

MATTHIEU BAUDELET

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Matthieu BAUDELET graduated with a B.Sc. in Physics in the University of Lille (France) in 2003, starting his experience in Spectroscopy with Fourier-Transform Microwave Spectroscopy. In 2005, he graduated with a M.Sc. in "Laser and Spectroscopy" in the University of Lyon (France) and continued to complete his Ph.D. in the 'Laboratoire de Spectrométrie Ionique et Moléculaire' (Lasim, Lyon) working on "Laser-induced plasma and spectroscopic analysis" showing the advantages of Laser-Induced Breakdown Spectroscopy for biological sensing and food monitoring. He continued his research on laser spectroscopy and sensing as a Senior Research Scientist for the Townes Laser Institute at the University of Central Florida (Orlando, FL) covering the fundamentals of laser-induced plasmas, the application of laser spectroscopies such as LIBS, Fluorescence, Raman, FTIR, ... as fundamental diagnostics as well as sensing techniques for defense, industrial, environmental, biomedical applications and the study of propagation of ultrashort laser pulses for sensing purposes at distances up to the kilometer range. From 2012 to 2015, as a Research Assistant Professor of Optics in the Laser & Plasma Laboratory in the Townes Laser Institute, he further developed laser spectroscopy for atomic spectroscopy as well as electronic, vibrational and rotational molecular spectroscopy for studying fundamentals of plasmas, quantitative analysis and sensing in tabletop and integrated configuration as well as for stand-off detection. The fields of application went from forensic science (with a secondary joint appointment at the National Center for Forensic Science) to biomedical diagnostic to manufacturing optimization.

Joining the faculty of the Chemistry department at UCF in 2015 as an Assistant Professor in the National Center for Forensic Science, he developed his research to focus on the application of laser-based spectroscopic techniques for forensic analysis of tire skid marks, pollen grains and anthropological remains. He demonstrated the first non-destructive DNA analysis of single pollen grains, opening the path to quantitative and multimodal forensic palynology. The focus on quantitative field forensic anthropology using LIBS has led to the development of chemical standards of hard biomaterials adapted for laser-ablation-based chemical analysis (LIBS and LA-ICP-MS). These standards for teeth, bones, hair and nails have seen interest from the biomedical community as well for non-invasive diagnosis.

Now as an Associate Professor since 2020, he is furthering the development of multimodal analysis for pollen analysis towards the creation of a full forensic characterization of the pollen grain from genomics to proteomics to lipidomics to metallomics. Another focus of his research is to develop better matrix-matched standards of complex materials such as biomaterials and polymers for LIBS and LA ICP MS. Both aspects see interests from the forensic and the biomedical communities as they will contribute to filling the lacks in quantitative analysis required to develop new approaching to medical diagnostics and forensic decision-making.

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CAREER PROGRESSION

EDUCATION

- 2005-2008 PhD, *Plasma Spectroscopy* (LASIM, University of Lyon, France)
2003-2005 M. Sc. *Physics and Technologies* (University of Lyon, France)
2000-2003 B. Sc. *Physics* (University of Lille I, France)

DISSERTATION

- 2008 “Physical-chemical properties of laser-induced plasmas in nanosecond and femtosecond regimes: Analytical applications to bacteria and food samples” (Advisor: Pr. Jin Yu, LASIM, Lyon, France)

POSITIONS

- 2020-present Associate Professor (National Center for Forensic Science/Chemistry department, University of Central Florida, FL, USA)
Forensic spectroscopy
- 2015-2020 Assistant Professor (National Center for Forensic Science/Chemistry department, University of Central Florida, FL, USA)
Forensic spectroscopy
- 2015-present Secondary Joint Appointment at CREOL – The College of Optics and Photonics (University of Central Florida, FL, USA)
- 2012-2015 Assistant Research Professor (Townes Laser Institute, University of Central Florida, FL, USA)
Laser Spectroscopy and Sensing
Laser Filamentation
- 2013-2015 Secondary Joint Appointment at the National Center for Forensic Science (University of Central Florida, FL, USA)
- 2008-2012 Senior Research Scientist (Townes Laser Institute, University of Central Florida, FL, USA)
Laser Spectroscopy and Sensing
Laser Filamentation
- 2005-2008 Graduate Teaching Assistant (University of Lyon, France)
Electrokinetics
Numerical Analysis in C and C++
- 2005-2008 Graduate Research Assistant (LASIM, University of Lyon, France)

DISTINCTIONS AND AWARDS

2012-2013 UCF Research Millionaire

2012-2014 UCF Innovator

TEACHING AND ACADEMIC SUPERVISION

TEACHING ASSIGNMENT

Since the beginning of my appointment in the Chemistry department and the National Center for Forensic Science, the focus of my teaching assignment has been on educating our students in microscopy and spectroscopic fundamentals. I improved the undergraduate Forensic Microscopy teaching lab from a set of microscopes with which the students would draw their observations to a digitally-oriented laboratory with state-of-the-art instrumentation (such as automated refractive index of glass - GRIM) and a strong program where students learn about geometrical optics, imaging, interferences, color theory as well as fiber, hair, glass, drug and soil. I created the graduate extension to this class by introducing spectral analysis with the microscope. By re-creating the online course on Atomic Spectroscopy, students are learning the fundamental quantum theory of the atomic structure (down to the hyperfine structure) and its use in analytic chemistry.

Spring 2021	Advanced forensic microscopy
Fall 2020	Forensic microscopy
Summer 2020	General Chemistry II
Spring 2020	Atomic spectroscopy
Fall 2019	Forensic microscopy
Spring 2019	Advanced forensic microscopy
Fall 2018	Forensic microscopy
Spring 2018	Atomic spectroscopy
Fall 2017	Forensic microscopy
Spring 2017	Advanced forensic microscopy
Fall 2016	Forensic microscopy
Spring 2016	Trace Evidence
Fall 2015	Forensic microscopy

ACADEMIC SUPERVISION

Since my appointment, I have supervised 1 post-doctoral assistant, 5 Ph.D. students, 1 M.Sc. student and 20 undergraduate students. My mentorship went beyond research advising by involving them in writing funding proposals as well as fellowships to different federal agencies.

POST-DOCTORAL ASSOCIATE SUPERVISION

2016-2019	Mauro Martinez
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STUDENT SUPERVISION

GRADUATE STUDENTS

- 2020-present Kristen Livingston, PhD student (University of Central Florida, Forensic)
- 2020-present Kaitlyn Bonilla, PhD student (University of Central Florida, Forensic)
- 2020-present Olivia Field, MS student (University of Central Florida, Forensic)
- 2018-present Luz Kelley, PhD student (University of Central Florida, Chemistry/Biochemistry)
- 2018-present John Lucchi, PhD student (University of Central Florida, Chemistry/Forensic)
- 2015-present Bryan McCullough, PhD student (University of Central Florida, Chemistry/Forensic)
- 2016-2018 Brandy Voyer, MS student (University of Central Florida, Forensic) “Qualitative and quantitative elemental composition analysis of the surrounding pollen coating via ICP-MS”
- 2016-2017 Christopher Felton, PhD student (University of Central Florida, Chemistry)
- 2014-2018 Jessica Chappell, PhD student (University of Central Florida, Chemistry/Forensic) “Quantitative line assignment in optical emission spectroscopy”

UNDERGRADUATE STUDENTS

- 2020 Olivia Feild, undergraduate research (University of Central Florida, Forensic, Honors)
- 2019 Sidney Rials, undergraduate research (University of Central Florida, Chemistry)
- 2019-2020 Kaitlyn Bonilla, undergraduate research (University of Central Florida, Forensic)
- 2019 Elizabeth Rose, undergraduate internship (University of Central Florida, Forensic) “Nondestructive DNA Extraction and Quantification from A Single Pollen Grain”
- 2019 Veronica Flores, undergraduate research (University of Central Florida, Forensic)
- 2019 Olivia Feild, undergraduate research thesis (University of Central Florida, Forensic, Honors) “RGB analysis of interference patterns for forensic fiber analysis”
- 2019 Kayley Jenks, undergraduate internship (University of Central Florida, Forensic)

- 2019 Terra Brown, undergraduate internship (University of Central Florida, Forensic)
- 2018 Kayley Jenks, undergraduate research (University of Central Florida, Forensic)
- 2018 Kebreyona Acker, undergraduate internship (University of Central Florida, Forensic)
“The elemental analysis of tire rubber and skid marks using LA-ICP-MS and LIBS”
- 2018 Courtney Bayne, undergraduate research (University of Central Florida, Forensic)
- 2018 Terra Brown, undergraduate research (University of Central Florida, Forensic)
- 2018 Dylan Aiello, undergraduate internship (University of Central Florida, Forensic)
“Forensic and Anthropological Use of Handheld Laser-Induced Breakdown Spectroscopy for the Separation of Bone from Non-Osseous Material”
- 2018 Gerardo Sibaja, undergraduate internship (University of Central Florida, Forensic)
“Study of the Cleaning Methodology for Pollen As a Means of Forensic Evidence”
- 2017 Matthew Aviles, Chris Beck, Kevin Orkis, Brandon Seesahai, Senior design project (University of Central Florida, Electrical Engineering/Optics) “Low-Shift Raman Microscope Attachment”
- 2016-2017 Brynnae Williams, undergraduate research (University of Central Florida, Biology)
- 2016-2017 Maria Andreoli, undergraduate research (University of Central Florida, Biology)
- 2016-2017 Spencer Dalrymple, undergraduate research (University of Central Florida, Chemistry/Computer Science) “Development of LIBS Instrumentation for Use on Large Scale Samples”
- 2016 Lauren Guili, undergraduate internship (University of Central Florida, Forensic)
“Quantitative Elemental Analysis Mapping of Biological Tissue using LA-ICP-MS”
- 2016 Derek Makara, undergraduate research (University of Central Florida, Forensic)
- 2015-2017 Kelsi Kuehn, undergraduate research (University of Central Florida, Anthropology)
- 2013-2016 Brandon Seesahai, undergraduate research (University of Central Florida, Optics, Honors) “Plasma Temperature Measurements in the Context of Spectral Interference”

THESIS/DISSERTATION COMMITTEES

My multi-disciplinary experience in Optics, Physics, Chemistry and Spectroscopy has led several students in different departments (Chemistry, Anthropology, Optics, Electrical Engineering, Physics) to invite me in their dissertation committee.¹

¹ Bold: Committee Chair

- 2020 Irene Maria Carrasco Garcia (Universidad de Málaga - Spain, Analytical Chemistry) – Member of the PhD committee (Reviewer)
- 2020 Michelle Corbally (University of Central Florida, Chemistry) – Member of the PhD committee
- 2020 David Funes (University of Central Florida, Chemistry) – Member of the PhD committee
- 2020 Anna Kimball (University of Central Florida, Chemistry) – Member of the PhD committee
- 2019 Olivia Feild (University of Central Florida, Chemistry) – Chair of the Honors thesis committee**
- 2019 Kandys Najar (University of Central Florida, Chemistry) – Member of the PhD committee
- 2019 Luz Kelley (University of Central Florida, Chemistry) – Chair of the candidacy committee**
- 2019 Danielle Green (University of Central Florida, Chemistry) – Member of the PhD committee
- 2019 Paris Volk (University of Central Florida, Chemistry) – Member of the PhD committee
- 2019 Abigail Kindler (University of Central Florida, Anthropology) – Member of the Masters committee
- 2019 Jaime Rogers (University of Central Florida, Anthropology) – Member of the Masters committee
- 2018 Jessica Chappell (University of Central Florida, Chemistry) – Chair of the PhD committee**
- 2018 Brandy Voyer (University of Central Florida, Chemistry) – Chair of the Masters committee**
- 2018 Bryan McCullough (University of Central Florida, Chemistry) – Chair of the candidacy committee**
- 2018 Yasmine Moustafa (University of Central Florida, Chemistry) – Member of the PhD committee
- 2018 Anuradha Akmeemana (University of Central Florida, Chemistry) – Member of the PhD committee
- 2018 Haley Kerrigan (University of Central Florida, Optics) – Member of PhD committee
- 2018 Jinxin Li (University of Central Florida, Optics) – Member of the PhD committee
- 2018 Salimeh Tofghi (University of Central Florida, Optics) – Member of the PhD committee

- 2018 Stefan Gausmann (University of Central Florida, Optics) – Member of the PhD committee
- 2017 Michelle Hawkins (University of Central Florida, Anthropology) – Member of the Masters committee
- 2017 Alyssa Allen (University of Central Florida, Chemistry) – Member of the PhD committee
- 2017 Spencer Dalrymple (University of Central Florida, Chemistry) – Chair of the undergraduate research presentation committee**
- 2017 John Szilagyi (University of Central Florida, Electrical Engineering) - Member of the PhD committee
- 2017 Samantha Mensah (University of Central Florida, Chemistry) – Member of the undergraduate research presentation committee
- 2017 Andrew DeRouin (University of Central Florida, Chemistry) – Member of the undergraduate research presentation committee
- 2017 Daniel Thul (University of Central Florida, Optics) – Member of the Masters committee
- 2016 Brandon Seesahai (University of Central Florida, Optics) – Chair of the Honors thesis committee**
- 2016 Abigail Woltering (University of Central Florida, Anthropology) – Member of the Masters committee
- 2016 Daniel Kepler (University of Central Florida, Optics) – Member of the Masters committee
- 2016 Cheonha Jeon (University of Central Florida, Optics) – Member of the PhD committee
- 2015 Alex Sincore (University of Central Florida, Optics) – Member of the candidacy committee
- 2013 Erik McKee (University of Central Florida, Physics) – Member of the Masters committee
- 2012 Qianli Ma (University of Lyon - France, Physics) - Invited member of the PhD committee

RESEARCH

Using laser spectroscopic tools for forensic science, I have developed an interdisciplinary research program with a variety of collaborators. During my tenure track, I have successfully brought research funds totaling to \$7.2M (\$3.1M credit) as well as \$780k (\$210k credit) in equipment funds.²

