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Professional Preparation:

Purdue University	Physics	B.S. 1990
Purdue University	Physics	M.S. 1992
The Johns Hopkins University	Astrophysics	M.A. 1994
The Johns Hopkins University	Astrophysics	Ph.D. 1998
California Institute of Technology	Astronomy	1997–2002

Appointments:

2014–present:	Associate Professor, Statistics, University of Illinois
2014–present:	Associate Professor, Informatics, University of Illinois
2014–present:	Faculty Affiliate, NCSA, University of Illinois
2014–present:	Faculty Affiliate, Beckman Institute, University of Illinois
2008–present:	Associate Professor of Astronomy, University of Illinois
2008–present:	Faculty Affiliate, Computational Science & Engineering, University of Illinois
2008–2014:	Center Affiliate, IACAT, University of Illinois
2003–2014:	Research Scientist, NCSA, University of Illinois
2003–2008:	Assistant Professor of Astronomy, University of Illinois
2002–2003:	Visiting Research Scientist, NCSA, University of Illinois
2000–2002:	Senior Postdoctoral Scholar, California Institute of Technology
1997–2000:	Postdoctoral Scholar, California Institute of Technology

Publications:

Five Related Publications:

1. *Exhausting the Information: Novel Bayesian Combination of Photometric Redshift PDFs*, Carrasco-Kind, M. and Brunner, R.J., MNRAS, (2014), 442, 3380

2. *Sparse Representation of Photometric Redshift PDFs: Preparing for Petascale Astronomy*, Carrasco-Kind, M. and Brunner, R.J., MNRAS, (2014), 441, 3550

3. *SOMz: photometric redshift PDFs with self organizing maps and random atlas*, Carrasco-Kind, M. and Brunner, R.J., MNRAS, (2014), 438, 3409

4. *TPZ : Photometric redshift PDFs and ancillary information by using prediction trees and random forests*, Carrasco-Kind, M. and Brunner, R.J., MNRAS, (2013), 432, 1483

5. *Robust Machine Learning Applied to Astronomical Data Sets. III. Probabilistic Photometric Redshifts for Galaxies and Quasars in the SDSS and GALEX*, Ball, N.M., Brunner, R.J., Myers, A.D; Strand, N.E., Alberts, S.L., and Tcheng, D., ApJ (2008), 683, 12

Five Other Significant Publications:

1. *Cloud Based Processing of Large Photometric Surveys*, Farivar, R, Brunner, R.J., Santucci, R., and Campbell, R. In Proceedings of ADASS XXII, ASP, (2013), 475, 91.

2. *Large Synoptic Survey Telescope: Dark Energy Science Collaboration*, LSST Dark Energy Science Collaboration, 2012, arXiv:1211.0310

3. *Data Mining and Machine Learning in Astronomy*, Ball, N.M., and Brunner, R.J., International Journal of Modern Physics D (2010), 19, 1049

4. *Accelerating Cosmological Data Analysis with Graphics Processors, Roeh, D., Kindratenko, V., and Brunner, R.J., In Proc. 2nd Workshop on General-Purpose Computation on Graphics Processing Units workshop - GPGPU-2 (2009)*

5. *Massive Datasets in Astronomy*, Brunner, R.J., Djorgovski, S.G., Prince, T.A., & Szalay, A.S., in *The Handbook of Massive Datasets*, Kluwer Academic Publishers, 2002

Synergistic Activities:

1. Founded and serve as Principal Investigator for the Laboratory for Cosmological Data Mining, which is currently a top 20 user, worldwide, of NCSA's production supercomputing resources. LCDM developed applications have won the SRC Computers Award for Excellence in Reconfigurable Computing and best student paper at the Linux Clusters Institute conference. Current;y serving as a Google Sumer of Code mentoring organization.

2. Provided nationally recognized service via NSF AAG & MRI review, NASA senior review, NVO Interim Steering Group, PACI Alliance Leadership council, NOAO Survey TAC, Fullam Award selection committee, Cottrell Scholar Review, 3 LSST Science Working Groups: AGN, Astro Statistics, and Large Scale Structure, and the LSST Deep-Drilling Special Team.

3. Extensive award-winning teaching and outreach efforts: served as instructor for over twenty courses (honored with highest student rating at Illinois); delivered over fifty invited lectures, public presentations, and tutorials (including CAS Benjamin Dean Lecturer); organized successful GEMS workshops; and developed new graduate-level extragalactic astronomy course.

4. Organized and served as publication editor for two conferences: *Virtual Observatories of the Future*, and *Photometric Redshifts and High-Redshift Galaxies*. Organized S*ymposium on Application Accelerators in High Performance Computing* and the *Path to Petascale: Adapting GEO/CHEM/ASTRO Applications for Accelerators and Accelerator Clusters* Workshop. Scientific organizing committee for multiple conferences on large data in Astronomy and Astroinformatics.

5. Authored 3 books, served as scientific coeditor for two, coauthored over 120 refereed publications, authored 30 popular IT articles and 3 IT tutorials, and coauthored over 55 conference proceedings. Full listing is available at http://lcdm.astro.illinois.edu/.

Collaborators & Other Affiliations:

Collaborators and Co-Editors: Niel Brandt (Penn State), Roy Campbell (Illinois), Yuguo Chen (Illinois), Andrew Connolly (Washington), Scott Croom (Sydney), Xiahiou Fan (Arizona), Eric Gawiser (Rutgers), Alex Gray (Georgia Tech), Shirley Ho (CMU), Tom Huang (Illinois), Željko Ivezić (Washington), Bhuvnesh Jain (Penn), Volodymyr Kindratenko (NCSA), Feng Liang (Illinois), Jeffrey Newman (Pitt), Bob Nichol (Portsmouth), Gordon Richards (Drexel), Xiaofeng Shao (Illinois), Michael Strauss (Princeton)

Advisors: S. George Djorgvoski (Caltech, Postdoctoral Advisor), Thomas A. Prince (Caltech, Postdoctoral Advisor), Alex S. Szalay (Johns Hopkins University, PhD. Thesis Advisor)

Thesis Advisor and Postgraduate-Scholar Sponsor: Nicholas Ball (Skynet.com), William Biscarri (Illinois), Edward Kim (Illinois), Matias Kind (Illinois/NCSA), Troy Hacker (Air Force Academy), Brett Hayes (Epic Corporation), Britt Lundgren (Wisconsin), Adam Myers (Wyoming), Adam Rengstorf (Purdue Cal), Ashley Ross (OSU), Natalie Strand, Yiran Wang (Illinois), Brian Wilhite (Elmhurst)

I have supervised 4 postdoctoral scholars, 14 graduate students, and over 65 undergraduate students