

## CURRICULUM VITAE: LAETICIA PETIT

**CITIZENSHIP:** French

### EDUCATION

October 2002: Ph.D. in Solid-State Chemistry and Materials Science Engineering, Institute of Condensed Matter Chemistry of Bordeaux, University of Bordeaux I (France)  
Graduation date: 10/03/02.  
Dissertation: Amplification in erbium-doped glass material with high non-linear index

June 1999: High Studies in Materials Science, Univ. of Bordeaux I (France)

June 1997: M.S. in Physical Chemistry, Univ. of Paris VI (France)

June 1996: B.S. in Physical Chemistry, Univ. of Paris VI (France)

### APPOINTMENTS

Jan 2021 – now Professor, Photonics Laboratory, Tampere University (Finland)

Aug 2020 – now Head of the International BSc program in Science and Engineering

July 2018 – Dec 2020 Associate Professor, Photonics Laboratory, Tampere University (Finland)

Aug. 2016 – June 2018 Assistant Professor, Laboratory of Photonics, Tampere University of Technology (Finland)

Nov. 2012 – July 2016 Manager of Glass Research at nLIGHT Corp., Lohja (Finland)

Jan. 2009 – Nov. 2012 Senior Glass Scientist at nLIGHT Corporation, Lohja (Finland)

Nov 2005 – Dec 2009 Research Assistant Professor at Clemson University, SC (USA)

Nov. 2002 – Nov. 2005 Postdoctoral Research Fellow at College of Optics and Photonics, CREOL & FPCE, University of Central Florida, FL (USA)

### DOUBLE APPOINTMENT

Jan. 2016- now Adjunct Professor, Faculty of Medicine and Health Technology, Tampere University (Finland)

Nov. 2013- now Docent, Inorganic Chemistry Laboratory, Åbo Akademi University (Finland)

Jan 2010 – Aug. 2011 Research Assistant at ICMCB, Bordeaux University (France)

Jan 2009 – Dec. 2009 Research Assistant at Clemson University, SC (USA)

### CONSULTING

Jul-Dec 2008 nLIGHT Corporation (Finland)

Jul.-Dec 2007- Kennametal (USA)

2005-2007 SCHOTT North America, Optics for Devices (OD) Business Segment, Duryea PA & Mainz (GERMANY)

### PROFESSIONAL ACTIVITIES AND SOCIETIES

**PhD Committee member:** Muhammad Shoaib - Abdul Wali Khan University Mardan Khyber Pakhtunkhwa Pakistan (Pakistan) (2019), Jinfeng Mu - University of Twente (The Netherlands) (2019), Marcello Meneghetti - University of Rennes (France) (2019), Wei Wu - Norwegian University of Science and Technology (Norway) (2020), Seunghan Song - Norwegian University of Science and Technology (Norway) (2021), Julia Courtois – Bordeaux University (France) (2022)

**Grant assessment panel member** for the US National Science Foundation (since Sep. 2006), National Science Center, Poland (since Dec. 2014), TUT's graduate school (since Aug. 2016), French Agence Nationale de la Recherche (ANR) (since 2017), DFG (since 2017), Czech Science Foundation (since 2019), National Science Centre, Poland (since 2020), Swiss National Science Foundation and Italian National Agency (since 2021),

**Committee member:** Technical Committee 20 (TC20, glasses for optoelectronics and photonics applications) in the International Commission on Glass (ICG) & American Ceramic Society (Since 2013); Darshana and Arun Varshneya Frontiers of Glass Lectures Award Committee of the American Ceramic Society (2019-2021); ASET Stiftung Senior Research Scholar, ASET

Fellow for *Archaeology, Humanities, Heritage Studies & Materials' Research Conservation Science*, and Member of ASET Advisory Boards on Materials Science and Materials' Research Conservation Science (Since Aug. 2017); Management Committee of *COST Action MP1401* "Advanced fibre laser and coherent source as tools for society, manufacturing and lifescience" (2016- 2018); Corporate Technical Achievement Award Committee of the American Ceramic (2014- 2017),

**Conference or Symposium Co-organizer:** Program Committee: Fiber Lasers and Glass Photonics: Materials through Applications IIISPIE Photonics Europe (2022), session at GOMD (2020-2021-2022), Co-Chair of 7th International Workshop on photoluminescence in rare earths: photonic materials and devices (PRE'17), (2017), Organization and chairman of the joint TC20 session on "Radiation Effects" at the Glass & Optical Materials Division (ACerS GOMD) annual meeting (2014)