RESEARCH FUNDING

2019-2021	Graduate Fellowship: FORENSIC APPLICATION OF POLLEN DNA BARCODING Agency: National Institute of Justice Role: PI, Credit: 100% TOTAL: \$150,000 (\$150,000 credit)
2019-present	RESEARCH FOUNDATION: Calibration Standards for LIBS and LA-ICP-MS Agency: Various Role: PI, Credit: 100% TOTAL: \$700 (\$700 credit)
2019-2020	LIBS CHARACTERIZATION OF CERAMIC POWDERS Agency: Engi-Mat Role: co-PI, Credit: 80% TOTAL: \$9,011 (\$7,238 credit)
2018-2019	PORTABLE INSTRUMENT FOR ASSESSING ZINC DEFICIENCY IN CHILDREN AND THE ELDERLY Agency: NeuroBioTex, Inc. Role: PI, Credit: 100% TOTAL: \$295,256 (\$295,256 credit)
<i>2011-2019</i>	<i>LIGHT FILAMENTATION SCIENCE - SPIN-OFF FUNDING</i> <i>Agency: Army Research Office (ARO)</i> <i>Role: co-PI, Credit: 46%</i> <i>TOTAL: \$121,928 (\$56,087 credit)</i>
2015-2017	UV-VIS MICROCOMBS BASED ON EC-CUT (Al,Ga)N Agency: Yale University Education Institution Role: PI, Credit: 100% TOTAL: \$176,614 (\$176,614 credit)
2014-2017	LIBS FOR SOIL SCREENING – STUDY OF MATRIX EFFECTS ON ELEMENTAL PROFILING Agency: National Institute of Justice Role: PI, Credit: 90% TOTAL: \$292,182 (\$262,964 credit)
2013-2017	LEVEL OF CONFIDENCE IN ELEMENTAL ANALYSIS BY LIBS Agency: National Institute of Justice Role: PI, Credit: 100% TOTAL: \$399,532 (\$399,532 credit)

² Italic: Funds started before tenure-track period; Bold: PI

2015-2016 *EXTENDED STUDIES OF AIR FILAMENTATION - TOPIC 6.4*
Agency: Army Research Office (ARO)
Role: co-PI, Credit: 4%
TOTAL: \$2,017,350 (\$80,694 credit)

2011-2016 *LIGHT FILAMENTATION SCIENCE*
Agency: Army Research Office (ARO)
Role: co-PI, Credit: 46%
TOTAL: \$2,904,772 (\$1,336,195 credit)

2010-2015 *FUNDAMENTALS OF FILAMENT INTERACTION*
Agency: US Air Force Office of Scientific Research (AFOSR)
Role: co-PI, Credit: 50%
TOTAL: \$979,484 (\$489,742 credit)

TOTAL: \$7,196,829 (\$3,105,022 credit)

INSTRUMENTATION FUNDING

2013-2015 **DURIP: CHAMBER FOR LASER PROPAGATION THROUGH AEROSOL MEDIUM (CLAPTAM)**
Agency: Army Research Office (ARO)
Role: PI, Credit: 34%
TOTAL: \$181,479 (\$61,703 credit)

2014-2016 **DURIP: MOBILE ULTRAFAST HIGH ENERGY LASER FACILITY (MU-HELF)**
Agency: Army Research Office (ARO)
Role: co-PI, Credit: 25%
TOTAL: \$600,000 (\$150,000 credit)

TOTAL: \$781,479 (\$211,703 credit)

SCIENTIFIC COMMUNICATION

H-index: 16

Average citations per publication: 17.51

Since Fall 2013, I have published and submitted 17 peer-reviewed papers that always involved students and/or post-docs. Two of these papers contribute to my H-index. I also edited a book (2nd edition under redaction), 2 patent applications and 14 conference proceedings. I also have been presenter or co-author of 68 presentations (many invited) at conferences, UCF or other universities.

BOOKS AND BOOK CHAPTERS

2019

1. Matthieu Baudelet (editor), "Laser spectroscopy for sensing: Fundamentals, techniques and applications", 2nd edition, Woodhead Publishing Ltd, *in preparation*
2. Matthieu Baudelet, "Forensic Applications", Editors: Jagdish P. Singh and Surya N. Thakur, Laser-Induced Breakdown Spectroscopy, Elsevier, *in preparation*
3. Matthieu Baudelet, "Laser-induced breakdown spectroscopy with filaments", Editors: Jean-Claude Diels, Martin Richardson, Ladan Arissian, Light Filaments: Structures, Challenges and Applications, IET, *in preparation*

2015

4. A. Couairon, V. Jukna, J. Darginavicius, D. Majus, N. Garejev, I. Gražuleviciute, G. Valiulis, G. Tamošauskas, A. Dubietis, F. Silva, D.R. Austin, M. Hemmer, M. Baudisch, A. Thai, J. Biegert, D. Faccio, A. Jarnac, A. Houard, Y. Liu, A. Mysyrowicz, S. Grabielle, N. Forget, A. Durécu, M. Durand, K. Lim, E. McKee, M. Baudelet, and M. Richardson, "Filamentation and Pulse Self-compression in the Anomalous Dispersion Region of Glasses", Editors: Andre D. Bandrauk, Emmanuel Lorin, Jerome V. Moloney, Laser Filamentation - Mathematical Methods and Models, Part of the series CRM Series in Mathematical Physics, Springer, pp 147-165

2014

3. Matthieu Baudelet (editor), "Laser spectroscopy for sensing: Fundamentals, techniques and applications", Woodhead Publishing Ltd (2014)

PEER-REVIEWED PUBLICATIONS³

2020

1. **Luz Kelley***, **Elizabeth Rose***, **Bryan McCullough***, **Mauro Martinez**, **Matthieu Baudelet**, "Non-destructive DNA analysis of single pollen grains", *Forensic Chemistry* (2020), **20**, **100275**

³ Bold: corresponding author; *student author

2019

2. **Martinez, M. & Baudelet, M.** “Calibration strategies for elemental analysis of biological samples by LA-ICP-MS and LIBS – A review”, *Anal Bioanal Chem* (2019). <https://doi.org/10.1007/s00216-019-02195-1>
3. **M. Martinez and M. Baudelet**, Matrix-matched calibration material for zinc analysis of human nails by laser-induced breakdown spectroscopy, *Spectrochimica Acta Part B : Atomic Spectroscopy* (2019), <https://doi.org/10.1016/j.sab.2019.105732>
4. **Mauro Martinez, Courtney Bayne*, Dylan Aiello*, Matthew Julian*, Romain Gaume, Matthieu Baudelet**, “Multi-elemental matrix-matched calcium hydroxyapatite reference materials for laser ablation: evaluation on teeth by Laser-Induced Breakdown Spectroscopy”, *Spectrochimica Acta part B*, 2019, 159, 105650
5. **John Lucchi*, Mauro Martinez, Matthieu Baudelet**, “Homogenization of Plasma Emission Collection for Multi-Channel Spectrometer”, *Applied Spectroscopy* (2019), DOI: 10.1177/0003702819843992
6. **Jan Hostaša, Andreana Piancastelli, Valentina Biasini, Sudeep Jung Pandey*, Mauro Martinez, Matthieu Baudelet, Romain Gaume**, “Advances in the monitoring of the SiO₂ evaporation loss in transparent YAG ceramics by LIBS”, *Ceramics International*, 2019, 45(9), 12274-12278

2018

7. **Jessica Chappell*, Mauro Martinez, Matthieu Baudelet**, “Statistical evaluation of spectral interferences in LIBS”, *Spectrochimica Acta part B*, 149, 167-175 (2018)
8. **Danielle Reyes*, Matthieu Baudelet, Martin Richardson, Shermineh Rostami Fairchild**, “Transition from linear- to nonlinear-focusing regime of laser filament plasma dynamics”, *Journal of Applied Physics*, 124, (2018)
9. **Sudeep Jung Pandey*, Richard Locke*, Romain Gaume, Matthieu Baudelet**, “Effect of powder compact density on the LIBS analysis of Ni impurities in alumina powders”, *Spectrochimica Acta part B*, 148, 99-104 (2018)

2017

10. **Sudeep Jung Pandey*, Mauro Martinez, Jan Hostaša, Laura Esposito*, Matthieu Baudelet and Romain Gaume**, “Quantification of SiO₂ Sintering Additive in YAG Transparent Ceramics by Laser-Induced Breakdown Spectroscopy (LIBS)”, *Optical Materials Express*, 7(5), 1666-1671 (2017)
11. **S.J. Pandey*, M. Martinez, F. Pelascini, V. Motto-Ros, M. Baudelet, R.M. Gaume**. “Quantification of non-stoichiometry in YAG ceramics using laser-induced breakdown spectroscopy”, *Optical Materials Express*, 7(2), 627-632 (2017)
12. **Shermineh Rostami, Wiktor Walasik, Daniel Kepler*, Matthieu Baudelet, Natalia Litchinitser, Martin Richardson**, “Free-Space Nonlinear Beam Combining for High Power Projection”, *Scientific Reports*, 7, 10147 (2017)

2016

13. **Shermineh Rostami*, Michael Chini, Khan Lim*, John Palastro, Magali Durand, Jean-Claude Diels, Ladan Arissian, Matthieu Baudelet, Martin Richardson**, “Dramatic enhancement of supercontinuum generation in elliptically-polarized laser filaments”, *Scientific Reports* 6, 20363 (2016)

2015

14. Matthew Weidman*, Mark Ramme*, Bruno Bousquet, Khan Lim*, Magali Durand, Matthieu Baudelet, Martin Richardson, “Laser filament-induced plasma emission: quantification and angular dependence”, *Optics Letters* **40**, 4548-4551 (2015)
15. Cheonha Jeon*, Danielle Harper*, Khan Lim*, Magali Durand, Matthieu Baudelet, and Martin Richardson, “Interaction of a single laser filament with a single aerosol”, *Journal of Optics* **17** 055502 (2015)

2014

16. Khan Lim*, Magali Durand, Matthieu Baudelet, Martin Richardson, “Transition from linear- to nonlinear-focusing regime in filamentation”, *Scientific Reports* **4**, 7217 (2014)
17. R. Casey Boutwell*, , M. Wei*, Matthieu Baudelet, Winston V. Schoenfeld, “Investigation and impact of oxygen plasma compositions on cubic ZnMgO grown by Molecular Beam Epitaxy”, *Journal of Alloys and Compounds* **584** (2014) 327–330
18. Nicholas Barbieri*, Zahra Hosseinimakarem*, Khan Lim*, Magali Durand, Matthieu Baudelet, Eric Johnson, Martin Richardson, “Helical filaments”, *Applied Physics Letters* **104** (2014) 261109

2013

19. Harby Ezzeldeen Ahmed, Yuan Liu*, Matthieu Baudelet, Bruno Bousquet, Martin Richardson, “Investigation of Historical Egyptian Textile using Laser-Induced Breakdown Spectroscopy (LIBS) - a case study”, *Journal of Textile and Apparel, Technology and Management* **8**(2) (2013),
20. Magali Durand, Khan Lim*, Vytautas Jukna, Erik McKee*, Matthieu Baudelet, Aurélien Houard, Martin Richardson, André Mysyrowicz, Arnaud Couairon, “Blueshifted continuum peaks from filamentation in the anomalous dispersion regime”, *Phys. Rev. A* **87**, 043820 (2013)
21. **Matthieu Baudelet, Benjamin W. Smith**, “The first years of laser-induced breakdown spectroscopy”, *J. Anal. At. Spectrom.*, **2013**, **28** (5), 624 - 629

2012

22. Caitlin N Rinke*, Mary R Williams, Christopher Brown*, Matthieu Baudelet, Martin Richardson, Michael E. Sigman, “Discriminant Analysis in the Presence of Interferences: Combined Application of Target Factor Analysis and a Bayesian Soft-Classifer”, *Analytica Chimica Acta* **753**, 19– 26 (2012)
23. Yuan Liu*, Lionel Gigant*, **Matthieu Baudelet, Martin Richardson**, “Correlation between Laser-Induced Breakdown Spectroscopy signal and moisture content”, *Spectrochimica Acta B* **70**, 71-74 (2012)
24. Yuan Liu*, Bruno Bousquet, **Matthieu Baudelet, Martin Richardson**, “Improvement of the sensitivity for the measurement of copper concentrations in soil by Microwave-Assisted Laser-Induced Breakdown Spectroscopy”, *Spectrochimica Acta B* **73**, 89-92 (2012)
25. Matthew Weidman*, Khan Lim*, Mark Ramme*, Magali Durand, Matthieu Baudelet, Martin Richardson, “Stand-off filament-induced ablation of gallium arsenide”, *Applied Physics Letters* **101**, 034101 (2012)

2011

26. Nicholas Barbieri*, Matthew Weidman*, Gregory Katona*, Matthieu Baudelet, Zachary Roth*,

Eric Johnson, Georgios Siviloglou*, Demetrios Christodoulides, Martin Richardson, "Double helical laser beams based on interfering first order Bessel beams", Journal of the Optical Society of America A **28**, 1462-1469 (2011)

2010

27. Yuan Liu*, Matthieu Baudelet, Martin Richardson, "Elemental analysis by microwave-assisted laser-induced breakdown spectroscopy: Evaluation on ceramics", J. Anal. At. Spectrom. **25**, 1316-1323 (2010)
28. **Matthieu Baudelet, Christina C.C. Willis*, Lawrence Shah, Martin Richardson, "Laser-induced breakdown spectroscopy of copper with a 2 μm thulium fiber laser", Optics Express **18**, 7905-7910 (2010)**
29. Matthew Weidman*, Matthieu Baudelet, Santiago Palanco, Michael Sigman, Paul J. Dagdigian, Martin Richardson "Nd:YAG-CO₂ double-pulse laser induced breakdown spectroscopy of organic films" Optics Express **18**, 259-266 (2010)

