

SÉBASTIEN BOUTET

SLAC National Accelerator Laboratory, 2575 Sand Hill Road, Menlo Park, CA, 94025 | 650-926-8676 | sboutet@slac.stanford.edu

EDUCATION

University of Illinois at Urbana-Champaign

Ph. D. in Physics

1999-2005

Dissertation: Coherent X-Ray Diffractive Imaging and Nucleation of Protein Crystals

McGill University, Montréal, Québec, Canada

B. Sc. in Physics

1996-1999

Received with Honours

RESEARCH EXPERIENCE

Undergraduate Research Assistant, TRIUMF, University of British Columbia

May 1998 – August 1998

Undergraduate Research Assistant, McGill University

May 1999 – August 1999

Graduate Research Assistant, University of Illinois at Urbana-Champaign

January 2000 – August 2005

Research Associate, SLAC National Accelerator Laboratory

October 2005 – June 2007

Instrument Scientist, SLAC National Accelerator Laboratory

June 2007 – Present

EMPLOYMENT

SLAC National Accelerator Laboratory

Instrument Scientist on LUSI Project

June 2007 – February 2012

- Promote the visibility of the CXI Instrument scientific capabilities to the international scientific community
- Develop the scientific case for the instrument
- Develop all specifications for the instrument
- Successful completion of LUSI project
- Operation and commissioning of the CXI instrument

Instrument Scientist for LCLS Operations

December 2010 – present

- Lead the CXI Instrument Team
- Promote the visibility of the CXI Instrument scientific capabilities to the international scientific community
- Operation and commissioning of the CXI instrument
- Support all CXI user experiments
- Pursue own research with 2 successful general user proposals as PI
- Continually improve the capabilities of the instrument

SLAC National Accelerator Laboratory

Research Associate

October 2005 – June 2007

- Coherent diffractive imaging at FLASH
- Design of the experimental endstation
- Development of new ultrafast x-ray imaging techniques
- Preparation and characterization of samples
- Participated in the development of a particle delivery techniques for single molecule diffraction experiments
- Participated in the development of the Labview experiment control software
- Performing the data collection as well as the data analysis, specifically phase retrieval and image reconstruction

MANAGEMENT EXPERIENCE

- Control Account Manager the cxi instrument for part of the LUSI project,
- Control Account Manager for the cxi instrument operations,
- Successful completion of LUSI project with completion of the CXI instrument

August 2011 - February 2012

January 2011 – Present

July 2007 – February 2012

HONORS AND AWARDS

FCAR Scholarship (research scholarship from the Quebec government)

October 1999 – September 2001

FCAR Scholarship (research scholarship from the Quebec government)

October 2002 – September 2005

PUBLICATIONS

REFEREED PAPERS

2001

1- **S. Boutet**, G. Steele, M. Dikeakos, Z. Altounian, *Influence of oxygen impurities on the crystallization mechanism of NiZr₂ metallic glasses*, Journal of Applied Physics **89**, 2441-2446, (2001)

2002

2- L. Martel, C. Johnson, **S. Boutet**, R. Al-Kurdi, O. Konovalov, I. Robinson, D. Leckband, J.-F. Legrand, *X-ray reflectivity investigations of two-dimensional assemblies of C-cadherins: First steps in structural and functional studies*, Journal de Physique IV (Proceedings) Pr6: Rayons X et matière (RX 2001), 365-377, (2002)

3- **S. Boutet**, I.K. Robinson, Z. W. Hu, B. R. Thomas, A.A. Chernov, *Surface relaxation in protein crystals*, Physical Review E **66**, 061914, (2002)

2005

4- I.K. Robinson, M.-C. St-Lager, P. Dolle, **S. Boutet**, M. De Santis, R. Beaudoin-Savois, *Relaxation in the 1x5 Reconstruction of Pt(110)*, Surf. Sci. **575**, 321-329 (2005)

2006

5- **S. Boutet** and I.K. Robinson, *Radiation driven collapse of protein crystals*, Journal of Synchrotron Radiation **13**, 1-7, (2006)