**Session chair:** GOMD (2021-2022), PRE'19, Nice (France) (2019), SPIE Optics+Optoelectronics, Prague (Czech Republic) (2019), International Conference on Photonics Research, Interphotonics 2018, Antalya (Turkey) (2018), International Conference on Transparent Optical Networks ICTON 2018, Bucharest (Romania) (2018), 15th Annual Congress on Materials Research and Technology, Paris (France) (2018), EAGLES meeting "Rare-Earth Doped Glass Materials and Fibre Lasers", Trento (Italy) (2016), EMN Meeting on Photonics, Barcelona (Spain) (2016)

**Associate Editor,** Optical Materials (Nov 2018-present),

**Review Editor** in Glass Science, *Frontiers in Materials* (since Oct 2016),

**Guest Editor:** Optical Materials 2022; Nanomaterials 2022, Materials 2019-2021; Opt. Mat. Exp. 2018-2019-2022; Applied Sciences 2018,

**Reviewer for book proposals:** Elsevier S&T Books (2020)

**Reviewer** of the following journals: *Journal of Physics and Chemistry of Solids*, *Optics Letters* and *Optics Express* (2004-present), *Journal of Non-Crystalline Solids* (2005-present), *Journal of Materials Research and Applied Physics Letters* (2006-present), *Vacuum*, *Optics Communications*, *Optical Materials*, *Journal of Materials Science* and *IEEE Transactions on Nanotechnology* (2007-present), *Journal of Applied Physics*, *Journal of Selected Topics in Quantum Electronics* and *Journal of the Optical Society of America B* (2008-present), *Applied Physics-A*, *Sensors and Physica B* and *International Journal of Applied Glass Science* (2009-present), *Materials Research Bulletin* and *Optics and Lasers in Engineering* (2010-present), *Journal of Solid State Chemistry*, *Optical Materials Express*, *Journal of Alloys and Compounds* and *Materials Chemistry and Physics* (2011-present), *Ceramics International* (2013-present), *Chinese Optics Letters* (2014-present), *Materials Express* and *Yanbu Journal of Engineering and Science (YJES)*, *Karbala International Journal of Modern Science and Scientific Reports* (2016-present), *Journal of Nanophotonics*, *Journal of Materials Chemistry C* and *Ceramics* (2018-present), *Physics Letters A*, *IEEE Photonics Journal*, *Optics and Laser Technology* and *Advanced Engineering Materials* (2019-present), *Acta Materialia*, *Physica B: Physics of Condensed Matter* (2020-present), *Chemical Engineering Journal* (2021-present), *Progress in Materials Science* (2022-present)

**Press releases:** 2020 (<https://www.aamulehti.fi/tiedejateknologia/art-2000007598658.html>); 2021 (<https://www.tuni.fi/en/news/new-photonic-glasses-shed-light-biomedicine-and-environmental-sciences>; <https://hervannansanomat.fi/laetia-petit-tampereen-yliopiston-ensimmaiseksi-naispuoliseksi-fotoniikan-professoriksi/>); 2022 (<https://skr.fi/ajankohtaista/ärkeologia-kohtaa-lasitaiteen-ja-fotoniikan>)

**Science communication and expert assignments in the media:** Café des sciences at Institut français de Finlande, Sept 16th 2021 & June 16<sup>th</sup> 2022

**FUNDED RESEARCH CONTRACTS and GRANTS:** more than 28 funded projects (total >10M€), grants from last 5 years

Magnus Ehrnrooth foundation, "Analysis of Chinese glazes/ceramics for the development of photonics glasses", L. Petit, 1 year, 2021, 15 000€

Pirkanmaa Regional Fund, "When archaeology meets contemporary glass art and advanced photonics", L Petit, 3 years, 2021-2023, 130 000€

Marie Skłodowska-Curie COFUND Action MULTIPLY, "PeLFIB: Persistent Luminescent Glass Fiber", A. Lemiere, L. Petit, 2020-2021, 124 900 (29 000€)

Tampere University, TAU Joint Call for Proposals, Brunel University London | Tampere University, "Fabrication and macro/nano scale characterization of new advanced particles containing glasses", L. Petit, G. Fern, 1 year, 2020, 13 000€ (6 500€)

Academy of Finland, "In-vivo imaging device based on biophotonic implants", M. Lastusaari, L. Petit, J. Massera, 3 years, 2020-2023, 672 535€ (128 545€)