2009

30. Matthew Weidman, Santiago Palanco, Matthieu Baudelet, Martin C. Richardson, "Thermodynamic and spectroscopic properties of Nd:YAG-CO₂ Double-Pulse Laser-Induced Plasma of Iron," Spectrochimica Acta Part B **64** (2009) 961–967
31. Myriam Boueri*, Matthieu Baudelet*, Jin Yu, X. L. Mao, S. S. Mao, R. E. Russo, "Early stage expansion and time-resolved spectral emission of laser-induced plasma from polymer," Applied Surface Science **255**, issue 24, pages 9566-9571 (2009)

2008

32. Vincent Juvé*, Richard Portelli*, Myriam Boueri*, Matthieu Baudelet*, Jin Yu, "Space-resolved analysis of trace elements in fresh vegetables using UV nanosecond laser-induced breakdown spectroscopy," Spectrochimica Acta Part B **63**, pages 1047-1053 (2008)

2007

33. Myriam Bossu*, Zuo-Qiang Hao*, Matthieu Baudelet*, Jin Yu, Zhe Zhang, Jie Zhang, "Femtosecond Laser-Induced Breakdown Spectroscopy for Detection of Trace Elements in Sophora Leaves," Chinese Physics Letters **24**, number 12, pages 3466-3469 (2007)
34. Matthieu Baudelet*, Myriam Boueri*, Jin Yu, S. S. Mao, Vincent Piscitelli*, X. L. Mao, R. E. Russo, "Time-resolved ultraviolet laser-induced breakdown spectroscopy for organic material analysis," Spectrochimica Acta Part B **62**, pages 1329-1334 (2007)

2006

35. Matthieu Baudelet*, Jin Yu, Myriam Bossu*, Julien Jovelet*, Jean-Pierre Wolf, Tanguy Amodeo*, Emeric Fréjafon, Patrick Laloi, "Discrimination of microbiological samples using femtosecond laser- induced breakdown spectroscopy," Applied Physics Letters **89**, page 163903 (2006)
36. Matthieu Baudelet*, Laurent Guyon*, Jin Yu, Jean-Pierre Wolf, Tanguy Amodeo*, Emeric Fréjafon, Patrick Laloi, "Femtosecond time-resolved laser-induced breakdown spectroscopy for detection and identification of bacteria: A comparison to the nanosecond regime," Journal of Applied Physics **99**, page 084701 (2006)
37. Matthieu Baudelet*, Laurent Guyon*, Jin Yu, Jean-Pierre Wolf, Tanguy Amodeo*, Emeric Fréjafon, Patrick Laloi, "Spectral signature of native CN bonds for bacterium detection

and identification using femtosecond laser-induced breakdown spectroscopy," *Applied Physics Letters* **88**, page 063901 (2006)

2003

38. D. Gerhard, A. Hellweg, I. Merke, W. Stahl, Matthieu Baudelet*, Denis Petitprez, Georges Wlodarczak, "Internal rotation and chlorine nuclear quadrupole coupling of o-chlorotoluene studied by microwave spectroscopy and ab initio calculations," *Journal of Molecular Spectroscopy* **220**, pages 234-241 (2003)

PATENTS

1. Romain Gaume, Matthew Julian, Matthieu Baudelet, "Method for fabricating an optical source for calibrating an optical system", *Attorney Ref. No. 10669-283US0*
2. **Matthieu Baudelet**, "Quantitative Elemental Profiling in Optical Emission Spectroscopy", *US Patent Application 20150025847 A1*
3. M. C. Richardson, Y. Liu, M. Baudelet, "LIBS Moisture Monitoring System." *Patent disclosure to University of Central Florida*
4. Jin Yu, Matthieu Baudelet, "Unité d'excitation lumineuse d'un échantillon et de collection de la lumière émise par ledit échantillon excité" *Patent FR2941529A1*
5. Matthieu Baudelet, Jin Yu, "Détection de métaux dans les produits agroalimentaires" *Patent FR 06 51720*

CONFERENCE PROCEEDINGS

2018

1. D. Reyes, J. Peña, M. Baudelet, M. Richardson, and S. R. Fairchild, "Plasma Formed by Dual-Filament Interaction," in *Frontiers in Optics / Laser Science*, OSA Technical Digest (Optical Society of America, 2018), paper JTU2A.50.

2017

2. Wiktor T. Walasik, Shermineh Rostami, Daniel Kepler*, Matthieu Baudelet, Martin C. Richardson, and Natalia M. Litchinitser "Dynamic properties of large light filament arrays for complex photonic meta-structures in air (Conference Presentation)", *Proc. SPIE 10343, Metamaterials, Metadevices, and Metasystems 2017*, 1034306 (21 September 2017).
3. S. Rostami, M. Baudelet, and M. Richardson, "UV-Vis-NIR white light LIDAR using polarization-controlled laser filamentation," in *Conference on Lasers and Electro-Optics*, OSA Technical Digest (online) (Optical Society of America, 2017), paper ATH1B.3.

2016

4. D. J. Kepler*, S. Rostami, M. Baudelet, and M. C. Richardson, "Filamentation by Combining Sub-Critical Peak Power Ultrashort Pulses," in *International Conference on Ultrafast Phenomena*, OSA Technical Digest (online) (Optical Society of America, 2016), paper UTU4A.25.
5. C. Jeon*, J. Lane*, S. Rostami, L. Shah, M. Baudelet, and M. Richardson, "Laser induced filament propagation through adverse conditions," in *Propagation Through and Characterization*

of Atmospheric and Oceanic Phenomena, OSA Technical Digest (online) (Optical Society of America, 2016), paper Tu2A.3.

2015

6. S. Rostami*, M. Chini, K. Lim*, M. Durand, M. Baudelet, M. Richardson, J. Diels, and L. Arissian, "Enhanced Supercontinuum Generation by Polarization Control of Filamentation in Molecular Gases," in CLEO: 2015, OSA Technical Digest (online) (Optical Society of America, 2015), paper SF2D.5.
7. Cheonha Jeon*, Danielle Harper*, Khan Lim*, Magali Durand, Michael Chini, Matthieu Baudelet, and Martin Richardson, "Interaction between a single water droplet and a laser filament," Lasers and Electro-Optics Pacific Rim (CLEO-PR), 2015 11th Conference on, Busan, 2015, pp. 1-2.
8. C. Jeon*, D. Harper*, K. Lim*, M. Durand, M. Chini, M. Baudelet, and M. Richardson, "Spatial Dependence of the Interaction between a Single Aerosol and a Laser Filament on its Reformation," in CLEO: 2015, OSA Technical Digest (online) (Optical Society of America, 2015), paper FTu4D.8.
9. K. Lim*, M. Durand, M. Baudelet, and M. Richardson, "Transition between linear and nonlinear focusing regimes during filamentation," in CLEO: 2015, OSA Technical Digest (online) (Optical Society of America, 2015), paper FTu4D.4.

2014

10. S. Rostami*, M. Chini, K. Lim*, M. Durand, M. Baudelet, J. M. Diels, M. Richardson, and L. Arissian, "Measurements of the impact of polarization on filaments and the associated supercontinuum," in Frontiers in Optics 2014, OSA Technical Digest (online) (Optical Society of America, 2014), paper FTh2A.5.
11. M. Richardson, M. Durand, M. Baudelet, N. Barbieri*, M. Chini, K. Lim*, C. Jeon*, N. Litchinitser, Z. Kudyshev*, S. Will*, Z. Roth, and E. Johnson, "Nonlinear Radiation Effects with Filaments - Inside and Outside," in Frontiers in Optics 2014, OSA Technical Digest (online) (Optical Society of America, 2014), paper FTh1F.1.
12. Benjamin Webb*, Joshua Bradford*, Khan Lim*, Nathan Bodnar*, Andreas Vaupel*, Erik McKee*, Matthieu Baudelet, Magali M Durand, Lawrence Shah, Martin Richardson, "Compact 10 TW laser to generate multi-filament arrays", Frontiers in Optics 2014, OSA Technical Digest (online) (Optical Society of America, 2014), paper SM1F.6 (2014)
13. Cheonha Jeon*, Magali M Durand, Matthieu Baudelet, Martin Richardson, "Filament Interaction with Micro-Water Droplets", CLEO: Science and Innovations, STh4B.6 (2014)
14. Nicholas Barbieri*, Zahra Hosseinimakarem*, Khan Lim*, Magali Durand, Benjamin Webb*, Joshua Bradford*, Erik McKee*, Nathan Bodnar*, Lawrence Shah, Matthieu Baudelet, Eric Johnson, Martin Richardson, "Helical filaments", CLEO: Science and Innovations, FTu3D.6 (2014)

2013

15. Erik McKee, Khan Lim, Magali Durand, Ramakrishna Sesha Shankar, Matthieu Baudelet, Tamar Seideman, Martin Richardson, "Filamentation as a diagnostic to measure molecular alignment", Laser Science, JW3A.7, (2013)
16. Y. Liu, B. Bousquet, M. Richardson, and M. Baudelet, "Thomson scattering from aluminum laser

plasmas in air," in *Frontiers in Optics 2013*, I. Kang, D. Reitze, N. Alic, and D. Hagan, eds., OSA Technical Digest (online) (Optical Society of America, 2013), paper FTu4A.5.

17. Khan Lim, Magali Durand, Vytautas Jukna, Erik McKee, Matthieu Baudelet, Aurélien Houard, Martin Richardson, André Mysyrowicz, Arnaud Couairon, "Blueshifted Continuum Peaks from Filamentation in the Anomalous Dispersion Regime", *Frontiers in Optics*, FTh1A.4 (2013)
18. Magali Durand, Khan Lim, Vytautas Jukna, Erik McKee, Matthieu Baudelet, Aurelien Houard, Martin Richardson, André Mysyrowicz, Arnaud Couairon, "Influence of the anomalous dispersion on the supercontinuum generation by femtosecond laser filamentation", *CLEO: QELS_Fundamental Science*, QW1E.8 (2013)
19. Yuan Liu, Bruno Bousquet, Martin Richardson, Matthieu Baudelet, "Thomson scattering from aluminum laser plasmas in air", *CLEO: QELS_Fundamental Science*, JTh2A.04 (2013)
20. Khan Lim, Magali Durand, Xuan Sun, Fabrizio Buccheri, Matthew Weidman, Bruno Bousquet, Matthieu Baudelet, Xi-Cheng Zhang, Martin Richardson, "Broadband THz detection in the counter-propagating configuration using THz-enhanced plasma fluorescence", *CLEO: Science and Innovations*, CM4J.3 (2013)
21. Lawrence Shah, Tobias Bonhoff, Thomas Ferhat, Ashraf F El-Sherif, Mark Ramme, Christina CC Willis, Matthieu Baudelet, Pankaj Kadwani, Christian Gaida, Martin Gebhardt, Ilya Mingareev, Martin Richardson, "Silicon backside machining using a nanosecond 2- μm Tm: fiber laser", *SPIE MOEMS-MEMS*, 861207-861207-6 (2013)

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22. M. Richardson, M. Baudelet, M. Sigman, and A. Miziolek, "Stand-off chemical and biological sensing," in *Frontiers in Optics 2012/Laser Science XXVIII*, OSA Technical Digest (online) (Optical Society of America, 2012), paper LTh4F.2.
23. C. Butler, S. Fardad, A. Sincore, M. Vangheluwe, M. Baudelet, M. Richardson, "Multispectral optical tweezers for molecular diagnostics of single biological cells"; *Proceedings of SPIE*, **8225**, 82250C (2012)
24. Q. L. Ma, V. Motto-Ros, W. Q. Lei, X. C. Wang, M. Boueri, F. Laye, C. Q. Zeng, M. Sausy, A. Wartelle, X. S. Bai, L. J. Zheng, H. P. Zeng, M. Baudelet, J. Yu, "Characteristics of laser-induced plasma as a spectroscopic light emission source", *The 17th international conference on atomic processes in plasmas (ICAPIP)*, *AIP Conference Proceedings* **1438**, 243-248 (2012)

2010

25. M. Baudelet, Y. Liu, and M. Richardson, "Microwave-Assisted LIBS: Towards a New Tool for Trace Element Detection and Molecular Plasma Spectrochemistry,"; *Laser Applications to Chemical, Security and Environmental Analysis*, OSA Technical Digest Series (CD) (Optical Society of America, 2010), paper LWC3P
26. M. Baudelet, C. Willis, L. Shah, and M. Richardson, "Tm-Fiber 2 μm Laser for Laser-Induced Plasma Spectroscopy of Organic and Biological Materials," in *Laser Applications to Chemical, Security and Environmental Analysis*, OSA Technical Digest Series (CD) (Optical Society of America, 2010), paper LWC2.
27. M. Weidman, M. Baudelet, M. E. Sigman, P. J. Dagdigian, and M. Richardson, "Nd:YAG-CO₂ Double-Pulse Laser Induced Breakdown Spectroscopy for Explosive Detection," in *Laser Applications to Chemical, Security and Environmental Analysis*, OSA Technical Digest Series (CD) (Optical Society of America, 2010), paper LWD3.

