

## 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; One of the ISI 1000 most cited physicists, 1981 – 1997; NASA Group Achievement Award, 1996; Dudley Observatory Award, 1991; 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.

**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.

**Professional Interests:** Computational, data-intensive science (e-Science), development of cyber-infrastructure, the roles of computation in knowledge discovery, Astroinformatics, Virtual Observatory, large digital sky surveys, data-mining, visualization, and exploration. Extragalactic astronomy, cosmology, galaxy formation, fundamental properties of galaxies,  $\gamma$ -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:**

DigiCult Editorial Board, 2016 – present; Caltech Faculty Board, 2014 – present, incl. Steering Committee; 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:** 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](http://www.astro.caltech.edu/~george/sgd_pubs.html). As of the early 2017, 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 = 77, g index = 146, ~26000 citations** (based on ADS + 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 $\alpha$  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