Agence Nationale de la Recherche (ANR), Programme “Montage de reseaux scientifiques europeens ou internationaux”, W. Blanc, L. Petit, M. Ferraris, T. Hoeche, R. Balda, A. Lukowiak, P. Peterka, 1 year, 2018, 30,000€

Ceramic and Glass Industry Foundation, Creation of an awareness workshop on glasses and glassblowing techniques, L. Petit, 1 month, 2018, \$ 4 225

Embassy of France, Seed grant to initiate and strengthen bilateral cooperation in science, innovation and higher education in fields of excellence, L. Petit and W. Blanc, 2018, 1 month, 1 000€

Tampere University of Technology Foundation, Seed funding for internationalization, L. Petit, 6 months, 2018, 7 500€

Magnus Ehrnrooth foundation, “Mobility to South Africa to develop a collaboration on Spark Plasma Sintering (SPS)”, L. Petit, 1 month, 2018 3 700€

Nord Design, “Glasses with new color”, L. Petit, 3 months, 2018, 3 500€

Academy of Finland, Mobility from Finland to Germany, “Particles-containing silicate and phosphate glasses (CERAM)”, L. Petit and K. Schuster, 2 years, 2018-2019, 14 000€

Academy of Finland, “Advanced active glass-ceramics into optical fibers (ATLANTIS)”, L. Petit, 5 years, 2017-2022, 619 193€

#### **Grants awarded to my team**

5. Magnus Ehrnrooth foundation, “Conference: 14th Pacific Rim Conference on Ceramic and Glass Technology (PACRIM 14)”, A. Lemiere, 2021, 2 000€
4. Magnus Ehrnrooth foundation, “Matka-apurahahakemus cotutelle Ranska – Suomi liikkuvuudelle 2 kuukaudeksi 2021-2022”, M. Hongisto, 2021, 2 400€
3. Polish National Agency, scholarship of the Director for Academic Exchange in the selection procedure of the Bekker Programme, B. Bondzior, 2021-2022, 49 394€
2. Magnus Ehrnrooth foundation, “Travel grant”, A. Veber, 2020, 1 400€
1. Tampere University of Technology Foundation, TUT on World Tour program, “Travel grant for Rajannya Sen to perform some experiments for 2 months at Bordeaux University (France)”, L. Petit, 2 months, 2017, 5 720€

**Other Sponsored Activities:** Travel Grant, International Materials Institute, \$1,000, (2008), Travel Grant, Center for Optical Materials Science and Engineering Technology, \$2,000, (2007), Travel Grant, International Materials Institute, \$1,000, (2007).

#### **PATENT**

“Tapered Core Fiber Manufacturing Methods”, Joonas Koponen, Laetitia Petit, Petteri Väinänen, US Patent 9,484,706 B1, nLIGHT Corp

“Glassy Surface Smoothing Layer for Integrated Waveguide”, Juejun Hu, Nathan A Carlie, Laetitia C Petit, Anuradha M Agarwal, Kathleen A Richardson, Lionel C Kimerling, US Patent, 20110311180, Clemson University & Massachusetts Institute Of Technology

**STUDENT SUPERVISORY EXPERIENCE:** Supervision of a total of 7 Post-Doctoral Researchers, 10 PhD, 14 Masters and 14 Bachelor students.

#### **Awards**

“Outstanding Poster Award,” SPIE OPTIFAB meeting, presented by the American Precision Optics Manufacturers Association (APOMA), “Thermal and Structural Property Characterization of Commercially Moldable Glasses,” P. Wachtel, paper TD06-09, Rochester NY, (2009)

“Louis Stokes - South Carolina Alliance for Minority Participation (SCAMP), Summer Research Fellowship, C. Smith, Summer (2009)

“Undergraduate Grand Prize”, MRS student poster contest at Clemson University, “Viscosity Properties of Tellurite and Borophosphate Based Glasses”, B. Tincher, (2009)

“Outstanding Student Poster, 1<sup>st</sup> prize,” Spring Meeting of the Glass and Optical Materials Division (GOMD), Amer. Ceramic Society, “Tellurite Oxide Glasses for Infrared Fiber” J. Massera Spring (2008)

“1<sup>st</sup> Prize, Science as Art competition,” Clemson University and surrounding region, “Porous and Hollow Glass Micro-Beads” S. Gaylord, N. Carlie, Spring (2008)

“Undergraduate Grand Prize”, MRS student poster contest at Clemson University, “Tellurite Oxide Glasses for Infrared Fiber”, A. Haldeman, (2008)

