

Stanislav George Djorgovski

Current positions: Professor of Astronomy
Executive Officer (Dept. Chair) for Astronomy
Director, Center for Data-Driven Discovery
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Education: Ph.D. (Astronomy) University of California, Berkeley, 1985
M.A. (Astronomy) University of California, Berkeley, 1981
B.A. (Astrophysics) University of Belgrade, Yugoslavia, 1979

Honors/Awards: Fellow, American Association for Advancement of Science, 2014; Distinguished Visiting Professor, King Abdulaziz Univ., 2011 – 2012; First Prize, Boeing-Griffith Science Writing Contest, 2008; Visiting Distinguished Professor, Mexican Academy of Sciences, 2004; Fellow, Institute for the Advancement of Engineering, 2001; Presidential Young Investigator, 1991 – 1997; NASA Group Achievement Award, 1996; Dudley Observatory Award, 1991; One of the ISI 1000 most cited physicists, 1981 – 1997; Alfred P. Sloan Foundation Fellow, 1988 – 1991; Harvard Junior Fellow, 1985 – 1987; M. E. Uhl Award for Outstanding Research Contributions, UC Berkeley, 1984; Several graduate fellowships, UC Berkeley 1981 – 1985. The asteroid 24421 Djorgovski (2000 BQ33).

Professional Societies: American Association for Advancement of Science (AAAS); American Astronomical Society (AAS), including Working Groups on Time Domain Astronomy and on Astroinformatics and Astrostatistics; International Astronomical Union (IAU), including several Commissions and Working Groups; Association for Computing Machinery (ACM), including the SIG on Knowledge Discovery in Databases (SIGKDD); Institute of Electrical and Electronics Engineers (IEEE), including Computational Intelligence Society and Task Force on Mining Complex Astronomical Data; International Astrostatistics Association (IAA); American Geophysical Union (AGU).

Professional Interests: Computational, data-intensive science (e-Science), development of cyber-infrastructure, the roles of computation in knowledge discovery, Astroinformatics, Virtual Observatory, large sky surveys, data-mining, visualization, and exploration. Extragalactic astronomy, cosmology, galaxy formation, fundamental properties of galaxies, γ -ray bursts, quasars, blazars, radio galaxies, gravitational lenses, globular star clusters, early structure evolution, cosmological tests, dark energy, exploration of the time domain.

PI, Digital Palomar Observatory Sky Survey, 1992 – 2002; Co-PI, Palomar-Quest synoptic sky survey, 2003 – 2008; PI, Catalina Real-Time Transient Survey, 2008 – present.

Current Professional Functions: Advisory Committee of the Data Science Research Institute, Swinburne University of Technology, 2017 – present; DigiCult Editorial Board, 2016 – present; Keck Institute for Space Studies Steering Committee, 2015 – present; TMT Time Domain Working Group, 2012 – present; International Virtual Observatory Alliance KDD Working Group, 2012 – present, Chair, 2012 – 2015.

Previous Professional Functions: Caltech Faculty Board, 2014–2017, incl. Steering Committee; Spitzer Science Center Oversight Committee, 2011–2016; Virtual Astronomical Observatory (VAO) Science Advisory Council, 2010–2014. CACR Advisory Committee, 2013–2014. Director, Meta Institute for Computational Astrophysics, 2008–2012. Co-Director, Center for Advanced Computing Research (CACR), 2004–2012. CELT/TMT Site Selection Working Group, 1999–2008; Co-chair, 2000–2008. National Virtual Observatory (NVO) Science Steering Committee, 2004–2009. Keck Observatory Science Steering Committee, 1990–1995, 2000–2002; Co-Chair, 2003–2005. California Extremely Large Telescope (CELT) Steering Committee, 2000–2003. NVO Science Definition Team, Chairman, 2001–2002. NVO Interim Steering Committee, 1999–2001. NASA Michelson Science Center Oversight Committee, 2001–2004. Palomar Observatory Council, 1993–1995, 1998–2002. Keck Obs. Archive Advisory Group, 2003–2004. Keck LRIS-B Instrument Science Team, 1994–2000. Keck NIRC-2 Instrument Science Team, 1994–2000. Keck Obs. Adaptive Optics (AO) Working Group, and AO Science Team 1992–1994. Keck Obs. Data Acquisition Working Group, 1991–1994. Keck Obs. Low Resolution Imaging Spectrograph (LRIS) Team, 1988–1994. NASA/IPAC National Extragalactic Data Base (NED), Advisory Committee, 1989–1991. NASA Space Interferometer (SIM) Science Working Group, 1994–1995. Faculty Manager, Caltech Astronomy Data Processing Facility, 1989–1991. Numerous other Departmental, Institute, and professional advisory and admin. functions. Organizing committees and chairmanships for many conferences.

Academic Advising: sponsorship of 15 postdoctoral scholars, including several prize fellows, advising or co-advising of 13 graduate students, non-thesis research advising of about 15 other graduate students and over 80 undergraduate students.

Publications: Complete list is available at http://www.astro.caltech.edu/~george/sgd_pubs.html. As of the mid-2018, Djorgovski's publications include >300 papers in refereed journals, ~80 invited reviews, ~170 contributed conference papers, ~250 abstracts, ~600 circulars, ~40 miscellaneous other publications, editing of 4 conference volumes; several major electronic databases; **h index = 90, >33000 citations** (Google Scholar).

Selected Scientific Achievements:

- Pioneering studies of radio galaxies beyond $z > 1$, including detections of strong evolutionary effects, alignment effects, and K-band Hubble diagram for radio galaxies
- Discovery of collapsed cores in globular clusters, and the first census thereof; systematic studies of the properties of globular clusters and their stellar populations
- Discovery of the first known galaxy at $z > 3$, pioneering use of Ly α narrow-band imaging for discoveries of high- z galaxies, pioneering near-IR searches for protogalaxies
- Discovery of the Fundamental Plane correlations for elliptical galaxies, and its use for systematic studies of fundamental properties, formation, and evolution of ellipticals
- Discoveries of the first examples of binary quasars, a systematic census of them, the first case of a triple quasar, and several gravitational lenses
- Pioneering applications of machine learning and artificial intelligence technologies for processing and analysis of massive digital sky surveys
- The first application of the Tolman test for the universal expansion
- The first GRB redshift, demonstrating the cosmological nature of GRBs, and pioneering studies of GRB afterglows and host galaxies
- Discovery of supermassive black hole binaries
- Early development of the Virtual Observatory concept (with A. Szalay and many others)
- Pioneering exploration of the time domain with digital synoptic sky surveys
- Fostering the development of the emerging field of Astroinformatics