

Education

- Ph.D. Physics, Carnegie Mellon University, 2011
- B.S. Physics and Psychology, Carnegie Mellon University, 2003

Academic and Research Experience

- Assistant Professor, West Virginia University 2015-
- Postdoctoral Fellow, McGill University 2011-2015

Teaching Experience

- Carnegie Mellon University: "Stars Galaxies and the Universe"
- West Virginia University: "DSP for Radio Astronomy"
- "Introduction to Electrical Engineering"

Publications

- ICE: a scalable, low-cost FPGA-based telescope signal processing and networking system. K. Bandura, A.N. Bender, J.F. Cliche, T. de Haan, M.A. Dobbs, A.J. Gilbert, S. Griffin, G. Hsyu, D. Ittah, J. Mena Parra, J. Montgomery, T. Pinsonneault-Marotte, S. Siegel, G. Smecher, Q.Y. Tang, K. Vanderlinde, N. Whitehorn. (2016). [arXiv:1608.06262](#)
- ICE-based Custom Full-Mesh Network for the CHIME High Bandwidth Radio Astronomy Correlator. K. Bandura, J.F. Cliche, M.A. Dobbs, A.J. Gilbert, D. Ittah, J. Mena Parra, G. Smecher. (2016) [arXiv:1608.04347](#)
- HIRAX: A probe of dark energy and radio transients. L.B. Newburgh, K. Bandura, et al. (2016). *Proc. SPIE, 99065X*. doi:10.1117/12.2234286
- Holographic beam mapping of the CHIME pathfinder array. P. Berger, L. Newburgh, M. Amiri, K. Bandura, et al. (2016). *Proc. SPIE, 99060D*.
- GPU Kernels for High-Speed 4-Bit Astrophysical Data Processing. P. Klages, K. Bandura, N. Denman, A. Recnik, J. Sievers, and K. Vanderlinde. (2015). vol. 00, no. , pp. 164-165, doi:10.1109/ASAP.2015.7245729
- A GPU-based correlator X-engine implemented on the CHIME Pathfinder. Denman, N., ... Bandura, K. et al. (*ASAP*), 2015 *IEEE 26th International Conference on* 35–40 (2015). doi:10.1109/ASAP.2015.7245702
- An efficient real-time data pipeline for the CHIME Pathfinder radio telescope X-engine. Recnik, A., ... Bandura, K. et al. *Application-specific Systems, Architectures and Processors (ASAP), 2015 IEEE 26th International Conference on* 57–61 (2015). doi:10.1109/ASAP.2015.7245705
- Canadian Hydrogen Intensity Mapping Experiment (CHIME) pathfinder. Bandura, K., et al. (2014). *Proc. SPIE, 914522*.. [arXiv:1406.2288](#)
- Calibrating CHIME, A New Radio Interferometer to Probe Dark Energy. Newburgh, L.B, ..., M., Bandura, et al. (2014). *Proc. SPIE, 9145*. [arXiv:1406.2267](#)
- A Radio-Frequency-over-Fiber link for large-array radio astronomy applications. Juan Mena, Kevin Bandura, Jean-Francois Cliche, Matt Dobbs, Adam Gilbert, Qing Yang Tang. *Journal of Instrumentation*, Volume 8, Issue 10, T10003. (2013)

- A simulation-calibrated limit on the H I power spectrum from the GMRT Epoch of Reionization experiment. Gregory Paciga, Joshua G Albert, Kevin Bandura, Tzu-Ching Chang, Yashwant Gupta, Christopher Hirata, Julia Odegova, Ue-Li Pen, Jeffrey B Peterson, Jayanta Roy, J Richard Shaw, Kris Sigurdson, and Tabitha Voytek. *MNRAS*, 433, 639. (2013)
- Determination of $z \sim 0.8$ neutral hydrogen fluctuations using the 21 cm intensity mapping autocorrelation. E. R. Switzer, K W Masui, K Bandura, L M Calin, T C Chang, X L Chen, Y C Li, Y W Liao, A Natarajan, U.-L. Pen, J B Peterson, J R Shaw, and T C Voytek. *MNRAS*, L125. (2013)
- Measurement of 21 cm Brightness Fluctuations at $z \sim 0.8$ in Cross-correlation. K W Masui, E. R. Switzer, N Banavar, K Bandura, C Blake, L M Calin, T C Chang, X Chen, Y C Li, Y W Liao, A Natarajan, U.-L. Pen, J B Peterson, J R Shaw, and T C Voytek. *ApJL*, 763, L20. (2013)
- An Intensity Map of Hydrogen 21-cm Emission at Redshift $z \approx 0.8$. Chang, T.-C., Pen, U.-L., Bandura, K. & Peterson, J. B. *Nature* 466, 463–465 (2010)
- The GMRT Search for Reionization. The Evolution of Galaxies Through the Neutral Hydrogen Window. Pen, U.-L., Chang, T.-C., Peterson, J., Roy, J., Gupta, Y., & Bandura, K. *AIP Conference Proceedings*, 1035, 75. (2008)
- The Hubble Sphere Hydrogen Survey. Peterson, Jeffrey B., Bandura, Kevin., Pen, Ue-Li, arXiv:astro-ph/0606104

Recent Conferences

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| • APS Mid Atlantic (Poster) | 2015 |
| • SPIE, Montreal | 2014 |
| • URSI, Boulder, Colorado | 2014 |
| • Interferometric Techniques for Impulsive Signals at Radio/Microwave Frequencies, Ohio State | 2013 |
| • Intensity Mapping Workshop, Oxford | 2012 |
| • AAS Boston (poster) | 2011 |
| • Great Lakes Cosmology Workshop (poster) | 2009 |
| • Sackler 21cm Cosmology Conference (poster), Harvard | 2008 |

Affiliations/Memberships

- APS
- AAS
- ASEE