“Second Prize, Outstanding Paper,” UCF Showcase for Undergraduate Research Excellence (SURE), “Anion exchange processes in germanium-based bulk and thin film glasses” N. Carlie, (2005)

“First Prize, Outstanding Paper,” UCF Showcase for Undergraduate Research Excellence (SURE),  
“New Germanium-Based Sulfide Glasses for Telecommunication Applications,” N. Carlie, (2004)

### **ACADEMIC COURSES and Other TEACHING experience**

#### Tampere University (Finland)

- FYS-6656, Photonic Materials, Since spring 2020
- LTT-21106, Bachelor's Thesis Seminar in Science and Engineering, Since 2020
- MOL-52026, Advanced Ceramics, team taught with Prof. Levänen, Since 2019
- FYS-1366 Nanophysics, team-taught with Assist. Prof Caglayan, 2019
- BMT-73107 Bioceramics and Their Clinical Applications, team taught with Prof. Massera, Since 2018
- FYS-6606 Photonics, team-taught with Prof. Niemi, 2016, 2017, 2018
- ELT 62306 Research Project in Biomedical Engineering, co-supervision of Mari Saarinen (Sept - Nov. 2016)
- ELT-73106, Introduction to Glass Science and on Optical glasses for biomedical application, team taught with Prof. Massera, 2016, 2017
- Public test lecture for appointment as Adjunct Professor, Dec. 9<sup>th</sup> 2015

#### Åbo Akademi University (Finland)

- Special topic “Glasses for Photonics”, 2013, 2014, 2015, 2016
- Public test lecture for appointment as Docent at Åbo Akademi University, 2<sup>nd</sup> of Sept 2013.

#### University of the Witwatersrand (South Africa)

- Ceramics Course, team-taught, Aug. 2018

#### Clemson University (SC, USA)

- CME 490/690 Special topics: Relaxation Processes in Glasses and Polymers, team-taught with Prof. U. Fotheringham, Adjunct Professor, 2006
- CME 490/690 Special topics: Optical Properties of Materials Laboratory, team-taught with Prof. K. Richardson, 2006
- CME 413 Non-crystalline Material, 2005, 2007 and 2008
- 2 lectures on Glass structure as part of a multi-university virtual class, Spring 2007

#### University of Central Florida (FL, USA)

- CHM 3410 Physical Chemistry I (Thermodynamics), Department of Chemistry, Fall 2003
- Lectures “Rare earth luminescence in tellurite glasses” [3 modules] for Research Experience for Undergraduate (REU) program attendees, University of Central Florida, FL/US 2001, 2003

#### University of Bordeaux I (France)

- Tutoring Chemistry for undergraduate and graduate students, 2000-2001-2002

### **Invited Lecturer**

Turku University, “Glass development to improve the performance of the material”, 13th annual MatSurf Seminar (Turku), Nov 4th 2019

Technical University of Cluj-Napoca (Romania), “Introduction to Glasses and fibers”, May 22<sup>nd</sup> 2019  
Optical Fiber Technology Workshop during SPIE Optics+Optoelectronics, April 1<sup>st</sup> – 4<sup>th</sup> 2019, Prague, Czech Republic, 2h lecture on preform/fiber fabrication

SAOT and FAU Erlangen-Nürnberg, workshop "Simulation and Design of Advanced Solid-State Lasers", lecture on Novel rare earth doped glass-ceramics, Oct 11th-12th 2018

University of the Witwatersrand (South Africa), Invited seminar on Glasses for Photonics, Aug. 2018  
COST MP1401 Winter school, “Introduction into photonic glasses”, Feb. 13th – 16th 2018, Lausanne, Switzerland

Turku University, “Rare-earth doped glasses and glass-ceramics”, March 2017, Turku, Finland

CoACH School, “RE- doped silica preform fabrication and fibre drawing”, 8-10 February 2017, London, UK

COST MP1401 Training school, “Rare-Earth- doped silica preform fabrication and fiber drawing”, August 30 - September 1 2016, Prague, Czech Republic

**Successfully completed pedagogical studies:** Module Cornerstones of teaching: learning theories in university context (May 2017) and Module Planning, practice and evaluation of teaching (May 2018) (total 10Cr)

