eastern Europe.

Miscellaneous:

- The National Aeronautics and Space Administration (NASA) grant review panelist.
- Referee for Monthly Notices of the Royal Astronomical Society.

SCIENCE OUTREACH AND TECHNOLOGY

OmniScope (omniscope.org)

June 2020 — Present

Founder

Utilizing new technologies, such as artificial intelligence and virtual worlds, to educate and communicate about science in the most meaningful and transformative ways. Selected projects:

- Science communication in the shared virtual worlds. Established collaborations and produced immersive virtual reality shows with the Japanese Space Exploration Agency, the Earth Life Science Institute (ELSI, Tokyo Institute of Technology) and Nautilus magazine. Performed talent search, acquisition and directed these projects. — omniscope.org/virtual-worlds
- Online immersive theater show En Route. Co-produced a 2D web-based sci-fi show with leading online immersive theater specialists. Role: science consultant and technology development. EnRoute.space

MENTORSHIP AND LEADERSHIP

Academic:

- Served as the primary scientific advisor of five undergraduate students, who later received M.Sc. fellowships in Germany and Switzerland and later pursued Ph.D. programs.
- Mentored graduate student from Princeton University.
- Mentored undergraduate interns from Harvard University.

Outside of academia:

Established the processes in the non-profit organizations with 100+ members.

REFERENCES

Academic:

- Naomi Oreskes, professor of the History of Science and Affiliated Professor of Earth and Planetary Sciences at Harvard University oreskes@fas.harvard.edu
- Matias Zaldarriaga, professor at the Institute for Advanced Study matiasz@ias.edu

Teaching, education and outreach:

- Julia Turchaninova, professor at North Houston Early College, former vice-dean of the Russian's Academy for Educators' In-Service Training vturchan@gmail.com
- Piet Hut, professor of Interdisciplinary Studies at the Institute for Advanced Study piet@ias.edu

March 2022 — Present