6- Henry N. Chapman, Anton Barty, Michael J. Bogan, **Sébastien Boutet**, Matthias Frank, Stefan P. Hau-Riege, Stefano Marchesini, Bruce W. Woods, Sasa Bajt, W. Henry Benner, Richard A. London, Elke Plönjes, Marion Kuhlmann, Rolf Treusch, Stefan Düsterer, Thomas Tschentscher, Jochen R. Schneider, Eberhard Spiller, Thomas Möller, Christoph Bostedt, Matthias Hoener, David A. Shapiro, Keith O. Hodgson, David van der Spoel, Florian Burmeister, Magnus Bergh, Carl Caleman, Gösta Huldt, M. Marvin Seibert, Filipe R. N. C. Maia, Richard W. Lee, Abraham Szöke, Nicusor Timneanu and Janos Hajdu, *Femtosecond diffractive imaging with a soft-X-ray free-electron laser*, Nature Physics **2**, 839-843, (2006)

2007

7- **S. Boutet**, I.K. Robinson, *Precrystallization clusters of holoferritin and apoferritin at low temperature*, Physical Review E **75**, 021913, (2007)

8- Henry N. Chapman, Stefan P. Hau-Riege, Michael J. Bogan, Sasa Bajt, Anton Barty, **Sébastien Boutet**, Stefano Marchesini, Matthias Frank, Bruce W. Woods, W. Henry Benner, Richard A. London, Urs Rohner, Abraham Szöke, Eberhard Spiller, Thomas Moller, Christoph Bostedt, David A. Shapiro, Marion Kuhlmann, Rolf Treusch, Elke Plönjes, Florian Burmeister, Magnus Bergh, Carl Caleman, Gosta Huldt, M. Marvin Seibert & Janos Hajdu, *Femtosecond time-delay X-ray holography*, Nature **448**, 676-680, (2007)

2008

9- Michael J. Bogan, W. Henry Benner, **Sébastien Boutet**, Urs Rohner, Matthias Frank, Anton Barty, M. Marvin Seibert, Filipe Maia, Stefano Marchesini, Sasa Bajt, Bruce Woods, Vincent Riot, Stefan P. Hau-Riege, Martin Svenda, Erik Marklund, Eberhard Spiller, Janos Hajdu, and Henry N. Chapman, *Single Particle X-ray Diffractive Imaging*, Nano Letters **8**, 310-316, (2008)

10- Sasa Bajt, Henry N. Chapman, Eberhard Spiller, Jennifer B. Alameda, Bruce W. Woods, Matthias Frank, Michael J. Bogan, , Anton Barty, **Sebastien Boutet**, Stefano Marchesini, Stefan P. Hau-Riege, Janos Hajdu & David Shapiro, *Camera for coherent diffractive imaging and holography with a soft-x-ray free-electron laser*, Applied Optics **47**, 1673-1683, (2008)

- 11- Anton Barty, **Sébastien Boutet**, Michael J. Bogan, Stefan Hau-Riege, Stefano Marchesini, Klaus Sokolowski-Tinten, Nikola Stojanovich, Ra'anan Tobey, Henri Ehrke, Andrea Cavalleri, Stefan Duesterer, Matthias Frank, Sasa Bajt, Bruce W. Woods, M. Marvin Seibert, Janos Hajdu, Rolf Treusch and Henri N. Chapman, *Ultrafast single-shot diffraction imaging of nanoscale dynamics*, Nature Photonics **2**, 415-419, (2008)
- 12- Stefano Marchesini, **Sébastien Boutet**, Anne E. Sakdinawat, Michael J. Bogan, Sasa Bajt, Anton Barty, Henry N. Chapman, Matthias Frank, Stefan P. Hau-Riege, Abraham Szöke, Congwu Cui, David A. Shapiro, Malcolm R. Howells, John C. H. Spence, Joshua W. Shaevitz, Joanna Y. Lee, Janos Hajdu & Marvin M. Seibert, *Massively parallel X-ray holography*, Nature Photonics **2**, 560-563 (2008)
- 13- **Sébastien Boutet**, Michael J. Bogan, Anton Barty, Matthias Frank, W. Henry Benner, Stefano Marchesini, M. Marvin Seibert, Janos Hajdu, Henry N. Chapman, *Ultrafast soft X-ray scattering and reference-enhanced diffractive imaging of weakly scattering nanoparticles*, Journal of Electron Spectroscopy and Related Phenomena **166-167**, 65-73 (2008)
- 14- W. Henry Benner, Michael J. Bogan, Urs Rohner, **Sébastien Boutet**, Bruce Woods, Matthias Frank, *Nondestructive characterization and alignment of aerodynamically focused particle beams using single particle charge detection*, Journal of Aerosol Science **39**, 917-928 (2008)
- 15- **S. Boutet** and I.K. Robinson, *Coherent X-ray Diffractive Imaging of Protein Crystals*, Journal of Synchrotron Radiation **15**, 576-583, (2008)

