

Vsevolod LANDER

SCIENTIFIC INTERESTS

Evolution and star formation histories of galaxies, scientific programming, observational astronomy (particularly spectroscopy), stellar and gaseous kinematics in galaxies, data analysis, cosmology

EDUCATION

SEP 2015 - JUN 2021	SPECIALIST (BS + MS) DEGREE IN ASTRONOMY <i>Lomonosov Moscow State University, Faculty of Physics</i> Research projects: Atmospheric opacity in the near-infrared range at the Caucasian Mountain Observatory (Diploma thesis) Camera control system for 2.5m and 600mm telescopes at Caucasian Mountain Observatory Star formation history in the tidal tails of Arp263 and NGC4618 galaxies
2008 - 2015	GIMNASIA 1567, Moscow <i>Physics Department (2011 - 2015)</i> Student achievements: Leader of the first Russian team the finalist of the "Zero Robotics High School Tournament - 2014" Member of the international school exchange program "SITHS - Gimnasia 1567"

EMPLOYMENT

2017 - 2024	RESEARCH ENGINEER at <i>Sternberg Astronomical Institute, department of extragalactic astronomy</i> Duties: perform and process astronomical observations, develop scientific software, write papers
2024	DIRECTOR OF THE EDUCATIONAL CAMP at <i>Campground Les LLC, Armenia</i> Duties: organize the conditions to conduct the camp, manage internal processes, negotiate with partners and governmental organizations
2015 - 2023	TEACHER OF ASTRONOMY (HIGH SCHOOL) AND NATURAL SCIENCES (MIDDLE SCHOOL) at <i>Moscow school 67</i> Duties: prepare and teach the courses

PARTICIPATION IN RESEARCH GROUPS AND GRANTS

2022-2024	MULTI-WAVELENGTH STUDY OF NON-STATIONARY PROCESSES IN THE UNIVERSE Head: Olga Silchenko
2020-2022	INTERDISCIPLINARY SCIENTIFIC AND EDUCATIONAL SCHOOL OF MOSCOW UNIVERSITY "FUNDAMENTAL AND APPLIED SPACE RESEARCH" Head: Anatoly Cherepaschyuk
2018-2019	MSU LEADING SCIENTIFIC SCHOOL "PHYSICS OF STARS, RELATIVISTIC OBJECTS AND GALAXIES" Heads: Anatoly Cherepaschyuk, Igor Chilingaryan, Nikolai Shakura
2018-2024	PHYSICAL PROCESSES IN GALAXIES Heads: Anatoly Zasov, Artur Chernin
2017-2019	THE PHYSICS OF CLOSE BINARY STELLAR SYSTEMS Head: Anatoly Cherepaschyuk

WORK EXPERIENCE

Extragalactic astronomy: measuring kinematics and stellar population of galaxies from spectral data; rotation curve decomposition and mass estimation; investigation of interacting and merging galaxies.

Astronomical observations: optical and IR photometry and spectroscopy; one of the executive observers at the Caucasus Mountain Observatory (CMO) 2.5m-telescope, 100+ nights of work in total.

Scientific programming: camera control system for the Transient Double-beam Spectrograph (C++), Python packages for spectral data reduction and analysis, catalogue (database) of 1477 AOV telluric standards.

RELATED SKILLS

Astronomical software: Astropy, Aladin, Simbad database, SAOds9, pPXF, TOPCAT

Programming / IT: Python (incl. numpy, astropy, scipy, pandas, PyQt), C/C++, SQL, Linux, git, Arduino, LaTeX, HTML/CSS/JJS

Soft skills: Public speaking, work in a team, independent work, teaching, writing, management, negotiation

Languages: Russian (native), English (C1), German (A2), Armenian (A1)