28. Christina C. C. Willis, Lawrence Shah, Matthieu Baudelet, Pankaj Kadwani, Timothy S. McComb, R. Andrew Sims, Vikas Sudesh, Martin Richardson , “High-energy Q-switched Tm³⁺-doped polarization maintaining silica fiber laser ”, Proceedings of SPIE, volume 7850, pages 785003-1 (2010)

2009

29. Matthieu Baudelet, Martin C. Richardson, Michael Sigman, "Self-channeling of femtosecond laser pulses for rapid and efficient standoff detection of energetic materials," Proceedings of IEEE Conference on Technologies for Homeland Security, pages 472-476 (2009)
30. Christopher G. Brown, Matthieu Baudelet, Candice Bridge, Matthew Fisher, Michael Sigman, Paul J. Dagdigan, Martin C. Richardson, "Atmosphere Issues in Detection of Explosives and Organic Residues," Proceedings of SPIE, volume 7304, pages 73041D-1 (2009)
31. Matthew Weidman, Matthieu Baudelet, S. Fischer, Candice Bridge, Christopher G. Brown, Michael Sigman, Paul J Dagdigan, Martin C. Richardson, "Molecular signal as a signature for detection of energetic materials in filament-induced breakdown spectroscopy," Proceedings of SPIE, volume 7304, pages 73041G-1 (2009)
32. James Martin, Matthieu Baudelet, Matthew Weidman, Matthew Fisher, Candice Bridge, Christopher G. Brown, Michael Sigman, Paul J Dagdigan, Martin C. Richardson, "Stand-off detection of organic samples using filament-induced breakdown spectroscopy," Proceedings of SPIE, volume 7306, pages 73060Z-1 (2009)
33. Matthieu Baudelet, Myriam Boueri, Jin Yu, X. L. Mao, S. S. Mao, R. E. Russo, "Laser ablation of organic materials for discrimination of bacteria in an inorganic background," Proceedings of SPIE, volume 7214, pages 72140J-1 (2009)

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34. Matthieu Baudelet, Myriam Boueri, Jin Yu, S. S. Mao, X. L. Mao, R. E. Russo, "Correlation between early-stage expansion and spectral emission of a nanosecond laser-induced plasma from organic material," Proceedings of SPIE, volume 7005 (2008)

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35. Laurent Guyon, Matthieu Baudelet, Tanguy Amodeo, Emeric Frejafon, Patrick Laloi, Jin Yu, Jean-Pierre Wolf, "Laser-Induced Breakdown Spectroscopy analysis of Bacteria: What Femtosecond Lasers Make Possible," Ultrafast Phenomena XV, Proceedings of the 15th International Conference, Springer Berlin Heidelberg (2007), volume 88, pages 193-195 (2007)

PRESS RELEASES

2020

1. “Laser-Induced Breakdown Spectroscopy”, Spectroscopy: Introduction to the Techniques and Recent Advances – The SciX 2020 Preview and Companion Guide
<https://cdn.sanity.io/files/0vv8moc6/spectroscopy/2d0233f9e513f07f55a4a01f55f9edb6829e9e25.pdf>

2019

2. “Positive Results”, Pursuit – College of Sciences 2018-2019 annual report, University of Central Florida
<https://sciences.ucf.edu/wp-content/uploads/sites/7/2019/07/COS-Annual-Report-18-19.pdf>

3. "Research Holds Life-Changing Potential For Malnutrition Victims", COS News, University of Central Florida
<https://sciences.ucf.edu/news/research-holds-life-changing-potential-for-malnutrition-victims/>
2018
4. "Preview of LIBS 2018." Applied Spectroscopy 72.S1 (2018): 95-96.
2017
5. "The (Sci)X Factor", The Analytical Scientist, 1217, 16 (2017)
<https://theanalyticalscientist.com/issues/1217/the-scix-factor/>
6. "FACSS Welcomes ASAC at SciX 2017 October 8-13, 2017 Reno, Nevada", Applied Spectroscopy 71, 6, 1084 (2017)
2015
7. "Laser interaction with droplets - Understanding the propagation of femtosecond laser filaments through fogs and clouds", Journal of Optics – LabTalk (2015)
<http://iopscience.iop.org/2040-8986/labtalk-article/61892>
8. "Analysis of the State of the Art: Laser-Induced Breakdown Spectroscopy", Spectroscopy Magazine (June, 2015)
<http://images2.advanstar.com/PixelMags/spectroscopy/digitaledition/06-2015.html#74>
2013
9. "Matthieu Baudelet Joins Spectroscopy's Editorial Advisory Board", Spectroscopy Online (January 2013)
<http://www.spectroscopyonline.com/spectroscopy/article/articleDetail.jsp?id=802453>
2012
10. Yuan Liu, Matthieu Baudelet, Martin Richardson, "Moisture Measurement Using LIBS", G.I.T. Laboratory Journal Europe (June, 2012)
<http://www.laboratory-journal.com/science/chemistry-physics/moisture-measurement-using-lib>
2010
11. Andy Whitehouse, Ken Kaufman, Matthieu Baudelet and Rob Morris, "Optics and Lasers", Discussion hosted by Spectroscopy Online (10/08, 2010)
<http://spectroscopyonline.findanalytichem.com/spectroscopy/article/articleDetail.jsp?id=690503>
12. Matthieu Baudelet, "Basic Principles of Laser-Induced Breakdown Spectroscopy", Webcast hosted by Spectroscopy Online (09/29, 2010)
<http://www.youtube.com/watch?v=6AfZm0O7VIs>
13. Jin Yu, Matthieu Baudelet, "Spectroscopy detects toxins in veggies", Photonics Spectra (February 2010)
<http://www.photonics.com/Article.aspx?AID=41333>
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14. Jin Yu, Matthieu Baudelet, "First direct measurements of trace pollutants in fresh vegetables using laser plasma spectroscopy", News from Andor Technology (2009)
<http://www.andor.com/company/news/?docID=1021>
2008
15. Jin Yu, Myriam Boueri, Vincent Motto-Ros, Matthieu Baudelet, Wenqi Lei, "Laser-induced plasma for detecting trace elements in biological materials," SPIE Newsroom (2008)

ORAL PRESENTATIONS AND POSTERS

2020

1. Matthieu Baudelet, Mauro Martinez, “Advances in matrix-matched standards for biomedical analysis”, SciX 2020; 10/12-15/2020
2. Matthieu Baudelet, Mauro Martinez, “Matrix-matched standards for the analysis of hard biological materials”, 11th International Conference on Laser-Induced Breakdown Spectroscopy; 09/20-25/2020; Kyoto Terra, Kyoto, Japan. *Invited*
3. John Lucchi, Dan Gluck, Larry Tang, Matthieu Baudelet, “Forensic Classification of Tires by Laser-Induced Breakdown Spectroscopy”, 11th International Conference on Laser-Induced Breakdown Spectroscopy; 09/20-25/2020; Kyoto Terra, Kyoto, Japan
4. Matthieu Baudelet, Jagdish P. Singh, Andrzej W. Miziolek, Jose Almirall, “NASLIBS: Expanding the Impact of Science and Applications for Society”, 11th International Conference on Laser-Induced Breakdown Spectroscopy; 09/20-25/2020; Kyoto Terra, Kyoto, Japan; *Invited*
5. Matthieu Baudelet, Mauro Martinez, “Matrix-matched standards for the analysis of hard biological materials”, 1st international online meeting on LIBS; 07/06-08/2020
6. Matthieu Baudelet, “Laser Induced Breakdown Spectroscopy: Application to Forensic Sciences.”, Pittcon 2020; 03/01-05/2020; Chicago, IL, USA; *Invited*
7. Bryan McCullough, Luz J. Kelley, Gerardo Sibaja, Kayley Jenks, Matthieu Baudelet, Mauro Martinez, “Non-Destructive Separation of Pollen Grain Constituents for Biochemical Analysis”, 2020 American Academy of Forensic Science Annual Meeting; 02/17-22/2020; Anaheim, CA, USA
8. Luz J. Kelley, Bryan McCullough, Elizabeth J. Rose, Matthieu Baudelet, Mauro Martinez, “A Non-Destructive Genomic Analysis of Single Pollen Grains”, 2020 American Academy of Forensic Science Annual Meeting; 02/17-22/2020; Anaheim, CA, USA; *Poster presentation*

2019

9. Mauro Martinez, Terra Brown, Matthieu Baudelet, “Novel reference materials for LA-ICP-MS analysis of hair.”, SciX 2019; 10/13-18/2019; Palm Springs, CA, USA; *Invited*
10. Jessica Chappell, Mauro Martinez, Matthieu Baudelet, “Improving The Forensic Relevance of LIBS By Quantifying Spectral Interferences”, SciX 2019; 10/13-18/2019; Palm Springs, CA, USA; *Invited*
11. Mauro Martinez, Courtney Bayne, Dylan Aiello, Matthew Julian, Romain Gaumé, Matthieu Baudelet, “Matrix-Matched Standards for Anthropology Studies”, SciX 2019; 10/13-18/2019; Palm Springs, CA, USA; *Invited*
12. Matthieu Baudelet, “Elemental and molecular spectroscopy for industrial forensics”, KOMERI workshop; Ulsan, KR; 06/11/2019; *Invited*
13. Matthieu Baudelet, Jessica Chappell, Mauro Martinez, “Improving the Forensic Relevance of LIBS by Quantifying Spectral Interferences”, Pittcon 2019; 03/20/2019; Philadelphia, PA, USA; *Invited*

14. Mauro Martinez, Romain Gaumé, Christopher Frederickson, Matthieu Baudelet, “Of laser ablation and standards when analyzing hard biological materials”, European Winter Conference on Plasma Spectrochemistry; Pau, FR; 02/06/2019; *Poster presentation*

2018

15. Matthieu Baudelet, Mauro Martinez, “Multi-Elemental Hydroxyapatite Standards for Quantitative Analysis of Anthropological Samples by LIBS”, LIBS 2018; Atlanta, GA, USA; 10/23,2108. *Invited*
16. Shultz, L. R., McCullough, B., Shaw, T. E., Newsome, W., Uribe-Romo, F. J., Baudelet, M., Jurca, T., “Mechanochemically Synthesized Cobalt Oxide-based Particles as Efficient Catalysts for Nitrophenol Reduction”, Florida Inorganic and Materials Symposium 2018; Gainesville, FL, USA; 09/28-29. *Poster presentation*
17. Matthieu Baudelet, Mauro Martinez, “Laser-ablation for the analysis of anthropological evidence”, ACS FAME 2018; Palm Harbor, FL, USA; 05/05, 2018. *Invited*
18. Matthieu Baudelet, Mauro Martinez, “Elemental Mapping for Nanoparticle Diffusion in Plant Materials”, Pittcon 2018; Orlando, FL, USA; 02/28, 2018. *Invited*
19. Mauro Martinez, Matthieu Baudelet, “Bio-imaging using Laser-Induced Breakdown Spectroscopy”, Pittcon 2018; Orlando, FL, USA; 02/28, 2018. *Invited*
20. Jessica Chappell, Mauro Martinez, Matthieu Baudelet, “Quantitative Line Assignment in Optical Emission Spectroscopy”, Pittcon 2018; Orlando, FL, USA; 02/28, 2018. *Poster presentation*
21. Mauro Martinez, Christopher Felton, Matthieu Baudelet, “Forensic analysis of colored glass debris by LIBS”, Winter Conference on Plasma Spectrochemistry 2018; Amelia Island, FL, USA; 01/13, 2018.
22. Mauro Martinez, Michelle Hawkins, Tiffany Lee, John Schultz, Lana Williams, Tosha Dupras, Matthieu Baudelet, “Elemental Imaging of Teeth for Biological Anthropology”, Winter Conference on Plasma Spectrochemistry 2018; Amelia Island, FL, USA; 01/11, 2018.
23. Matthieu Baudelet, Mauro Martinez, Lauren Guili, “Gel-based standards for bio-imaging with LA-ICP-MS and LIBS”, Winter Conference on Plasma Spectrochemistry 2018; Amelia Island, FL, USA; 01/09, 2018.

2017

24. Bryan McCullough, Brandy Voyer, Mauro Martinez, Matthieu Baudelet, “Modern forensic palynology: extracting all information from these tiny particles”, Florida Forensic Science Annual Conference; Orlando, FL, USA; 10/18, 2017. *Invited*
25. Matthieu Baudelet, Mauro Martinez, Michelle Hawkins, Lana Williams, Tosha Dupras, John Schultz, “LA-ICP-MS imaging for anthropological samples”, SciX 2017; Reno, NV, USA; 10/10, 2017. *Invited*
26. Matthieu Baudelet, Mauro Martinez, Michelle Hawkins, Lana Williams, Tosha Dupras, John Schultz, “Quantitative mapping of biological samples by LIBS”, SciX 2017; Reno, NV, USA; 10/10, 2017. *Invited*
27. Mauro Martinez, Abigail Woltering, Maria Andreoli, Lana Williams, Tosha Dupras, Matthieu Baudelet, “Biological sex determination via elemental analysis by LIBS”, SciX 2017; Reno, NV, USA; 10/09, 2017. *Invited*

28. Matthieu Baudelet, Shermineh Rostami, Martin Richardson, “Polarization-controlled White Light LIDAR”, SciX 2017; Reno, NV, USA; 10/09, 2017. *Invited*
29. Matthieu Baudelet, Mauro Martinez, “Laser ablation for forensic anthropology”, Applied Spectra/Analytik Jena LA-ICP-MS and Tandem LA-LIBS Workshop; Beverly, MA, USA; 07/12/2017. *Invited*
30. Shermineh Rostami, Matthieu Baudelet, Martin Richardson, “UV-Vis-NIR white light LIDAR using polarization-controlled laser filamentation”, CLEO 2017; San Jose, CA, USA; 05/18, 2017.
31. M.C. Richardson, N. Barbieri, K Lim, C.H Jeon, M. Weidman, D. Thul, M. Durand, S. Rostami-Fairchild, R. Bernath, M. Baudelet, W. Li, E. Johnson, “Using Vortex Optics with High Intensity Laser Beams”; CELIA, Bordeaux, France; 04/06, 2017. *Seminar*
32. L Shah, N. Barbieri, K. Lim, D. Thul, A. Sincore, M. Baudelet, S. Rostami, M.C. Richardson, W. Li, and E. Johnson, “Utilizing non-Gaussian beams to tailor laser propagation”, SPIE Photonics West 2017; San Francisco, CA, USA; 02/28, 2017. *Invited*