2010

- 16- Michael J. Bogan, **Sébastien Boutet**, Henry N. Chapman, Stefano Marchesini, Anton Barty, W. Henry Benner, Urs Rohner, Matthias Frank, Stefan P. Hau-Riege, Sasa Bajt, Bruce Woods, M. Marvin Seibert, Bianca Iwan, Nicusor Timneanu, Janos Hajdu, and Joachim Schulz, *Aerosol Imaging with a Soft X-Ray Free Electron Laser*, Aerosol Science and Technology, **44**: 3, i - vi, (2010)
- 17- Stefan P. Hau-Riege, **Sébastien Boutet**, Anton Barty, Sasa Bajt, Michael J. Bogan, Matthias Frank, Jakob Andreasson, Bianca Iwan, M. Marvin Seibert, Janos Hajdu, Anne Sakdinawat, Joachim Schulz, Rolf Treusch, and Henry N. Chapman, *Sacrificial Tamper Slows Down Sample Explosion in FLASH Diffraction Experiments*, Physical Review Letters **104**, 064801, (2010)
- 18- **Sébastien Boutet** and Garth J Williams, *The Coherent X-ray Imaging (CXI) instrument at the Linac Coherent Light Source (LCLS)*, New Journal of Physics **12**, 035024, (2010)
- 19- Amir Y. Mirarefi, **Sébastien Boutet**, Subramanian Ramakrishnan, Andor J. Kiss, Chi-Hing C. Cheng, Arthur L. DeVries, Ian K. Robinson, Charles F. Zukoski, *Small-angle X-ray scattering studies of the intact eye lens: Effect of crystalline composition and concentration on microstructure*, Biochimica et Biophysica Acta **1800**, 556-564, (2010)
- 20- N. D. Loh, M. Bogan, V. Elser, A. Barty, **S. Boutet**, S. Bajt, J. Hajdu, T. Ekeberg, F. R. N. C. Maia, J. Schulz, M. M. Seibert, B. Iwan, N. Timneanu, S. Marchesini, I. Schlichting, R. L. Shoeman, L. Lomb, M. Frank, M. Liang, and H. N. Chapman, *Cryptotomography: Reconstructing 3D Fourier Intensities from Randomly Oriented Single-Shot Diffraction Patterns*, Physical Review Letters **104**, 225501, (2010)
- 21- M. J. Bogan, **S. Boutet**, A. Barty, W. H. Benner, M. Frank, L. Lomb, R. Shoeman, D. Starodub, M. M. Seibert, S. P. Hau-Riege, B. Woods, P. Decorwin-Martin, S. Bajt, J. Schulz, U. Rohner, B. Iwan, N. Timneanu, S. Marchesini, I. Schlichting, J. Hajdu, and H. N. Chapman, *Single-shot femtosecond x-ray diffraction from randomly oriented ellipsoidal nanoparticles*, Physical Review Special Topics **13**, 094701, (2010)
- 22- Marvin M. Seibert, **Sébastien Boutet**, Martin Svenda, Tomas Ekeberg, Filipe R.N.C. Maia, Michael J. Bogan, Nicusor Timneanu, Anton Barty, Stefan Hau-Riege, Carl Coleman, Matthias Frank, Henry Benner, Joanna Y. Lee, Stefano Marchesini, Joshua W. Shaevitz, Daniel A. Fletcher, Sasa Bajt, Inger Andersson, Henry N. Chapman and Janos Hajdu, *Femtosecond diffractive imaging of biological cells*, J. Phys. B **43**, 194015, (2010)