### **INTERNATIONAL RESEARCH VISITS**

Sept-Oct 2018 Assoc. Prof. Juejun Hu, Massachusetts Institute of Technology (USA)  
April 2018 Dr. Kay Schuster, Leibniz-IPHT (Germany)  
Nov. 2017 Prof. Irina Sorokina at NTNU (Norway)  
Oct 2006 K. Hopkins at US Air Force. This visit led to 2 projects funded by US Air Force  
Oct 2006 Dr. S. K. Sundaram at Pacific Northwest National Laboratory (PNNL) (USA). This visit led to undergraduate students exchange and to 1 joint paper  
Jan 2005, Dr. T. Cardinal at Bordeaux University (France). This visit led to PhD students exchange and to 8 joint papers  
Dec 2004 Prof. G. Boudebs at Anger University (France). This visit led to a new collaboration and to 5 joint papers.  
Nov. 2003 Prof. S. Martin at the Iowa State University (USA). This visit led to 1 joint paper

## PUBLICATIONS

### *Refereed Journals and Proceedings*

#### 2022

128. “Demonstration of the hierarchical arrangement of persistent luminescent microparticles in direct doping-prepared photonic glasses using second-harmonic generation microscopy”, S. Annurakshita, V. Lahti, L. Petit, and G. Bautista, Optical Materials Express, **12**(7) (2022) 2805-2814 (2022)
127. “Investigations of the thermal, structural, and Near-IR emission properties of Ag containing fluorophosphate glasses and their crystallization process”, M. Ennouri, L. Petit, H. Elhouichet, Optical Materials **131** (2022) 112610
126. *Invited Article* “Transparent Er<sup>3+</sup> doped Ag<sub>2</sub>O containing tellurite glass-ceramics”, I. Aromaki, I. Shestopalova, R. Ponte, S. Annurakshita, G. Bautista, A. Othmani, H. Elhouichet, L. Petit, Optical Materials: X **15** (2022) 100164
125. “Future of Optical Glass Education”, J. Ballato, A. Seddon, A. Clare, L. Petit, J. Hu, K. Richardson, Optical Materials Express, **12**(7) (2022) 2626-2634
124. “Bioactive phosphate glass-based fiber with green persistent luminescence”, A. Lemiere, A. Szczodra, S. Vuori, B. Bondzior, T. W. Hawkins, J. Ballato, M. Lastusaari, J. Massera, and L. Petit, Materials Research Bulletin, **153** (2022) 111899
123. “Response of Various Yb<sup>3+</sup>-Doped Oxide Glasses to Different Radiation Treatments”, M. Hongisto, S. Danto, M. Ghena, D. Iancu, D. Ighigeanu, L. Mihai, V. Jubera, L. Petit, Materials **15** (2022) 3162.

#### 2021

122. “Preparation of glass-based composite with green upconversion and persistent luminescence using modified direct doping method”, V. Lahti, N. Ojha, S. Vuori, M. Lastusaari, L. Petit, Materials Chemistry and Physics, **274** (2021) 125164
121. “Influence of Y<sub>2</sub>O<sub>3</sub> content on structural, optical, spectroscopic, and laser properties of Er<sup>3+</sup>, Yb<sup>3+</sup> co-doped phosphate glasses, K. Veselski, V. Lahti, L. Petit, V. Prajzler, J. Šulc, H. Jelínková, Materials, **14** (2021) 4041
120. “Effect of post heat-treatment on the structural, spectroscopic and dissolution properties of a highly stable Er<sup>3+</sup>-doped multi-component phosphate glass”, D. Pugliese, A. Veber, A. Lemière, N. G. Boetti, L. Petit, Journal of Alloys and Compounds, **883** (2021) 160878
119. “Tailoring the glass composition to increase the thermal stability without impacting the crystallization behavior of oxyfluorophosphate glass, N. Ojha, I. Dmitrieva, W. Blanc, L. Petit, Ceramics, **4** (2021) 148–159
118. “Micro-luminescence measurement to evidence decomposition of persistent luminescent particles during the preparation of novel persistent luminescent tellurite glasses”, M. Hasnat, V. Lahti, H. Byron, M. Lastusaari, L. Petit, Scripta Materialia, **199** (2021) 113864
117. “Synthesis, Characterization, and Optical Properties of Ytterbium(III) Phosphates and Their Incorporation in Different Glass Matrices”, A. Veber, T. Salminen, A. Matthes, R. Mueller, K. Wondraczek, L. Petit, J. Phys. Chem. C, **125** (2021) 702–715
116. “Specific trends in phosphate glass crystallization”, J. Rocherullé, M. Cai, P. Bénard-Rocherullé, R. Lebullenger, L. Calvez, J. Trolès, D. Le Coq, X-H Zhang, J. Massera, L. Petit, Journal of Non-Crystalline Solids **551** (2021) 120431
115. “Low temperature afterglow from SrAl<sub>2</sub>O<sub>4</sub>: Eu, Dy, B containing glass”, V. Vitola, V. Lathi, I. Bite, A. Spustaka, D. Millers, M. Lastusaari, L. Petit, K. Smits, Scripta Materialia, **190** (2021) 86–90