2016

33. Martin Richardson, Matthieu Baudelet, Shermineh Rostami-Fairchild, Cheonha Jeon, Lawrence Shah, “Ultrafast Laser Filamentation in Air”, SPIE Security + Defence 2016; Edinburgh, UK; 09/29, 2016.
34. Sudeep Jung Pandey, Richard Locke, Mauro Martinez, Romain Gaume, Matthieu Baudelet, “Study of Matrix Effects for Reproducible LIBS Analysis of Powders”, SciX 2016; Minneapolis, MN, USA; 12/19, 2016. *Invited*
35. Kelsi Kuehn, Mauro Martinez, John Schultz, Matthieu Baudelet, “LIBS for forensic anthropology”, SciX 2016; Minneapolis, MN, USA; 12/19, 2016. *Invited*
36. Mauro Martinez, Matthieu Baudelet, Romain Gaume, Sudeep Jung Pandey, Jan Hostasa, Laura Esposito, “LIBS for monitoring the fabrication of optical ceramics”, SciX 2016; Minneapolis, MN, USA; 09/19, 2016. *Invited*
37. Jessica Chappell, Brandon Seesahai, Mauro Martinez, Martin Richardson, Michael Sigman, Matthieu Baudelet, “Fundamentals and statistics: the great marriage for the LIBS analysis of trace evidence”, LIBS 2016; Chamonix, France; 09/15, 2016. *Invited*
38. Shermineh Rostami, Wiktor Walasik, Daniel Kepler, Matthieu Baudelet, Natalia M. Litchinitser, Martin Richardson, “Free-space nonlinear beam combining for filamentation”, COFIL 2016; Quebec City, QC, Canada; 09/09, 2016
39. Danielle Reyes, Matthieu Baudelet, Shermineh Rostami, Martin Richardson, “High-resolution diagnostics of the filament plasma dynamics”, COFIL 2016; Quebec City, QC, Canada; 09/06, 2016. *Poster*
40. Daniel Thul, Danielle Reyes, Joshua Bradford, Nathan Bodnar, Wenzhe Li, Shermineh Rostami, Matthieu Baudelet, Lawrence Shah, Eric Johnson, Martin Richardson, “Phase Characterization of tailored Filaments”, COFIL 2016; Quebec City, QC, Canada; 09/06, 2016. *Poster*
41. Cheonha Jeon, Ethan Lane, Haley Kerrigan, Matthieu Baudelet, Shermineh Rostami, Martin Richardson, “Filament propagation through aerosols and clouds”, COFIL 2016; Quebec City, QC, Canada; 09/06, 2016
42. Shermineh Rostami, Matthieu Baudelet, Martin Richardson, “White-Light LIDAR using polarization-controlled filamentation”, COFIL 2016; Quebec City, QC, Canada; 09/06, 2016

43. Cheonha Jeon, Jesse Lane, Shermineh Rostami, Lawrence Shah, Matthieu Baudelet, and Martin Richardson, “Laser induced filament propagation through adverse conditions”, Propagation Through and Characterization of Atmospheric and Oceanic Phenomena 2016; Washington, DC, USA; 06/27
44. Shermineh Rostami, Matthieu Baudelet, Lawrence Shah, Martin Richardson, “Towards optimized THz for remote sensing”, Workshop on THz technology; Rochester, NY, USA; 06/16, 2016. *Invited*
45. Sudeep Jung Pandey, Richard Locke, Brandon Seesahai, Romain Gaume, Martin Richardson, Matthieu Baudelet, “Study of Matrix effects for reproducible LIBS analysis of powders”, Pittcon 2016; Atlanta, GA, USA; 03/08, 2016
46. Jessica Chappell, Brandon Seesahai, Martin Richardson, Michael Sigman, Matthieu Baudelet, “Quantitative evaluation of spectral interference in Atomic Emission Spectroscopy”, Pittcon 2016; Atlanta, GA, USA; 03/07, 2016.
47. Jessica Chappell, Brandon Seesahai, Martin Richardson, Michael E. Sigman, Matthieu Baudelet, “Spectral line assignment: a statistical approach for forensic applications”, Winter Conference on Plasma Spectrochemistry; Tucson, AZ, USA; 01/12, 2016

2015

48. Matthieu Baudelet, “From the calibration curve to machine learning: the evolution of quantitative LIBS data analysis”, SciX 2015; Providence, RI, USA; 10/01, 2015. *Invited paper*.
49. Jessica Chappell, Brandon Seesahai, Martin Richardson, Michael Sigman, Matthieu Baudelet, “Quantitative evaluation of spectral interference in LIBS”, SciX 2015; Providence, RI, USA; 09/30, 2015. *Invited paper*.
50. Matthieu Baudelet, Matthew Weidman, Mark Ramme, Khan Lim, Magali Durand, Martin Richardson, “Stand-off LIBS using laser filamentation: fundamental characterization for quantitative analysis”, SciX 2015; Providence, RI, USA; 09/30, 2015. *Invited paper*.
51. Cheonha Jeon, Danielle Harper, Khan Lim, Magali Durand, Michael Chini, Matthieu Baudelet, and Martin Richardson, “Interaction between a Single Water Droplet and a Laser Filament”, 11th Conference on Lasers and Electro-Optics Pacific Rim (CLEO-PR 2015); Busan, South Korea; 08/26, 2015
52. Michael Chini, Shermineh Rostami, Khan Lim, John P. Palastro, Magali Durand, Nathan Bodnar, Benjamin M. Webb, Jean-Claude Diels, Ladan Arissian, Lawrence Shah, Matthieu Baudelet and Martin Richardson, “Supercontinuum Generation and Polarization as Probes of Laser Filamentation Dynamics”, 46th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics; Columbus, OH; 06/11, 2015
53. Shermineh Rostami; Michael Chini; Khan Lim; Magali Durand; Matthieu Baudelet; Martin Richardson; Jean-Claude Diels; Ladan Arissian, “Enhanced Supercontinuum Generation by Polarization Control of Filamentation in Molecular Gases”; CLEO 2015; San Jose, CA; 05/12, 2015.
54. Cheonha Jeon; Danielle Harper; Khan Lim; Magali Durand; Michael Chini; Matthieu Baudelet; Martin Richardson “Spatial Dependence of the Interaction between a Single Aerosol and a Laser Filament on its Reformation”; CLEO 2015; San Jose, CA; 05/12, 2015.

55. Khan Lim, Magali Durand, Matthieu Baudelet, Martin Richardson “Transition between linear and nonlinear focusing regimes during filamentation”; CLEO 2015; San Jose, CA; 05/12,2015.
56. Matthieu Baudelet, Jessica Chappell, Brandon Seesahai, Martin Richardson, Michael E. Sigman “Quantitative Evaluation of Interferences in Optical Emission Spectroscopy: Towards Quantitative Line Assignment”; Pittcon 2015; New Orleans, LA; 03/09, 2015.

2014

57. Matthieu Baudelet, “Controlling laser filamentation for better stand-off sensing performances”, seminar at the Center for High Technology Materials, University of New Mexico; Albuquerque, NM; 12/11, 2014. *Seminar*
58. Romain Gaume, R. Locke, M. Chun, M. Baudelet, “Towards Highly-Sensitive Stoichiometric Analysis by Laser-Induced Breakdown Spectroscopy (LIBS)”; 10th Laser Ceramics Symposium; Wroclaw, Poland; 12/04,2014; *Invited presentation*
59. S. Rostami, M. Chini, K. Lim, M. Durand, M. Baudelet, J. M. Diels, M. Richardson, and L. Arissian, "Measurements of the impact of polarization on filaments and the associated supercontinuum," Frontiers in Optics 2014; San Jose, CA; 10/18-22, 2014. *Post-deadline presentation*
60. M. Richardson, M. Durand, M. Baudelet, N. Barbieri, M. Chini, K. Lim, C. Jeon, N. Litchinitser, Z. Kudyshev, S. Will, Z. Roth, and E. Johnson, "Nonlinear Radiation Effects with Filaments - Inside and Outside," Frontiers in Optics 2014; San Jose, CA; 10/18-22, 2014.
61. Benjamin Webb, Joshua Bradford, Khan Lim, Nathan Bodnar, Andreas Vaupel, Erik McKee, Matthieu Baudelet, Magali M Durand, Lawrence Shah, Martin Richardson, “Compact 10 TW laser to generate multi-filament arrays”, Frontiers in Optics 2014; San Jose, CA; 10/18-22, 2014.
62. Baudelet, Matthieu; Gaumé, Romain ; Richardson, Martin; Chun, Matthew; Seesahai, Brandon; Liu, Yuan; Jeon, Cheonha, “Education in plasma spectrochemistry via LIBS for high school and undergraduate students at the Townes Laser Institute”, SciX 2014; Reno, NV; 10/02,2014; *Invited paper*
63. Frederickson, Christopher J; Frederickson, Cathy J; Manton, William I; Rehse, Steve; Jeon, Cheonha; Richardson, Martin; Baudelet, Matthieu, “LIBS Methods for Determination of Elemental Nutritional Status From Fingernails In Situ”, SciX 2014; Reno, NV; 09/30,2014; *Invited paper*
64. Baudelet, Matthieu; Seesahai, Brandon; Liu, Yuan; Jeon, Cheonha; Richardson, Martin; Sigman, Michael; Chappell, Jessica, “Quantitative line assignment in optical emission spectroscopy”, SciX 2014; Reno, NV; 09/29,2014; *Invited paper*
65. Cheonha Jeon, Magali Durand, Matthieu Baudelet, Martin Richardson, “Filament Interaction with Micro-Water Droplets”, CLEO 2014; San Jose, CA; 06/10, 2014.
66. Nicholas Barbieri, Zahra Hosseinimakarem, Khan Lim, Magali Durand, Benjamin Webb, Joshua Bradford, Erik McKee, Nathan Bodnar, Lawrence Shah, Matthieu Baudelet, Eric Johnson, Martin Richardson, “Helical filaments”, CLEO 2014; San Jose, CA; 06/10, 2014.
67. Benjamin Webb; Joshua Bradford; Khan Lim; Nathan Bodnar; Andreas Vaupel; Erik McKee; Matthieu Baudelet; Magali M. Durand; Lawrence Shah; Martin Richardson, “Compact 10 TW laser to generate multi-filament arrays”, CLEO 2014; San Jose, CA; 06/10, 2014.
68. Jessica Chappell, Brandon Seesahai, Yuan Liu, Cheonha Jeon, Martin Richardson, Michael E.

- Sigman, Matthieu Baudelet, “Quantitative line assignment in optical emission spectroscopy”, Florida Annual Meeting and Exposition 2014; Palm Harbor, FL; 05/10, 2014. *Invited*
69. Matthieu Baudelet, “How Do Lasers Help Solve Crimes”, Optics Day; Orlando, FL; 03/28, 2014. *Invited*
70. Matthieu Baudelet, “How Do Lasers Help Solve Crimes”, Get to know photonics at UCF; Orlando, FL; 03/28, 2014. *Invited*
71. Yuan Liu, Bruno Bousquet, Martin Richardson, Matthieu Baudelet, “Thomson scattering of laser-induced plasma in air”, Winter Conference on Plasma Spectrochemistry; Amelia Island, FL, USA; 01/07, 2014.
72. Yuan Liu, Matthieu Baudelet, Martin Richardson, “Microwave-Assisted LIBS: Beyond Signal Enhancement”, Winter Conference on Plasma Spectrochemistry; Amelia Island, FL, USA; 01/07, 2014. *Poster presentation*
73. Yuan Liu, Cheonha Jeon, Martin Richardson, Matthieu Baudelet, “Quantitative line assignment in optical emission spectroscopy”, Winter Conference on Plasma Spectrochemistry; Amelia Island, FL, USA; 01/07, 2014. *Poster presentation*

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74. A.K. Jahromi, M. Chun, M. Baudelet, R. Gaume, “Highly-sensitive Stoichiometric Analysis by Laser-induced Breakdown Spectroscopy (LIBS): A Diagnosis Tool for the Preparation of Advanced Optical Materials”, Materials Science & Technology 2013; Montreal, QC, Canada; 10/29, 2013.
75. Khan Lim; Magali Durand; Vytautas Jukna; Erik McKee; Matthieu Baudelet; Aurélien Houard; Martin Richardson; André Mysyrowicz; Arnaud Couairon, “Blueshifted Continuum Peaks from Filamentation in the Anomalous Dispersion Regime”, Frontiers in optics 2013; Orlando, FL, USA; 10/10, 2013.
76. Erik McKee; Khan Lim; Magali Durand; Ramakrishna Sesha Shankar; Matthieu Baudelet; Tamar Seideman; Martin Richardson, “Filamentation as a diagnostic to measure molecular alignment”, Frontiers in optics 2013; Orlando, FL, USA; 10/09, 2013. *Poster presentation*
77. Yuan Liu; Bruno Bousquet; Martin Richardson; Matthieu Baudelet, “Thomson scattering from aluminum laser plasmas in air”, Frontiers in optics 2013; Orlando, FL, USA; 10/08, 2013.
78. Yuan Liu, Bruno Bousquet, Martin Richardson, Matthieu Baudelet, “Thomson scattering from aluminum laser plasmas in air”, NASLIBS 2013; Milwaukee, WI, USA; 09/29, 2013. *Invited talk*
79. Christopher J. Frederickson, Cathleen Frederickson, David Rusak, Cheonha Jeon, Martin Richardson and Matthieu Baudelet, “Determination of elemental nutritional status in man by LIBS interrogation of in situ tissues”, NASLIBS 2013; Milwaukee, WI, USA; 09/29, 2013. *Invited talk*
80. Yuan Liu, Bruno Bousquet, Martin Richardson, Matthieu Baudelet, “Thomson scattering from aluminum laser plasmas in air: comparison between electronic and excitation temperatures for LTE evaluation”, EMSLIBS 2013; Bari, Italy; 09/16, 2013.
81. A.K. Jahromi, M. Chun, M. Baudelet, R. Gaume, “Highly-Sensitive Stoichiometric Analysis of YAG Ceramics with Laser-Induced Breakdown Spectroscopy (LIBS)”, 19th American Conference on Crystal Growth and Epitaxy (ACCGE-19); Keystone, CO, USA; 07/21, 2013.