2011

- 23- Henry N. Chapman, Petra Fromme, Anton Barty, Thomas White, Richard A. Kirian, Andrew Aquila, Mark S. Hunter, Joachim Schulz, Daniel P. DePonte, Uwe Weierstall, R. Bruce Doak, Filipe R.N.C. Maia, Andrew Martin, Ilme Schlichting, Lukas Lomb, Nicola Coppola, Robert L. Shoeman, Sascha Epp, Robert Hartmann, Daniel Rolles, Artem Rudenko, Lutz Foucar, Nils Kimmel, Georg Weidenspointner, Peter Holl, Mengning Liang, Miriam Barthelmess, Carl Coleman, **Sébastien Boutet**, Michael J. Bogan, Jacek Krzywinski, Christoph Bostedt, Saša Bajt, Lars Gumprecht, Benedikt Rudek, Benjamin Erk, Carlo Schmidt, André Hömke, Christian Reich, Daniel Pietschner, Lothar Strüder, Günther Hauser, Hubert Gorke, Joachim Ullrich, Sven Herrmann, Gerhard Schaller, Florian Schopper, Heike Soltau, Kai-Uwe Kühnel, Marc Messerschmidt, John D. Bozek, Stefan P. Hau-Riege, Matthias Frank, Christina Y. Hampton, Raymond Sierra, Dmitri Starodub, Garth J. Williams, Janos Hajdu, Nicusor Timneanu, M. Marvin Seibert, Jakob Andreasson, Andrea Rocker, Olof Jönsson, Stephan Stern, Karol Nass, Robert Andritschke, Claus-Dieter Schröter, Faton Krasniqi, Mario Bott, Kevin E. Schmidt, Xiaoyu Wang, Ingo Grotjohann, James Holton, Stefano Marchesini, Sebastian Schorb, Daniela Rupp, Marcus Adolph, Tais Gorkhover, Martin Svenda, Helmut Hirsemann, Guillaume Potdevin, Heinz Graafsma, Björn Nilsson, and John C. H. Spence, *Femtosecond X-ray protein nanocrystallography*, Nature **470**, 73-77, (2011)

24-M. Marvin Seibert, Tomas Ekeberg, Filipe R. N. C. Maia, Martin Svenda, Jakob Andreasson, Olof Jönsson, Duško Odić, Bianca Iwan, Andrea Rocker, Daniel Westphal, Max Hantke, Daniel P. DePonte, Anton Barty, Joachim Schulz, Lars Gumprecht, Nicola Coppola, Andrew Aquila, Mengning Liang, Thomas A. White, Andrew Martin, Carl Caleman, Stephan Stern, Chantal Abergel, Virginia Seltzer, Jean-Michel Claverie, Christoph Bostedt, John D. Bozek, **Sébastien Boutet**, A. Alan Miahnahri, Marc Messerschmidt, Jacek Krzywinski, Garth Williams, Keith O. Hodgson, Michael J. Bogan, Christina Y. Hampton, Raymond G. Sierra, Dmitri Starodub, Inger Andersson, Saša Bajt, Miriam Barthelmess, John C. H. Spence, Petra Fromme, Uwe Weierstall, Richard Kirian, Mark Hunter, R. Bruce Doak, Stefano Marchesini, Stefan P. Hau-Riege, Matthias Frank, Robert L. Shoeman, Lukas Lomb, Sascha W. Epp, Robert Hartmann, Daniel Rolles, Artem Rudenko, Carlo Schmidt, Lutz Foucar, Nils Kimmel, Peter Holl, Benedikt Rudek, Benjamin Erk, André Hömke, Christian Reich, Daniel Pietschner, Georg Weidenspointner, Lothar Strüder, Günter Hauser, Hubert Gorke, Joachim Ullrich, Ilme Schlichting, Sven Herrmann, Gerhard Schaller, Florian Schopper, Heike Soltau, Kai-Uwe Kühnel, Robert Andritschke, Claus-Dieter Schröter, Faton Krasniqi, Mario Bott, Sebastian Schorb, Daniela Rupp, Marcus Adolph, Tais Gorkhover, Helmut Hirsemann, Guillaume Potdevin, Heinz Graafsma, Björn Nilsson, Henry N. Chapman & Janos Hajdu, *Single mimivirus particles intercepted and imaged with an X-ray laser*, Nature 470, 78-81, 2011

2012

25- F. Siewert, J. Buchheim, **S. Boutet**, G.J. Williams, P.A. Montanez, J. Krzywinski, R. Signorato, *Ultra-precise Characterization of LCLS Hard X-ray Focusing Mirrors by High Resolution Slope Measuring Deflectometry*, Optics Express **20**, 4525-4536 (2012)

