DMITRY A. DUEV

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EDUCATION

2010 – 2012 **Ph.D. in Astronomy**, Department of Physics, Lomonosov Moscow State University (MSU), Russia. Specialization: astrometry and celestial mechanics.

2004 – 2010 **Specialist in Astronomy** (B.Sc. + M.Sc.), Department of Physics, MSU, Russia. Specialization: astrometry. Diploma with honors. GPA: 4.0/4.0.

PROFESSIONAL EXPERIENCE

2018 – pres. **Research Scientist**, Astronomy Dept., California Institute of Technology (Caltech), Pasadena, CA, USA.

2015 – 2018 **Postdoctoral Scholar in Astronomy**, Astronomy Dept., Caltech, Pasadena, CA, USA.

2013 – 2015 **Postdoctoral Researcher & Support Scientist**, Science Ops. and Support & Space Science and Innovative Applications groups, Joint Institute for VLBI ERIC (JIVE), Dwingeloo, The Netherlands.

2010 – 2012 **Visiting Researcher**, Space Science and Innovative Applications group, JIVE, The Netherlands.

2010 – 2013 **Engineer**, Laboratory of Gravimetry, Sternberg Astronomical Institute (SAI), MSU, Russia.

2009 **Researcher**, Dorodnitsyn Computing Centre, Russian Academy of Sciences (CC RAS), Moscow, Russia.

2006 – 2008 **Research assistant**, Laboratory of Gravimetry, SAI MSU, Russia.

TECHNICAL SKILLS

Extensive knowledge and experience: algorithms, API design, containerization and orchestration, data processing pipelines, data structures, distributed systems, full-stack web development, GPU & Edge computing, large databases, machine and deep learning, networking, programming, streaming, testing, *nix operating systems

GitHub profile: https://github.com/dmitryduev

EXPERTISE

Astroinformatics	Machine/deep learning, distributed data processing systems, large databases, high performance/GPU/Edge computing, and mathematical methods in data processing and analysis.
Radio astronomy	Interferometric and Doppler measurements of spacecraft. Standard, near-field and space VLBI, signal delay modelling, propagation effects, phase calibration methods, imaging. VLBI and Doppler data processing and analysis for the use in planetary science, interplanetary plasma physics, geodesy, and fundamental physics.
Optical/NIR astronomy	Astrometry of asteroids with adaptive optics, imaging of Solar system planets with adaptive optics.

MEMBERSHIP IN PROFESSIONAL ASSOCIATIONS

American Astronomical Society (AAS), International AstroInformatics Association (IAIA)

PUBLICATIONS

120+ publications including 40+ refereed publications in top journals
H-index: 16; 700+ citations
Co-discoverer of 80+ near-Earth asteroids
Google Scholar profile: https://scholar.google.com/citations?user=wkeIw9IAAAAJ

SELECTED PUBLICATIONS

D.A. Duev, A. Mahabal, F.J. Masci et. al, Real-bogus classification for the Zwicky Transient Facility using deep learning, 2019, MNRAS, 489, 3582

D.A. Duev, A. Mahabal, Q.-Z. Ye et. al, DeepStreaks: identifying fast-moving objects in the Zwicky Transient Facility data with deep learning, 2019, MNRAS, 486, 4158

R. Jensen-Clem, D.A. Duev, R. Riddle et. al, The performance of the Robo-AO laser guide star adaptive optics system at the Kitt Peak 2.1 m telescope, 2018, The Astronomical Journal 155 (1), 32

D.A. Duev, S.V. Pogrebenko, G. Cimò et. al, Planetary Radio Interferometry and Doppler Experiment (PRIDE) technique: A test case of the Mars Express Phobos fly-by, 2016, Astronomy & Astrophysics, 593, A34

D.A. Duev, M.V Zakhvatkin, V.A. Stepanyants et. al, RadioAstron as a target and as an instrument: Enhancing the Space VLBI mission's scientific output, 2015, Astronomy & Astrophysics, 573, A99

D.A. Duev, G.M. Calvés, S.V. Pogrebenko et. al, Spacecraft VLBI and Doppler tracking: algorithms and implementation, 2012, Astronomy & Astrophysics, 541, A43

PRESENTATIONS

50+ presentations at prestigious national and international events, including TensorFlow World, Astroinformatics, AAS, DPS, EPSC, AGU, EGU, EWASS, IVS, SPIE, NAC, COSPAR, MS3, YERAC conferences/meetings.

SELECTED INVITED TALKS

2019/04	Space Telescope Science Institute (STScI), Baltimore, MD, USA
2017/10	Harvard-Smithsonian Center for Astrophysics (CfA), Cambridge, MA, USA. Host: Peter Veres
2016/05	NASA Jet Propulsion Laboratory (JPL), Pasadena, CA, USA. Host: Slava G. Turyshev
2016/02	National Radio Astronomy Observatory (NRAO), Socorro, NM, USA. Host: Paul Demorest
2015/02	California Institute of Technology, Pasadena, CA, USA. Host: Shrinivas R. Kulkarni
2013/10	ASTRON Netherlands Institute for Radio Astronomy, Dwingeloo, The Netherlands. Host: Leonid Gurvits
2012/05	ESA European Space Operations Center (ESOC), Darmstadt, Germany. Host: Trevor Morley
2011/11	ASTRON Netherlands Institute for Radio Astronomy, Dwingeloo, The Netherlands. Host: Leonid Gurvits

ASTRONOMICAL OBSERVING EXPERIENCE

Radio, VLBI	European VLBI Network (EVN), Very Long Baseline Array (VLBA), Long Baseline Array (LBA)
Optical, IR	Kitt Peak 2.1m (adaptive optics observations with Robo-AO, over 100 nights), Keck-II (NIRC2, ESI)
Miscellaneous	GPS/GLONASS and gravimetric field surveys

SERVICE FOR COMMUNITY

2013 – pres.	Journal referee for Astronomy and Computing, Astronomy & Astrophysics, MNRAS, Journal of Geodesy, Planetary and Space Science
2017	Time allocation committee member for Caltech Optical Observatories
2014	Astronomy colloquium organizer at ASTRON/JIVE

LANGUAGES

Russian: native, English: fluent, Dutch: intermediate, German: intermediate