82. Yuan Liu, Cheonha Jeon, Martin Richardson, Matthieu Baudelet, “Analyse quantitative par spectroscopie de plasma induit par laser (LIBS): de l’analyse spectrale a l’analyse de traces”, Spectr’Atom 2013; Mont-Tremblant, QC, Canada; 06/27, 2013. *Invited talk*
83. Yuan Liu; Bruno Bousquet; Martin Richardson; Matthieu Baudelet, “Thomson scattering from aluminum laser plasmas in air”, CLEO 2013; San Jose, CA, USA; 06/13,2013
84. Magali Durand; Khan Lim; Vytautas Jukna; Erik McKee; Matthieu Baudelet; Aurélien Houard; Martin Richardson; André Mysyrowicz; Arnaud Couairon, “Influence of the anomalous dispersion on the supercontinuum generation by femtosecond laser filamentation”; CLEO 2013; San Jose, CA, USA; 06/12,2013
85. Khan Lim; Magali Durand; Xuan Sun; Fabrizio Buccheri; Matthew Weidman; Bruno Bousquet; Matthieu Baudelet; Xi-Cheng Zhang; Martin Richardson, “Broadband THz detection in the counter-propagating configuration using THz-enhanced plasma fluorescence”, CLEO 2013; San Jose, CA, USA; 06/10,2013
86. Lawrence Shah, Tobias Bonhoff, Thomas Ferhat, Ashraf F. El-Sherif, Mark Ramme, Christina C.C. Willis, Matthieu Baudelet, Pankaj Kadwani, Christian Gaida, Martin Gebhart, Ilya Mingareev, Martin Richardson, “Silicon backside machining using a nanosecond 2 um Tm: fiber laser”, SPIE Photonics West; San Francisco, CA, USA; 02/02, 2013
87. Martin Richardson, Matthieu Baudelet, Michael Sigman and Andrzej Miziolek, “Laser Stand-off Sensing Technologies”, Indo-US Workshop on Spectroscopy: Application to National Security; Banaras Hindu University, Varanasi, India; 01/18-20, 2013. *Invited talk*

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88. Matthew Weidman, Khan Lim, Nicholas Barbieri, Erik McKee, Magali Durand, Matthieu Baudelet, Martin Richardson, “Quantitative studies of filament interaction with matter for spectroscopic applications”, seminar at GAP Biophotonics group, University of Geneva; Geneva, Switzerland; 11/30, 2012. *Seminar*
89. Yuan Liu, Matthew Weidman, Christopher Brown, Corey Butler, Marie Vangheluwe, Shima Fardad, Andreas Knebl, Lionel Gigant, Martin Richardson, Matthieu Baudelet, “New Perspectives in Laser Spectroscopy as a Science for Sensing, Monitoring and Diagnostics”, seminar at Center of Excellence “Laser & Photonique en Aquitaine”, University of Bordeaux; Bordeaux, France; 11/13, 2012. *Seminar*
90. Martin Richardson, Matthieu Baudelet, Michael Sigman and Andrzej Miziolek, “Stand-off chemical and biological sensing”, Frontiers in Optics 2012, Laser Science XXVIII; Rochester, NY, USA; 10/14-18, 2012; *Invited talk*
91. K. Lim, R. S. Shankar, M. Baudelet, T. Seideman, M. Richardson, “Molecular Studies of filamentation in carbon dioxide”, COFIL 2012; Tucson, AZ, USA; 10/12, 2012. *Poster presentation*
92. K. Lim, B. Bousquet, M. Weidman, M. Baudelet, M. Richardson, “Broadband terahertz detection with laser-induced air plasma in counter-propagating scheme”, COFIL 2012; Tucson, AZ, USA; 10/11, 2012. *Poster presentation*
93. N. Barbieri, M. Weidman, M. Baudelet, Z. Roth, E. Johnson, G. Siviloglou, D. Christodoulides, M. Richardson, “Helical plasma filaments”, COFIL 2012; Tucson, AZ, USA; 10/08, 2012. *Poster presentation*
94. N. Barbieri, M. Weidman, K. Lim, M. Baudelet, R. Bernath, M. Richardson, “RF emission from

- filament-matter interaction”, COFIL 2012; Tucson, AZ, USA; 10/08, 2012. *Poster presentation*
95. M. Weidman, K. Lim, M. Ramme, M. Baudelet, A. Valenzuela, C. Munson, M. Richardson, “Quantitative characterization of ablative filament matter interaction”, COFIL 2012; Tucson, AZ, USA; 10/08, 2012. *Poster presentation*
96. Martin Richardson, Jean-Claude Diels, Alejandro Aceves, Ladan Arissian, Matthieu Baudelet, Eric Johnson, Zenghu Chang, Natalia Litchinitser, Tamar Seideman, Xie-Cheng Zhang, Richard Hammond, “The ARO MURI Program on Air Filamentation Science”, COFIL 2012; Tucson, AZ, USA; 10/08, 2012. *Invited talk*
97. Martin Richardson, Matthieu Baudelet, Michael Sigman and Andrzej Miziolek, “Stand-off LIBS – The status today and the future”, LIBS 2012; Luxor, Egypt; 09/29 – 10/04, 2012; *Invited talk*
98. Yuan Liu, Matthieu Baudelet, Martin Richardson, “Microwave-assisted LIBS: Signal enhancement and beyond”, SciX 2012; Kansas City, MO, USA; 10/02, 2012. *Invited talk*
99. Matthieu Baudelet, “Fifty years of LIBS and no limits for analysis”, SciX 2012; Kansas City, MO, USA; 10/02, 2012. *Invited talk*
100. Martin Richardson, Jean-Claude Diels, Alejandro Aceves, Ladan Arissian, Matthieu Baudelet, Eric Johnson, Zenghu Chang, Natalia Litchinitser, Tamar Seideman, Xie-Cheng Zhang, Richard Hammond, “The ARO MURI Program on Air Filamentation Science After One Year”, 10th annual ultrashort pulse laser workshop, Directed Energy Professional Society; Broomfield, CO, USA; 06/12, 2012. *Invited talk*
101. Yuan Liu, Matthieu Baudelet, Martin Richardson, “Laser-Induced Breakdown Spectroscopy for Moisture Monitoring in Food”; Pittcon 2012, Orlando, FL, USA; 03/11, 2012
102. Corey Butler, Shima Fardad, Alex Sincore, Matthieu Baudelet, Martin Richardson “Multispectral optical tweezers for molecular diagnostics of single biological cells”; Pittcon 2012, Orlando, FL, USA; 03/12, 2012.
103. Yuan Liu, Mark Koehler, Matthieu Baudelet, Martin Richardson, “Fusion of infrared and Raman spectroscopy for carotenoid analysis”; Pittcon 2012, Orlando, FL, USA; 03/11, 2012.
104. Corey Butler, Shima Fardad, Alex Sincore, Marie Vangheluwe, Matthieu Baudelet, Martin Richardson, “Multispectral optical tweezers for molecular diagnostics of single biological cells”; SPIE Photonics West; San Francisco, CA, USA; 01/21, 2012. *Invited talk*
105. Yuan Liu, Matthieu Baudelet, Martin Richardson, “Advanced LIBS Methodology for Food and Environment Monitoring”; 2012 Winter Conference on Plasma Spectrochemistry; Tucson, AZ, USA; 01/10, 2012. *Poster presentation*
106. Cheonha Jeon, Matthieu Baudelet, Martin Richardson, “Fundamental Time-Resolved Mass Spectrometry of Laser-Induced Plasmas for Organic Analysis”; 2012 Winter Conference on Plasma Spectrochemistry; Tucson, AZ, USA; 01/10, 2012.

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107. Matthieu Baudelet, Michael Sigman, Martin Richardson, “Laser-induced breakdown spectroscopy in complex situations”; FACSS 2011; Reno, NV, USA; 10/06, 2011. *Invited talk*
108. Yuan Liu, Matthieu Baudelet, Martin Richardson, Richard Russo “Advanced LIBS Methodologies for Food and Environment Monitoring”; Euro-Mediterranean Symposium on Laser-Induced Breakdown Spectroscopy 2011; Izmir, Turkey; 09/13, 2011
109. Matthieu Baudelet, Martin Richardson, Michael Sigman, “Laser spectroscopy and sensing at the

Townes Laser Institute”; ATLANTIS-MILMI Summer School; Orlando, FL, USA; 07/21, 2011.
Invited talk

110. Yuan Liu, Lionel Gigant, Matthieu Baudelet, Martin Richardson, “Combination of LIBS and Raman for Food Quality Monitoring”; North-American Symposium on Laser-Induced Breakdown Spectroscopy 2011; Clearwater, FL, USA; 07/20, 2011.
111. Yuan Liu, Matthieu Baudelet, Martin Richardson, “Laser Material Analysis using Calibration Free Laser-Induced Breakdown Spectroscopy”; North-American Symposium on Laser-Induced Breakdown Spectroscopy 2011; Clearwater, FL, USA; 07/19, 2011. *Poster presentation*
112. Matthew Weidman, Matthieu Baudelet, Martin Richardson, “Time-Resolved Goniometric Measurement of the Filament-Induced Plasma Emission for Stand-Off LIBS Applications”; North-American Symposium on Laser-Induced Breakdown Spectroscopy 2011; Clearwater, FL, USA; 07/19, 2011. *Poster presentation*
113. Santiago Palanco, Jose Ramos-Barrado, Matthew Weidman, Matthieu Baudelet, Martin Richardson, “Correlation Between Spectral Emission and Nanoparticle Generation During Nano- and Femtosecond Laser-induced Breakdown”; North-American Symposium on Laser-Induced Breakdown Spectroscopy 2011; Clearwater, FL, USA; 07/18, 2011.
114. Caitlin Rinke, Chistopher Brown, Martin Richardson, Matthieu Baudelet, Michael Sigman, “LIBS signature recognition of trace materials in complex background environments”; North-American Symposium on Laser-Induced Breakdown Spectroscopy 2011; Clearwater, FL, USA; 07/18, 2011. *Invited talk*
115. Martin Richardson, Matthieu Baudelet, Demetrios Christodoulides, Robert Bernath, Matthew Fisher, Nicholas Barbieri, Matthew Weidman, Eric Johnson, Zachary Roth, “Engineered filaments”; 9th annual ultrashort pulse laser workshop, Directed Energy Professional Society; Santa Fe, NM, USA; 06/09, 2011.
116. Nicholas Barbieri, Matthew Weidman, Khan Lim, Gregory Katona, Matthieu Baudelet, Robert Bernath, Jason Aspiotis, Martin Richardson, “RF emission from filament induced laser plasmas”; 9th annual ultrashort pulse laser workshop, Directed Energy Professional Society; Santa Fe, NM, USA; 06/09, 2011.
117. Yuan Liu, Lionel Gigant, Matthieu Baudelet, Martin C. Richardson, “Combination of LIBS and Raman for food quality monitoring”; SPIE Defense, Security, Sensing; Orlando, FL, USA; 04/26, 2011.
118. Khan Lim, Jason M. Eichenholz, Matthieu Baudelet, Martin C. Richardson, “Far-UV LIBS for biological and organic samples”; SPIE Defense, Security, Sensing; Orlando, FL, USA; 04/25, 2011.
119. Khan Lim, Yuan Liu, Matthieu Baudelet, Evgueni Slobodtchikov, Peter Moulton, Andrzej W. Miziolek, Martin C. Richardson, “New generation of compact femtosecond system for laser-based detection and identification of biological materials”; SPIE Defense, Security, Sensing; Orlando, FL, USA; 04/25, 2011.
120. Nicholas Barbieri, Matthew Weidman, Matthieu Baudelet, Martin C. Richardson, Demetrios Christodoulides, Georgios Siviloglou, "Helical ionizing channels generated with ultrafast interfering Bessel laser pulses"; Photonics West; San Francisco, CA, USA; 01/26, 2011.

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121. Matthew Weidman, Matthieu Baudelet, Christina C. C. Willis, Lawrence Shah, Martin C.

- Richardson, "Novel laser sources for LIBS: From fiber lasers, self-channeled laser to dual pulse configuration,"; Pacifichem 2010; Honolulu, HI, USA; 12/18, 2010.
122. Yuan Liu, Matthieu Baudelet, Martin C. Richardson, "Microwave-assisted LIBS: Extending the laser induced plasma lifetime for trace detection" Pacifichem 2010; Honolulu, HI, USA; 12/18, 2010. *Poster presentation*
 123. Matthew Weidman, Matthieu Baudelet, Martin C. Richardson, Paul J Dagdigian, "Spatial and temporal spectral imaging of self-channeled laser-induced breakdown spectroscopy on carbon-based samples: Molecular chemistry in air"; Pacifichem 2010; Honolulu, HI, USA; 12/18, 2010. *Poster presentation*
 124. Martin Richardson, Michael Sigman, Matthieu Baudelet, "Standoff Detection of Trace Radio-Nuclides using New Laser Spectroscopy Techniques"; NNSA, University and Industry Technical Interchange (UITI2010) Review Meeting; Knoxville, TN, USA; 12/08, 2010
 125. Matthew Weidman, Matthew Fisher, Khan Lim, Christopher Brown, Caitlin Rinke, Matthieu Baudelet, Michael Sigman, Martin Richardson, "Advanced LIBS Modalities for Stand-Off Detection of Explosive and Biological Threats"; 27th Army Science Conference; Orlando, FL, USA; 11/30, 2010.
 126. Caitlin Rinke, Christopher G. Brown, Matthieu Baudelet, Martin C. Richardson, Michael Sigman, "A New Paradigm for Substrate Independent Discrimination of Organic and Explosive Materials by Target Factor Analysis of Molecular Optical Signatures"; 2010 Chemical and Biological Defense Science and Technology Conference; Orlando, FL, USA; 11/16, 2010. *Poster Presentation*
 127. Yuan Liu, Matthieu Baudelet, Martin C. Richardson, "Compact Laser-based Spectroscopic Systems for Biological Analysis"; 2010 Chemical and Biological Defense Science and Technology Conference; Orlando, FL, USA; 11/16, 2010. *Poster Presentation*
 128. Matthew Weidman, Matthieu Baudelet, Martin C. Richardson, "Stand-off Laser Sensing for Chemical and Biological Traces Detection"; 2010 Chemical and Biological Defense Science and Technology Conference; Orlando, FL, USA; 11/16, 2010. *Poster Presentation*
 129. Danielle Simmons, Nathan Bodnar, Matthieu Baudelet, Martin Richardson, "Fourier Transform Infrared Spectroscopy"; Symposium on undergraduate research, Division of Laser Science of A.P.S - LS XXVI; Rochester, NY, USA; 10/25, 2010. *Poster Presentation*
 130. Khan Lim, Matthieu Baudelet, Jason Eichenholz, Martin C. Richardson, "Far-UV LIBS for Biological and Organic Samples"; 6th International Conference on Laser-Induced Breakdown Spectroscopy; Memphis, TN, USA; 09/16, 2010.
 131. Yuan Liu, Matthieu Baudelet, Martin C. Richardson, "Elemental Analysis on Ceramic and Soil Samples Using Microwave-Assisted Laser-Induced Breakdown Spectroscopy"; 6th International Conference on Laser-Induced Breakdown Spectroscopy; Memphis, TN, USA; 09/16, 2010. *Poster Presentation*
 132. Matthew Weidman, Matthieu Baudelet, Paul J Dagdigian, Martin C. Richardson, "Temporally and Spatially Resolved Filament Induced Breakdown Spectroscopy of Carbon Based Samples"; 6th International Conference on Laser-Induced Breakdown Spectroscopy; Memphis, TN, USA; 09/15, 2010. *Poster Presentation*
 133. Khan Lim, Yuan Liu, Matthieu Baudelet, Evgueni Slobodtchikov, Peter Moulton, A Miziolek, Martin C. Richardson, "LIBS of Biological Materials with a Compact Femtosecond System"; 6th