26-R. Koopmann, K. Cupelli, L. Redecke, K. Nass, D.P. DePonte, T.A. White, F. Stellato, D. Rehders, M. Liang, J. Andreasson, A. Aquila, S. Bajt, M. Barthelmess, A. Barty, M.J. Bogan, C. Bostedt, **S. Boutet**, J.D. Bozek, C. Caleman, N. Coppola, J. Davidsson, R.B. Doak, T. Ekeberg, S.W. Epp, B. Erk, H. Fleckenstein, L. Foucar, H. Graafsma, L. Gumprecht, J. Hajdu, C.Y. Hampton, A. Hartmann, R. Hartmann, G. Hauser, H. Hirsemann, P. Holl, M.S. Hunter, S. Kassemeyer, R.A. Kirian, L. Lomb, F.R.N.C. Maia, N. Kimmel, A.V. Martin, M. Messerschmidt, C. Reich, D. Rolles, B. Rudek, A. Rudenko, I. Schlichting, J. Schulz, M.M. Seibert, R.L. Shoeman, R.G. Sierra, H. Soltau, S. Stern, L. Strüder, N. Timneanu, J. Ullrich, X. Wang, G. Weidenspointner, U. Weierstall, G.J. Williams, C.B. Wunderer, P. Fromme, J.C.H. Spence, T. Stehle, H.N. Chapman, C. Betzel and M. Duszynski, *In Vivo Protein Crystallization Opens New Routes in Structural Biology*, Nature Methods **9**, 259-262, (2012)

27-**Sébastien Boutet**, Lukas Lomb, Garth J. Williams, Thomas R. M. Barends, Andrew Aquila, R. Bruce Doak, Uwe Weierstall, Daniel P. DePonte, Jan Steinbrener, Robert L. Shoeman, Marc Messerschmidt, Anton Barty, Thomas A. White, Stephan Kassemeyer, Richard A. Kirian, M. Marvin Seibert, Paul A. Montanez, Chris Kenney, Ryan Herbst, Philip Hart, Jack Pines, Gunther Haller, Sol M. Gruner, Hugh T. Philipp, Mark W. Tate, Marianne Hromalik, Lucas J. Koerner, Niels van Bakel, John Morse, Wilfred Ghonsalves, David Arnlund, Michael J. Bogan, Carl Caleman, Raimund Fromme, Christina Y. Hampton, Mark S. Hunter, Linda Johansson, Gergely Katona, Christopher Kupitz, Mengning Liang, Andrew V. Martin, Karol Nass, Lars Redecke, Francesco Stellato, Nicosor Timneanu, Dingjie Wang, Nadia A. Zatsepin, Donald Schafer, James Defever, Richard Neutze, Petra Fromme, John C. H. Spence, Henry N. Chapman, Ilme Schlichting, *High-Resolution Protein Structure Determination by Serial Femtosecond Crystallography*, Science, doi: 10.1126/science.1217737, (2012)

28-Jan Kern, Roberto Alonso-Mori, Julia Hellmich, Rosalie Tran, Johan Hattne, Hartawan Laksono, Carina Glöckner, Nathaniel Echols, Raymond G. Sierra, Jonas Sellberg, Benedikt Lassalle-Kaiser, Richard J. Gildea, Pieter Glatzel, Ralf W. Grosse-Kunstleve, Matthew J. Latimer, Trevor A. McQueen, Dörte DiFiore, Alan R. Fry, Marc Messerschmidt, Alan Miahnahri, Donald W. Schafer, M. Marvin Seibert, Dimosthenis Sokaras, Tsu-Chien Weng, Petrus H. Zwart, William E. White, Paul D. Adams, Michael J. Bogan, **Sébastien Boutet**, Garth J. Williams, Johannes Messinger, Nicholas K. Sauter, Athina Zouni, Uwe Bergmann, Janko Yano, and Vittal K. Yachandra, *Room temperature femtosecond X-ray diffraction of photosystem II microcrystals*, Proceedings of the National Academy of Sciences USA **109**, 9721-9726, (2012)

29- Raymond G. Sierra, Hartawan Laksono, Jan Kern, Rosalie Tran, Johan Hattne, Roberto Alonso-Mori, Benedikt Lassalle-Kaiser, Carina Glöckner, Julia Hellmich, Donald W. Schafer, Nathaniel Echols, Richard J. Gildea, Ralf W. Grosse-Kunstleve, Jonas Sellberg, Trevor A. McQueen, Alan R. Fry, Marc M. Messerschmidt, Alan Miahnahri, M. Marvin Seibert, Christina Y. Hampton, Dmitri Starodub, N. Duane Loh, Dimosthenis Sokaras, Tsu-Chien Weng, Petrus H. Zwart, Pieter Glatzel, Despina Milathianaki, William E. White, Paul D. Adams, Garth J. Williams, **Sébastien Boutet**, Athina Zouni, Johannes Messinger, Nicholas K. Sauter, Uwe Bergmann, Janko Yano, Vittal K. Yachandra and Michael J. Bogan, *Nanoflow electrospinning serial femtosecond crystallography*, Acta Cryst D **68**, 1584-1587, (2012).