PUBLICATIONS

2023 MNRAS	THE NEARBY POST-INTERACTING GALAXY ARP 263 WITH A MISSING INTRUDER <i>Zasov A. V., Saburova A. S., Egorov O. V., Lander V. Yu., Afanasiev V. L., Uklein R. I.</i> I analyzed the kinematics of Arp263 and its tidal tail using optical spectra and archived data from VLA observations. The velocity distribution shows possible merging with a dark galaxy.
2023 submitted to ApJ	TESS PHOTOMETRY OF THE NOVA ERUPTION IN V606 VUL: ASYMMETRIC PHOTOSPHERE AND MULTIPLE EJECTIONS? <i>Sokolovsky et al.</i> I performed optical spectral observations of this nova star.
2022 MNRAS	ARP 58 AND ARP 68: TWO M 51-TYPE SYSTEMS <i>Zasov A. V., Saburova A. S., Egorov O. V., Lander V. Yu., Makarov D. I.</i> I measured the line-of-sight velocity distribution of Arp 68 and calculated the corresponding rotation curve, which shows strong non-circular motions
2022 A&A	OBSERVATIONS OF THE LUMINOUS RED NOVA AT 2021BIY IN THE NEARBY GALAXY NGC 4631 <i>Cai Y.-Z. et al.</i> I have performed IR-photometry observations of this red nova star
2020 Astronomy Letters	TRANSIENT DOUBLE-BEAM SPECTROGRAPH FOR THE 2.5-M TELESCOPE OF THE CAUCASUS MOUNTAIN OBSERVATORY OF SAI MSU <i>Potantin S. A., Belinski A. A., Dodin A. V., Zheltoukhov S. G., Lander V. Yu., Postnov K. A., Savvin A. D., Tatarnikov A. M., Cherepashchuk A. M., Cheryasov D. V., Chilingarian I. V., Shatsky N. I.</i> I am the author of the spectrograph camera control system and the author of one of the data reduction pipelines

CONFERENCES, SUMMER SCHOOLS AND INTERNSHIPS

2024	EVOLVING UNIVERSE: THEORY AND OBSERVATIONS - STAROBINSKY MEMORIAL CONFERENCE Themes: inflation theory, structure formation, JWST results in cosmology
2019	15TH SUMMER SCHOOL ON MODERN ASTROPHYSICS (ASTROSOMA) Themes: cosmology, extragalactic astronomy, early Universe, dark matter, structure formation, CMB
2018	INTERNSHIP AT THE SPECIAL ASTROPHYSICAL OBSERVATORY Themes: optical observations, radio observations, physics of stars, cosmology, physics of galaxies
2017	SUMMER PRACTICE AT THE CAUCASUS MOUNTAIN OBSERVATORY Themes: optical and IR observations, atmospheric opacity, observations planning

SCIENCE OUTREACH

LECTURER AND PUBLIC SPEAKER AT OUTREACH EVENTS <i>Armenia, Gyumri, 2022-2024</i>
LECTURER AND PUBLIC SPEAKER AT THE COSMONAUTICS AND AVIATION CENTRE, VDNH <i>Moscow, 2021-2022</i>
INVITED LECTURER AT "ALTER SONO" SCIENCE AND MUSIC FESTIVAL <i>Nizhny Arkhyz, 2022</i>
COMMITTEE MEMBER OF THE MOSCOW ASTRONOMICAL OLYMPIAD AND THE RUSSIAN NATIONAL OLYMPIAD IN ASTRONOMY <i>Moscow (2016-2022), Samara (2021), Ukhta (2020)</i>
TEACHER AND LECTURER AT THE SUMMER ECOLOGICAL SCHOOL <i>Russia, 2015-2021</i>
INVITED SPECIALIST ON THE LIVE BROADCAST OF THE "PERSEVERANCE" ROVER LANDING ON "SCIENCE 2.0" TV CHANNEL <i>Moscow, Feb 2021</i>
TECHNICAL DIRECTOR AND HOST OF AN ASTRONOMICAL PROGRAMME ON "THERE WILL BE NO WINTER" ONLINE RADIO <i>Moscow, 2020</i>
MENTOR OF THE STUDENT TEAM IN THE "ZERO ROBOTICS" COMPETITION AT GIMNASIA 1567 / MOSCOW SCHOOL 67 <i>Moscow, 2015-2018</i> The programs of our team were launched onboard the International Space Station. I supervised the team, taught them C++
LECTURER IN SMALL RUSSIAN TOWNS AND VILLAGES <i>Stary Oskol, Inzhych-Chukun, Elburgan and others</i>

HOBBIES

Mountain Hiking: have official permission to lead groups
Bicycle riding: organized several bicycle trips in the EU and USA
Playing music: I finished music school (piano), I play guitar and sing in an ensemble