- International Conference on Laser-Induced Breakdown Spectroscopy; Memphis, TN, USA; 09/15, 2010. *Poster Presentation*
134. Yuan Liu, Matthieu Baudelet, Paul J Dagdigian, Martin C. Richardson, "Molecular Emission Enhancement from Microwave-Assisted Laser-Induced Breakdown Spectroscopy"; 6th International Conference on Laser-Induced Breakdown Spectroscopy; Memphis, TN, USA; 09/15, 2010. *Poster Presentation*
 135. Christopher G. Brown, Reuvani Devi Kamtaprasad, Matthieu Baudelet, Michael Sigman, Martin C. Richardson, "Stoichiometric Study of Organic Mass Limited Droplets"; 6th International Conference on Laser-Induced Breakdown Spectroscopy; Memphis, TN, USA; 09/15, 2010. *Poster Presentation*
 136. Martin C. Richardson, Matthieu Baudelet, Michael Sigman, "Fundamental Considerations for an Efficient Application of LIBS in Forensics and Security"; 6th International Conference on Laser-Induced Breakdown Spectroscopy; Memphis, TN, USA; 09/14, 2010. *Invited paper*
 137. Qianli Ma, Vincent Motto-Ros, Wenqi Lei, Myriam Boueri, Matthieu Baudelet, Heping Zeng, Jin Yu, "Morphologie et évolution du plasma induit par laser dans un gaz ambiant"; Colloque commun de la division de Physique Atomique et Moléculaire et Optique de la SFP et des Journées de Spectroscopie Moléculaire; Orsay, France; 07/02, 2010.
 138. Martin Richardson, Nicholas Barbieri, Matthew Weidman, Robert Bernath, Matthew Fisher, Matthieu Baudelet, Demetrios Christodoulides, Eric Johnson, Menelaos Poutous, and Zachary Roth, "Multi-structured air filamentation and interaction investigations"; DEPS Ultrashort Pulse Laser Workshop; Monterey, CA, USA; 06/13, 2010
 139. Martin Richardson, Nicholas Barbieri, Matthew Weidman, Robert Bernath, Matthew Fisher, Matthieu Baudelet, Demetrios Christodoulides, Eric Johnson, Menelaos Poutous, and Zachary Roth, "Multi-structured air filamentation and interaction investigations"; 3rd International Symposium on Filamentation, (COFIL 2010); Aghia Pelaghia, Crete, Greece; 05/31. *Invited Talk*.
 140. Robert A. Sims, Timothy S. McComb, Christina C.C. Willis, Pankaj Kadwani, Matthieu Baudelet Lawrence Shah, Martin C. Richardson, Dennis Killinger, Dzianis Pliutau, "Atmospheric Transmission Testing using a Portable, Tunable, High Power, Thulium Fiber Laser System", Conference on Lasers and Electro-Optics; San Jose, CA, USA; 05/20, 2010.
 141. Matthew Weidman, Matthieu Baudelet, Michael Sigman, Martin C. Richardson, "Nd:YAG-CO2 double-pulse laser-induced breakdown spectroscopy for explosive residues detection"; SPIE Defense, Security, Sensing; Orlando, FL, USA; 04/07, 2010.
 142. Matthew Weidman, Matthieu Baudelet, Paul J Dagdigian, Michael Sigman, Martin C. Richardson, "Self-channeled laser-induced breakdown spectroscopy for detection of organic compounds in atmosphere via their molecular signature"; SPIE Defense, Security, Sensing; Orlando, FL, USA; 04/07, 2010.
 143. Yuan Liu, Matthieu Baudelet, Martin C. Richardson, "Microwave-assisted laser-induced breakdown spectroscopy for trace detection in soil and food"; SPIE Defense, Security, Sensing; Orlando, FL, USA; 04/06, 2010.
 144. Matthieu Baudelet, Christina C. C. Willis, Lawrence Shah, Martin Richardson, "Mid-IR Tm-fiber laser for laser-induced plasma spectroscopy of organic and biological materials"; SPIE Defense, Security, Sensing; Orlando, FL, USA; 04/05, 2010.
 145. Martin Richardson, Lawrence Shah, Matthieu Baudelet, Demetrios Christodoulides, John

Stryjewski, "New laser and long range optical technologies"; National Consortium for MASINT Research (NCMR) Spring Technical Review; Maui, HI, USA; 03/30, 2010

146. Yuan Liu, Matthieu Baudelet, Martin C. Richardson, "Trace Detection in Ceramics, Organic and Biological Samples by Microwave-assisted Laser-induced Plasma Spectroscopy"; 2010 Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy; Orlando, FL, USA; 03/04, 2010.
147. Matthieu Baudelet, Christina C. Willis, Pankaj Kadwani, Lawrence Shah, Martin C. Richardson, "Laser-induced Breakdown Spectroscopy of Organic Materials with a Mid-IR Thulium-fiber-laser Nanosecond Pulse at 2 μm "; 2010 Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy; Orlando, FL, USA; 03/04, 2010. *Poster presentation*
148. Caitlin Rinke, Christopher G. Brown, Douglas Clark, Matthieu Baudelet, Martin C. Richardson, Michael Sigman, "Substrate Independent Discrimination of Organic and Explosive Materials Via Target Factor Analysis of Their Molecular Optical Signature"; 2010 Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy; Orlando, FL, USA; 03/04, 2010. *Poster presentation*
149. Matthew Weidman, Matthieu Baudelet, Michael Sigman, Paul J Dagdigian, Martin C. Richardson, "Nd:YAG-CO₂ Double-Pulse Laser Induced Breakdown Spectroscopy for Explosive Detection"; OSA Laser Application to Chemical Security and Environmental Analysis; San Diego, CA, USA; 02/03, 2010.
150. Matthieu Baudelet, Yuan Liu, Martin C. Richardson, "Microwave-Assisted LIBS: Towards a New Tool for Trace Element Detection and Molecular Plasma Spectrochemistry"; OSA Laser Application to Chemical Security and Environmental Analysis; San Diego, CA, USA; 02/03, 2010.
151. Matthieu Baudelet, Christina C. C. Willis, Lawrence Shah, Martin C. Richardson,, "Tm-Fiber 2 μm Laser for Laser-Induced Plasma Spectroscopy of Organic and Biological Materials"; OSA Laser Application to Chemical Security and Environmental Analysis; San Diego, CA, USA; 02/03, 2010.
152. Christina C. C. Willis, Robert A. Sims, Lawrence Shah, Matthieu Baudelet Timothy S. McComb, Vikas Sudesh, Martin C. Richardson, "High-energy Q-switched Tm³⁺-doped polarization maintaining silica fiber laser", SPIE Photonics West; San Francisco, CA, USA; 01/25, 2010.
153. Matthieu Baudelet, Yuan Liu, Martin Richardson, "Trace Detection in Ceramics, Organics, and Biological Samples by Microwave-Assisted Laser-Induced Breakdown Spectrometry"; 2010 Winter Conference on Plasma Spectrochemistry; Fort Myers, FL, USA; 01/05, 2010.
154. Matthieu Baudelet, Yuan Liu, Paul J. Dagdigian, Martin Richardson, "Molecular Emission Enhancement From Microwave-Assisted Laser-Induced Breakdown Spectroscopy on Alumina"; 2010 Winter Conference on Plasma Spectrochemistry; Fort Myers, FL, USA; 01/05, 2010. *Poster presentation*.
155. Matthew Weidman, Matthieu Baudelet, Paul J. Dagdigian, Martin Richardson, "Spatial and temporal spectral imaging of self-channeled laser-induced breakdown spectroscopy on carbon-based samples: Thermochemistry leading to molecular formation in air"; 2010 Winter Conference on Plasma Spectrochemistry; Fort Myers, FL, USA; 01/05, 2010. *Poster presentation*.

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156. Matthieu Baudelet, Matthew Weidman, Christopher G. Brown, Michael Sigman,

- Paul J. Dagdigian, Martin Richardson, “Enhancement of LIBS signal from metallic, ceramic and organic samples by a Nd:YAG-CO₂ double-pulse scheme”; North-American Symposium on Laser-Induced Breakdown Spectroscopy 2009; New Orleans, LA, USA; 07/15, 2009.
157. Martin Richardson, Dennis Alexander, Matthieu Baudelet, Paul J. Dagdigian, Lewis E. Johnson, Samuel S. Mao, Michael Sigman, “Femtosecond LIBS – Light at the end of the end of the channel: The ARO MURI program on femtosecond LIBS”; North-American Symposium on Laser-Induced Breakdown Spectroscopy 2009; New Orleans, LA, USA; 07/15, 2009.
158. Matthieu Baudelet, Christina Willis Lawrence Shah, Martin Richardson, “Laser-induced breakdown spectroscopy of organic materials with a mid-IR Thulium fiber-laser nanosecond pulse at 2 μm”; North-American Symposium on Laser-Induced Breakdown Spectroscopy 2009; New Orleans, LA, USA; 07/14, 2009. *Poster presentation.*
159. Yuan Liu, Nicholas Barbieri, Matthew Weidman, Matthieu Baudelet, Martin Richardson, “Plasma heating by microwave radiation: thermodynamic processes and analytical applications”; North-American Symposium on Laser-Induced Breakdown Spectroscopy 2009; New Orleans, LA, USA; 07/14, 2009. *Poster presentation.*
160. Matthew Weidman, Matthieu Baudelet, Christopher G. Brown, Michael Sigman, Paul J. Dagdigian, Martin C. Richardson, “Self-channeled femtosecond LIBS: Molecular processes between the atmosphere and the plasma and their analytical use for detection of organic samples”; North-American Symposium on Laser-Induced Breakdown Spectroscopy 2009; New Orleans, LA, USA; 07/14, 2009. *Poster presentation.*
161. Christopher G. Brown, Caitlin Rinke, Matthieu Baudelet, Martin C. Richardson, Michael Sigman, “Substrate Independent Identification of Organic Analytes with LIBS”; North-American Symposium on Laser-Induced Breakdown Spectroscopy 2009; New Orleans, LA, USA; 07/14 2009. *Poster presentation.*
162. Martin C. Richardson, Matthieu Baudelet, Michael Sigman, Matthew Weidman, Christopher G. Brown, “Ultra-fast lasers for stand-off detection”, Ultrashort Pulse Laser Workshop, Directed Energy Professional Society; Newton, MA, USA; 06/29,2009.
163. Martin C. Richardson, Michael Sigman, Matthieu Baudelet, “Self-channeling of Femtosecond Laser Pulses as an Efficient and Rapid Tool for standoff detection of energetic materials”, IEEE 2009 International Conference on Technologies for Homeland Security; Waltham, MA, USA; 05/12, 2009.
164. Christopher G. Brown, Matthieu Baudelet, Candice Bridge, Matthew Fisher, Michael Sigman, Martin Richardson, Paul J Dagdigian, “Atmosphere issues in detection of explosives and organic residues”; SPIE Defense, Security, and Sensing; Orlando, FL, USA; 04/16, 2009.
165. Matthieu Baudelet, Matthew Weidman, Matthew Fisher, Christopher G. Brown, Michael Sigman, Martin Richardson, Paul J Dagdigian, "Molecular signal as a signature for detection of energetic materials in filament-induced breakdown spectroscopy"; SPIE Defense, Security, and Sensing; Orlando, FL, USA; 04/16, 2009.
166. James Martin, Matthieu Baudelet, Matthew Weidman, Matthew Fisher, Candice Bridge, Christopher G. Brown, Michael Sigman, Martin C. Richardson, Paul J Dagdigian, "Stand-off detection of organic samples using filament-induced breakdown spectroscopy"; SPIE Defense, Security, and Sensing; Orlando, FL, USA; 04/15, 2009.
167. Matthieu Baudelet, Christopher G. Brown, Candice Bridge, Matthew Weidman, Matthew Fisher,

Michael Sigman, Martin C. Richardson, Paul J Dagdigian, "Influence of atmosphere and laser parameters on LIBS detection and analysis of explosives and organic thin films"; SPIE Defense, Security, and Sensing; Orlando, FL, USA; 04/13, 2009.