30-Roberto Alonso-Mori, Jan Kern, Richard J. Gildea, Dimosthenis Sokaras, Tsu-Chien Weng, Benedikt Lassalle-Kaiser, Rosalie Tran, Johan Hattne, Hartawan Laksono, Julia Hellmich, Carina Glöckner, Nathaniel Echols, Raymond G. Sierra, Donald W. Schafer, Jonas Sellberg, Christopher Kenney, Ryan Herbst, Jack Pines, Philip Hart, Sven Herrmann, Ralf W. Grosse-Kunstleve, Matthew J. Latimer, Alan R. Fry, Marc M. Messerschmidt, Alan Miahnahri, M. Marvin Seibert, Petrus H. Zwart, William E. White, Paul D. Adams, Michael J. Bogan, **Sébastien Boutet**, Garth J. Williams, Athina Zouni, Johannes Messinger, Pieter Glatzel, Nicholas K. Sauter, Vittal K. Yachandra, Janko Yano, and Uwe Bergmann, *Energy-dispersive X-ray emission spectroscopy using an X-ray free-electron laser in a shot-by-shot mode*, Proceedings of the National Academy of Sciences USA **109** (2012)

31-Lars Redecke, Karol Nass, Daniel P. DePonte, Thomas A. White, Dirk Rehders, Anton Barty, Francesco Stellato, Mengning Liang, Thomas R.M. Barends, **Sébastien Boutet**, Garth J. Williams, Marc Messerschmidt, M. Marvin Seibert, Andrew Aquila, David Arnlund, Sasa Bajt, Torsten Barth, Michael J. Bogan, Carl Caleman, Tzu-Chiao Chao, R. Bruce Doak, Holger Fleckenstein, Matthias Frank, Raimund Fromme, Lorenzo Galli, Ingo Grotjohann, Mark S. Hunter, Linda C. Johansson, Stephan Kassemeyer, Gergely Katona, Richard A. Kirian, Rudolf Koopmann, Chris Kupitz, Lukas Lomb, Andrew V. Martin, Stefan Mogk, Richard Neutze, Robert L. Shoeman, Jan Steinbrener, Nicusor Timneanu, Dingjie Wang, Uwe Weierstall, Nadia A. Zatsepin, John C.H. Spence, Petra Fromme, Ilme Schlichting, Michael Duszenko, Christian Betzel, and Henry N. Chapman, *Natively Inhibited Trypanosoma brucei Cathepsin B Structure Determined by Using an X-ray Laser*, *Science* **338** (2012)

2013

32-Jan Kern, Roberto Alonso-Mori, Rosalie Tran, Johan Hattne, Richard J. Gildea, Nathaniel Echols, Carina Glöckner, Julia Hellmich, Hartawan Laksmo, Raymond G. Sierra, Benedikt Lassalle-Kaiser, Sergey Koroidov, Alyssa Lampe, Guangye Han, Sheraz Gul, Dörte DiFiore, Despina Milathianaki, Alan R. Fry, Alan Miahnahri, Donald W. Schafer, Marc Messerschmidt, M. Marvin Seibert, Jason E. Koglin, Dimosthenis Sokaras, Tsu-Chien Weng, Jonas Sellberg, Matthew J. Latimer, Ralf W. Grosse-Kunstleve, Petrus H. Zwart, William E. White, Pieter Glatzel, Paul D. Adams, Michael J. Bogan, Garth J. Williams, **Sébastien Boutet**, Johannes Messinger, Athina Zouni, Nicholas K. Sauter, Vittal K. Yachandra, Uwe Bergmann, Junko Yano, *Simultaneous Femtosecond X-ray Spectroscopy and Diffraction of Photosystem II at Room Temperature*, *Science* (2013)

CONFERENCE PROCEEDINGS

2009

1- H.N. Chapman, S. Bajt, A. Barty, W.H. Benner, M.J. Bogan, **S. Boutet**, A. Cavalleri, S. Duesterer, M. Frank, J. Hajdu, S.P. Hau-Riege, B. Iwan, S. Marchesini, A. Sakdinawat, K. Sokolowski-Tinten, M.M. Seibert, N. Timneanu, R. Treusch, B.W. Woods, *Coherent Imaging at FLASH*, *Journal of Physics: Conference Series* **186**, 012051, (2009)

2-H.N. Chapman, S. Bajt, A. Barty, W.H. Benner, M.J. Bogan, **S. Boutet**, A. Cavalleri, S. Duesterer, M. Frank, J. Hajdu, S.P. Hau-Riege, B. Iwan, S. Marchesini, K. Sokolowski-Tinten, M.M. Seibert, R. Treusch, and B.W. Woods, *Ultrafast coherent X-ray diffractive imaging with the FLASH Free-Electron Laser*, *Ultrafast Phenomena XVI: Proceedings of the 16th International Conference*, Springer Series in Chemical Physics **92**, 143-145, (2009).

