

Zhirong Huang
SLAC and Stanford University
2575 Sand Hill Road, Menlo Park, CA 94025
Phone: (650) 926 3947
Email: zrh@slac.stanford.edu

EDUCATION:

Ph.D. in Physics, Stanford University, 1998
B.S. in Physics, California Institute of Technology, 1992

PROFESSIONAL HISTORY AND EXPERIENCE:

Associate Professor, Photon Science and PPA, SLAC and Stanford University, 2013 – Present
FEL R&D Program Leader, SLAC 2011 – Present
Senior Staff Scientist, SLAC 2011 – 2012
FEL Physics Group Leader, SLAC 2010 – 2011
Staff Scientist, SLAC 2002 – 2011
Physicist, Argonne National Lab 2001-2002
Assistant Physicist, Argonne National Lab 1998 – 2001

Areas of Research and Experience:

High-brightness electron and photon beams; beam-radiation interactions; x-ray free-electron lasers; advanced acceleration and radiation concepts.

AWARDS AND HONORS:

American Physical Society Fellowship, 2015
International Free Electron Laser Prize, 2014
USPAS Prize for Achievement in Accelerator Physics and Technology, 2011
US Department of Energy Secretary's Appreciate Award for LCLS commissioning, 2010
American Physical Society Outstanding Doctoral Thesis Research in Beam Physics Award, 1999

Professional Activities:

2013- Machine Advisory Committee for DESY and XFEL
2014- Machine Advisory Committee Pohang Accelerator Laboratory XFEL

SELECTED PUBLICATIONS:

1. A. Marinelli *et al.*, “*High-intensity double-pulse X-ray free-electron laser*”, Nature Commun. **6**, 6369 (2015).
2. C. Behrens *et al.*, “*Few-femtosecond time-resolved measurements of X-ray free-electron lasers*”, Nature Commun. **5**:3762 (2014).
3. Z. Huang, Y. Ding, C. Schroeder, “*Compact X-ray Free-Electron Laser from a Laser-Plasma Accelerator Using a Transverse-Gradient Undulator*,” Phys. Rev. Lett. **109**, 204801 (2012).
4. J. Amann *et al.*, “*Demonstration of self-seeding in a hard-X-ray free-electron laser*,” Nature Photonics **6**, 693 (2012).

5. P. Emma, *et al.*, “*First Lasing and Operation of an Ångstrom-Wavelength Free-Electron Laser,*” *Nature Photonics* **4**, 641 (2010).
6. Z. Huang *et al.*, “*Measurements of the LCLS Laser Heater and Its Impact on the X-ray FEL Performance,*” *Phys. Rev. ST Accel. Beams* **13**, 020703 (2010).
7. Z. Huang and K.-J. Kim, “*Review of X-ray FEL Theory,*” *Phys. Rev. ST Accel. Beams* **10**, 034801 (2007).
8. Z. Huang *et al.*, “*Suppression of Microbunching Instability in the Linac Coherent Light Source,*” *Phys. Rev. ST Accel. Beams* **7**, 074401 (2004).
9. Z. Huang and K.-J. Kim, “*Formulas for CSR Microbunching in a Bunch Compressor Chicane,*” *Phys. Rev. ST Accel. Beams* **5**, 074401 (2002).
10. S.V. Milton *et al.*, “*Measured Exponential Gain and Saturation of a SASE Free-Electron Laser,*” *Science* **292**, 2037 (2001).
11. Z. Huang and K.-J. Kim, “*Three-Dimensional Analysis of Harmonic Generation in High-Gain Free-Electron Lasers,*” *Phys. Rev. E* **62**, 7295 (2000).
12. Z. Huang and R.D. Ruth, “*Laser-Electron Storage Ring,*” *Phys. Rev. Lett.* **80**, 976 (1998).