168. Matthieu Baudelet, Matthew Fisher, Matthew Weidman, Candice Bridge, Christopher G. Brown, Michael Sigman, Martin C. Richardson, Paul J Dagdigian, "LIBS Detection of Explosives with Self-Channeled Laser Light"; GOMACTech Conference; Orlando, FL, USA; 03/19, 2009.
169. Jin Yu, Matthieu Baudelet, Myriam Boueri, "Laser ablation of organic and biological materials for discrimination of bacteria and detection of trace elements in vegetables"; SPIE Photonics West; San Jose, CA, USA; 01/26, 2009. *Invited presentation.*
170. Christopher G. Brown, Matthieu Baudelet, Candice Bridge, Matthew Fisher, Michael Sigman, Martin Richardson, Paul J Dagdigian, "Femtosecond LIBS: a better regime to analyze organic samples"; Southeast Ultrafast Conference; Orlando, FL, USA; 01/16, 2009. *Poster presentation.*
171. Matthieu Baudelet, Matthew Weidman, Matthew Fisher, Candice Bridge, Christopher G. Brown, Michael Sigman, Martin C. Richardson, Paul J Dagdigian, "Filament-Induced Breakdown Spectroscopy on Organic Thin Films: Towards an Efficient Detection of Energetic Materials"; Southeast Ultrafast Conference; Orlando, FL, USA; 01/16, 2009. *Poster presentation.*

2008

172. Myriam Boueri, Matthieu Baudelet, Jin Yu, Xianglei Mao, Samuel S. Mao, Rick E. Russo, "Expansion and spectral emission of laser-induced plasma from polymers: Application to analysis of organic and biological materials by LIBS"; Third China-France Workshop on Intense Lasers and Applications (CFILA-2008); Hangzhou, China; 11/03, 2008. *Invited presentation.*
173. James Martin, Matthew Weidman, Christopher Brown, Candice Bridge, Matthieu Baudelet, Martin Richardson, "Light Detection for Laser Induced Breakdown Spectroscopy"; Symposium on undergraduate research, Division of Laser Science of A.P.S; Rochester, NY, USA; 10/28, 2008. *Poster presentation.*
174. James Martin, Matthew Weidman, Matthieu Baudelet, Matthew Fisher, Martin C. Richardson, Paul J. Dagdigian, "Towards an efficient remote LIBS detection of organic materials"; 5th International Conference on Laser-Induced Breakdown Spectroscopy; Berlin, Germany; 09/25, 2008. *Poster presentation.*
175. Myriam Boueri, Matthieu Baudelet, Jin Yu, Xianglei Mao, Samuel S. Mao, Rick E. Russo, "Early stage expansion of laser plasma from organic materials: A comparison between nanosecond and femtosecond ablation"; 5th International Conference on Laser-Induced Breakdown Spectroscopy; Berlin, Germany; 09/25, 2008. *Poster presentation.*
176. Christopher G. Brown, Candice Bridge, Matthew Fisher, Matthieu Baudelet, Michael Sigman, Martin Richardson, Paul J Dagdigian, "Comparison of nanosecond and femtosecond Laser Regimes for LIBS Analysis of Organic Thin Films"; 5th International Conference on Laser-Induced Breakdown Spectroscopy; Berlin, Germany; 09/24, 2008. *Poster presentation.*
177. Matthew Weidman, Santiago Palanco, Matthieu Baudelet, Michael Sigman, Martin Richardson, "Thermodynamic properties of Nd:YAG-CO₂ Double-Pulse Laser-Induced Plasma: Applications Under Stand-Off Conditions,"; 5th International Conference on Laser-Induced Breakdown Spectroscopy; Berlin, Germany; 09/24, 2008. *Poster presentation.*
178. Sidahmed Beldjilali, François Brygo, Jörg Hermann, Myriam Boueri, Matthieu Baudelet,

Jin Yu, "Analysis of potatoes by laser-induced breakdown spectroscopy"; 5th International Conference on Laser-Induced Breakdown Spectroscopy; Berlin, Germany; 09/24, 2008. *Poster presentation*.

179. Matthew Weidman, Matthieu Baudelet, Matthew Fisher, Candice Bridge, Christopher G. Brown, Michael Sigman, Martin C. Richardson, Paul J Dagdigian, "Filament-Induced Breakdown Spectroscopy on Organic Thin Films: Towards an Efficient Detection of Energetic Materials"; 5th International Conference on Laser-Induced Breakdown Spectroscopy; Berlin, Germany; 09/24, 2008.
180. Myriam Boueri, Matthieu Baudelet, Jin Yu, Xianglei Mao, Samuel. S. Mao, Rick. E. Russo, "Early stage expansion and time-resolved spectral emission of laser-induced plasma from polymer"; Sixth International Conference on Photo-Excited Processes and Applications (6-ICPEPA); Sapporo, Japan; 09/9-12, 2008. *Invited presentation*.
181. Matthieu Baudelet, Myriam Boueri, Jin Yu, Samuel S. Mao, Xianglei Mao, Rick E. Russo, "Correlation between early-stage expansion and spectral emission of a nanosecond laser-induced plasma from an organic material "; SPIE High-Power Laser Ablation; Taos, NM, USA; 04/21, 2008
182. Jin Yu, Vincent Juve, Richard Portelli, Myriam Boueri, Matthieu Baudelet, "Compartment-resolved trace mineral element detection in fresh vegetables using UV nanosecond Laser-Induced Breakdown Spectroscopy", Pittcon 2008; New Orleans, LA, USA; 03/05, 2008.

2007

183. Myriam Boueri, Matthieu Baudelet, Jin Yu, Xianglei Mao, Samuel. S. Mao, Rick. E. Russo, "Time-resolved study of plasmas induced by nanosecond IR and UV laser irradiation of organic materials", EMSLIBS 2007; Paris, France; 09/11, 2007.
184. Myriam Boueri, Matthieu Baudelet, Jin Yu, Xianglei Mao, Samuel. S. Mao, Rick. E. Russo, "Time-resolved shadowgraph study of laser-induced plasma from polymer irradiated by nanosecond IR and UV radiations", EMSLIBS 2007; Paris, France; 09/11, 2007. *Poster presentation*.
185. Jin Yu, Matthieu Baudelet, Laurent Guyon, Myriam Boueri, Jean-Pierre Wolf, Tanguy Amodeo, Emeric Fréjafon, Patrick Laloi, "Detection and analysis of organic and biological materials with LIBS"; Second France-China Workshop on Intense Lasers and Applications (FCILA-2007); Lyon, France; 06/05, 2007.

2006

186. Tanguy Amodeo, Emeric Frejafon, Olivier Le Bihan, Matthieu Baudelet, Jin Yu, Michel Attoui, "Nanoparticle manufacture ambient air chemical and physical survey as a tool for accidental and chronic risk assessment"; 2006 International Aerosol Conference; St. Paul, MN, USA; 09/11, 2006. *Poster presentation*.
187. Jin Yu, Matthieu Baudelet, Laurent Guyon, Tanguy Amodeo, Emeric Fréjafon, Patrick Laloi, Jean-Pierre Wolf, "Detection and Discrimination of Bacteria with Femtosecond Laser-Induced Breakdown Spectroscopy", LIBS 2006; Montreal, QC, Canada; 09/04, 2006
188. Jin Yu, Matthieu Baudelet, Laurent Guyon, Myriam Bossu, Julien Jovelet, Tanguy Amodeo, Emeric Fréjafon, Patrick Laloi, Jean-Pierre Wolf, "Femtosecond Laser-Induced Breakdown Spectroscopy for microbiological analysis", LIBS 2006; Montreal, QC, Canada; 09/07, 2006.

189. Matthieu Baudelet, “Discrimination de bactéries par LIBS”; Journée Scientifique du LASIM 2006; Lyon, France; 06/27, 2006.
190. Matthieu Baudelet, Jin Yu, Laurent Guyon, Tanguy Amodeo, Emeric Fréjafon, Patrick Laloi, Jean-Pierre Wolf, “Bacteria detection and identification with laser-induced breakdown spectroscopy”; First China-France Workshop on Intense Lasers and Applications; Zhengjiang, China; 04/18, 2006.
191. Jin Yu, Matthieu Baudelet, Laurent Guyon, Guillaume Méjean, Estelle Salmon, Jerome Kasparian, Jean-Pierre Wolf, Philippe Rohwetter, Kamil Stelmaszczyk, Ludger Wöste, Tanguy Amodeo, Emeric Fréjafon, Patrick Laloi, “New frontiers in laser-induced breakdown spectroscopy”, First China-France Workshop on Intense Lasers and Applications; Zhengjiang, China; 04/18, 2006. *Invited presentation*
192. Jin Yu, Matthieu Baudelet, Laurent Guyon, Patrick Laloi, Tanguy Amodeo, Emeric Fréjafon, and Jean-Pierre Wolf, “Bacterium detection and identification using femtosecond laser-induced breakdown spectroscopy”, Pittcon 2006; Orlando, FL, USA, 03/16 2006, Orlando, USA.

SERVICE

I have been active for the different communities I am a part since the beginning of my tenure track evaluation, from the department level (academic and search committees) to the scientific one (president of NASLIBS and chair of international conference). I also have been active as an active reviewer for scientific journals but also for funding agencies and other universities.

SERVICE FOR THE UNIVERSITY

- 2019 Chair of Search committee (Forensic Statistics and Big Data, UCF – NCFS/Statistics)
- 2018-present Member of the Graduate Admissions Committee (Chemistry department, UCF)
- 2016-2018 Member of the Steering Committee (Chemistry department, UCF)
- 2016-2018 Member of the Graduate Curriculum Committee (Chemistry department, UCF)
- 2017 Member of Search committee (Collective Faculty Search, UCF - Chemistry)
- 2017 Member of Search committee (Forensic Lecturer/Instructor, UCF - Chemistry)
- 2017 Member of Search committee (Statistical Rigor, UCF – NCFS/Statistics)
- 2016 Chair of Search committee (Digital Evidence, UCF – NCFS/Computer Science)
- 2014-2015 Member of CREOL Industrial Affiliates Day Committee
- 2014-2015 Member of CREOL Student of the Year Committee

PROFESSIONAL SOCIETIES MEMBERSHIP

- 2012-present North-American Society of Laser-Induced Breakdown Spectroscopy (NASLIBS)
- 2011-present Society of Applied Spectroscopy (SAS)
- 2010- 2014 Optical Society of America (OSA)
- 2008-2009 SPIE

SERVICE TO PROFESSIONAL SOCIETIES

- 2020-2021 At-large Governing Board member of the Society of Applied Spectroscopy
- 2019-present Advisory Board member of the RSC Journal of Atomic Analytical Spectrometry
- 2015-2017 President of North-American Society of Laser-Induced Breakdown Spectroscopy
- 2014-present Editorial Advisory Board member for Spectroscopy magazine
- 2014-2015 Chair of the SAS Lester Strock Award Committee
- 2014-2017 Member of the FACSS and SciX Long Range Planning committee
- 2013-2015 President-elect of North-American Society of Laser-Induced Breakdown Spectroscopy
- 2013-2014 OSA Technical Group chair for Applied Spectroscopy
- 2013-2014 Chair-elect of the SAS Lester Strock Award Committee

CONFERENCE ORGANIZATION

2022	General chair for SciX 2022
2020	Session chair for LIBS 2020
2020	Co-session chair for Pittcon 2020 (Recent Trends in Laser-Induced Breakdown Spectroscopy)
2019	Session chair for SciX 2019 (LIBS for Anthropology and Archaeology)
2018	Member of the FACSS Innovation award committee
2018	Conference chair of International LIBS 2018
2019	Co-session chair for Pittcon 20n19 (Emerging Frontiers in Laser-Induced Breakdown Spectroscopy)
2018	Co-session chair for Pittcon 2018 (SAS – Frontiers in LIBS imaging)
2018	Co-session chair for Pittcon 2018 (Recent advances in LIBS)
2017	Session chair for SciX 2017 (The new vision of analytical science by the world)
2017	Program chair of SciX 2017
2017	Chair of the NASLIBS conference
2016	Session chair for SciX 2016 (LIBS for forensic analysis)
2016-2018	Chair of International Scientific Committee for LIBS
2016	Section chair for SciX 2016 (Laser-Induced Breakdown Spectroscopy)
2016	Award chair for SciX 2016
2015	Member of the FACSS Innovation award committee
2015	Co-chair of the NASLIBS conference
2015	Session chair for NASLIBS conference (Stand-off LIBS)
2014	Section chair for SciX 2014 (Laser-Induced Breakdown Spectroscopy)
2013	Session chair for NASLIBS 2013 (Biological applications of LIBS)
2012	Session chair for SciX 2012 (Elemental Signatures for Forensics)
2012	Section chair for SciX 2012 (Laser-Induced Breakdown Spectroscopy)
2011	Session chair for NASLIBS 2011 (Quantitative Analysis)
2010-present	Manager of LinkedIn group on “Laser-Induced Breakdown Spectroscopy”

INDUSTRIAL ACTIVITIES

- 2017-present Member of the scientific advisory board of Ablatom
- 2016-present Member of the scientific advisory board of Elemission

PEER-REVIEW ACTIVITIES

- Analytical and Bioanalytical Chemistry
- Analytical Chemistry

- Applied Optics
- Applied Physics B
- Applied Spectroscopy
- Chemical Physics Letters
- Current Applied Physics
- Forensic Chemistry
- Journal of Analytical Atomic Spectroscopy
- Journal of Optics and Laser Technologies
- Journal of Physical Chemistry
- Journal of Physics: Conference Series
- Journal of Radioanalytical & Nuclear Chemistry
- Journal of the Optical Society of America B
- Materials Today
- Optics and Lasers in Engineering
- Optics Express
- Scientific Reports
- Sensors and Actuators B
- Spectrochimica Acta Part B
- Surface Science Reports
- Technology and Innovation, Proceedings of the National Academy of Inventors

EXTERNAL REVIEWER APPOINTMENTS

2019	University of Nebraska-Lincoln
2016	US DOE Office of Defense Nuclear Nonproliferation Research and Development
2014	NASA Planetary Protection Research program
2013	US DOE Office of Defense Nuclear Nonproliferation Research and Development
2013	NASA Planetary Protection Research program
2010	US DOJ Research and Development on Instrumental Analysis for Forensic Science Applications