2010

3- Sokolowski-Tinten, Klaus Barty, Anton, **Boutet, Sebastien**, Shymanovich, Uladzimir, Chapman, Henry, Bogan, Mike, Marchesini, Stefano, Hau-Riege, Stefan, Stojanovic, Nikola, Bonse, Joern, Rosandi, Yudi, Urbassek, Herbert M, Tobey, Ra'anan, Ehrke, Henri, Cavalleri, Andrea, Duesterer, Stefan, Redlin, Harald, Frank, Matthias, Bajt, Sasa, Schulz, Joachim, Seibert, Marvin, Hajdu, Janos, Treusch, Rolf, Bostedt, Christoph, Hoener, M., Moeller, T., *Short-pulse Laser Induced Transient Structure Formation and Ablation Studied with Time-resolved Coherent XUV-scattering*, INTERNATIONAL SYMPOSIUM ON HIGH POWER LASER ABLATION 2010, AIP Conference Proceedings 1278, 373-379, (2010)

2011

4- Feng, Yiping, Feldkamp, Jan M, Fritz, David M., Cammarata, Marco, Robert, Aymeric, Caronna, Chiara, Lemke, Henrik T., Zhu, Diling, Lee, Sooheyong, **Boutet, Sebastien**, Williams, Garth, Tono, Kensuke, Yabashi, Makina, Hastings, Jerome B., *A single-shot intensity-position monitor for hard X-ray FEL sources*, *Proceedings of SPIE* **8140**, 81400Q, (2011)

5- Soufli, Regina, Fernandez-Perea, Monica, Hau-Riege, Stefan P., Baker, Sherry L., Robinson, Jeff C., Gullikson, Eric M., Bozek, John D., Kelez, Nicholas M., **Boutet, Sebastien**, *Lifetime and damage threshold properties of reflective x-ray coatings for the LCLS free-electron laser*, *Proceedings of SPIE* **8077**, 807702, (2011)

2012

6- Philip Hart, **Sébastien Boutet**, Gabriella Carini, Mikhail Dubrovin, Brian Duda, David Fritz, Gunther Haller, Ryan Herbst, Sven Herrmann, Chris Kenney, Nadine Kurita, Henrik Lemke, Marc Messerschmidt, Martin Nordby, Jack Pines, Don Schafer, Matt Swift, Matt Weaver, Garth Williams, Diling Zhu, *The CSPAD megapixel x-ray camera at LCLS*, *Proc. SPIE* **8504**, X-Ray Free-Electron Lasers: Beam Diagnostics, Beamline Instrumentation, and Applications, 85040C (2012)

2013

7-Sven Herrmann, **Sébastien Boutet**, Brian Duda, David Fritz, Gunther Haller, Philip Hart, Ryan Herbst, Christopher Kenney, Henrik Lemke, Marc Messerschmidt, Jack Pines, Aymeric Robert, Marcin Sikorski, Garth Williams, *CSPAD-140 k: A versatile detector for LCLS experiments*, Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment (2013)

INVITED TALKS

Sébastien Boutet, *Coherent Diffraction Imaging Using Free-Electron Lasers*, ACA Meeting 2007, Salt Lake City, Utah, July 2007.

Sébastien Boutet, *Coherent X-ray Imaging Instrument at LCLS*, LCLS-SSRL Users Meeting, SLAC, Menlo Park, California, October 2007

Sébastien Boutet, *Coherent X-ray Imaging Instrument*, LCLS-SSRL Users Meeting, SLAC, Menlo Park, California, October 2008

Sébastien Boutet, *Coherent X-ray Imaging (CXI) Instrument at LCLS*, SPB Workshop, Uppsala, Sweden, November 2008

Sébastien Boutet, *Linac Coherent Light Source and Single Molecule Imaging*, Ultra-fast Dynamic Imaging of Matter II, Ischia, Italy, May 2009

Sébastien Boutet, *The Coherent Imaging Instrument at the Linac Coherent Light Source*, APS Users Meeting, Argonne, Illinois, May 2009

Sébastien Boutet, *LCLS Instruments Overview*, PULSE Summer School, SLAC, Menlo Park, California, June 2009

Sébastien Boutet, *Single Molecule Imaging Possibilities at the Linac Coherent Light Source*, ACA Meeting 2009, Toronto, Canada, July 2009

Sébastien Boutet, *Coherent X-ray Imaging Instrument Update*, LCLS-SSRL Users Meeting, SLAC, Menlo Park, California, October 2009

Sébastien Boutet, *The Coherent X-ray Imaging (CXI) Instrument at LCLS*, Frontiers in Optics, OSA Meeting, San Jose, California, October 2009

Sébastien Boutet, *The Coherent X-ray Imaging (CXI) Instrument at LCLS*, MID Workshop, ESRF, Grenoble, France, October 2009

Sébastien Boutet, *Far Experimental Hall Update*, LCLS-SSRL Users Meeting, SLAC, Menlo Park, California, October 2010

Sébastien Boutet, Garth J. Williams, M. Marvin Seibert, *The Coherent X-ray Imaging Instrument at LCLS*, Biology with FELs Workshop, Lawrence Berkeley Laboratory, Berkeley, California, January 2011

Sébastien Boutet, Garth J. Williams, M. Marvin Seibert, *KB Mirrors for the LCLS hard x-ray free electron laser*, SPIE, Prague, Czech Republic, April 2011

Sébastien Boutet, *Coherent X-ray Imaging at the LCLS*, Advanced Light Source Seminar, Lawrence Berkeley Laboratory, Berkeley, California, March 2012

Sébastien Boutet, *Ultrafast imaging and structural studies using an X-ray Free-Electron Laser*, Lockheed Martin Colloquium, Lockheed Martin, Palo Alto, California, April 2012

Sébastien Boutet, *High-resolution biology at the Linac Coherent Light Source*, Gordon Research Conference on Diffraction Methods in Biology, Lewiston, Maine, July 2012

Sébastien Boutet, *X-ray FEL instrumentation for structure and dynamics of biomolecules*, ECM28 The 28th Meeting of the European Crystallographic Association, University of Warwick, Coventry, England, August 2013

SPECIAL PRESENTATIONS

Sébastien Boutet, *Towards Single Particle Imaging at LCLS*, Presentation to Under Secretary for Science Dr Steven Koonin, SLAC, July 2009

Sébastien Boutet, *LCLS Science Highlights*, SLAC Science Policy Committee, SLAC, Menlo Park, May 2011

Aina Cohen and Sébastien Boutet, Special Presentation to Dr Peter Lee, Program Manager X-ray and Neutron Scattering Facilities Office of Basic Energy Sciences, SLAC, October 2011

CONTRIBUTED TALKS

Sébastien Boutet, Ian Robinson, Zhengwei Hu, Bill Thomas, Alex Chernov, *Surface X-ray Diffraction from Protein Crystals*, Thirteenth American Conference on Crystal Growth and Epitaxy, Burlington, Vermont, August 2001.

Sébastien Boutet, Ian K. Robinson, *In Situ Diffraction Measurement of Protein Crystal Growth*, APS March Meeting 2002, Indianapolis, Indiana, March 2002.

Sébastien Boutet, Ian K. Robinson, *Pre-Crystallization State of Ferritin at Low Temperature*, ACA Meeting 2004, Chicago, Illinois, July 2004.

Sébastien Boutet, Ian K. Robinson, *Collapse of Protein Crystals*, ACA Meeting 2004, Chicago, Illinois, July 2004.

Sébastien Boutet, Ian K. Robinson, *Pre-Crystallization State of Ferritin at Low Temperature*, APS March Meeting 2005, Los Angeles, California, March 2005.

Sébastien Boutet, Ian K. Robinson, *Benefits of Coherence in SAXS at Beamline 34-ID-C at the APS*, ACA Meeting 2005, Orlando, Florida, May 2005.

Sébastien Boutet, Jacek Krzyinski and Riccardo Signorato, *Wavefront Preserving X-ray Focusing Mirror System for the Linac Coherent Light Source*, International Workshop on X-ray Mirror Design, Fabrication and Metrology, Osaka, Japan, September 2009

Sébastien Boutet, *Coherent X-ray Imaging Instrument at LCLS, SRI09*, Melbourne, Australia, October 2009

LANGUAGES

English
French

MEMBERSHIPS

American Physical Society
American Crystallographic Association