#### 2020

114. “Irradiation of Er<sup>3+</sup>, Yb<sup>3+</sup> doped phosphate glasses using electrons and protons”, R. Sen, L. Mihai, M. Straticiu, I. Burducea, D. Ighigeanu, D. Sporea, L. Petit, Ceramics International, **46** (2020) 26388-26395
113. “Transparent Yb<sup>3+</sup> doped oxyfluorophosphate glass-ceramics”, M. Hongisto, A. Veber, N.G. Boetti, S. Danto, V. Jubera, L. Petit, Ceramics International, **46** (2020) 26317–2632
112. “Changes in the mechanical properties of bioactive borophosphate fiber when immersed in aqueous solutions”, A. Mishra, P. Noppari, C. Boussard-Plédel, L. Petit, J. Massera, International Journal of Applied Glass Science, **11** (2020) 622–631.
111. “Review: Radiation-induced defects/effects in germanate and tellurite glasses”, M. Hongisto, A. Veber, Y. Petit, T. Cardinal, S. Danto, V. Jubera, L. Petit, Materials **13** (2020) 3846

110. "Unveiling structured domains of persistent luminescent dysprosium- and europium-doped strontium aluminate microparticles using second-harmonic generation microscopy", G. Bautista, L. Kallioniemi, L. Petit, Optics Express, 28(18) (2020) 25858
109. "Phosphate/oxyfluorophosphate glass crystallization and its impact on dissolution and cytotoxicity", A. Nommeots-Nomm, A. Houaoui, A. Pradeepan Packiyannathar, X. Chen, M. Hokka, R. Hill, E. Pauthe, L. Petit, M. Boissière, J. Massera, Materials Science and Engineering C, 117 (2020) 111269
108. "Nucleation and growth behavior of Er<sup>3+</sup> doped oxyfluorophosphate glasses", N. Ojha, A. Szczodra, N. G. Boetti, J. Massera, L. Petit, RSC Advances, 10 (2020) 25703
107. "Effect of heat-treatment on the upconversion of NaYF<sub>4</sub>:Yb<sup>3+</sup>, Er<sup>3+</sup> nanocrystals containing silver phosphate glass", N. Ojha, M. Bogdan, R. Galatus, L. Petit, Journal of Non-Crystalline Solids, 544 (2020) 120243
106. "Radiation effects on phosphate glasses: review", L. Petit, International Journal of Applied Glass Science, 11 (2020) 511–521
105. "Novel borosilicate bioactive scaffolds with persistent luminescence", P. Roldán Del Cerro, H. Teittinen, M. Lastusaari, L. Petit, J. Massera, Biomed. Glasses, 6 (2020) 1–9
104. "Impact of ZnO addition in phosphate glasses on the near-infrared luminescence enhancement by Ag nanoparticles and on the crystallization tendency", L. Kuusela, A. Veber, N.G. Boetti, L. Petit, Materials 13 (2020) 527

## **2019**

103. "Nano structured optical fibers made of glass-ceramics, phase separated and metallic particles containing glasses", A. Veber, Z. Lu, M. Vermillac, F. Pigeonneau, W. Blanc, L. Petit, Fibers 7 (2019) 105; doi:10.3390/fib7120105
102. "Impact of the Ag<sub>2</sub>O content on the optical and spectroscopic properties of fluoro-phosphate glasses.", M. Ennouri, L. Kuusela, I. Jlassi, B. Gelloz, L. Petit, H. Elhouichet, Materials 12 (2019) 3516
101. "Design, processing and characterization of an optical core - bioactive clad phosphate fiber for biomedical applications", P. Lopez-Iscoa, N. Ojha, A. Mishra, D. Pugliese, R. Gumenyuk, N. G. Boetti, D. Janner, J. Troles, B. Bureau, C. Boussard-Plédel, J. Massera, D. Milanese, L. Petit. Journal of the American Ceramic Society, 102 (2019) 6882–6892
100. "Fluorine losses in Er<sup>3+</sup> oxyfluoride phosphate glasses and glass-ceramics", A. Szczodra, A. Mardoukhi, M. Hokka, N. G. Boetti, L. Petit, Journal of Alloys and Compounds, 797 (2019) 797-803
99. "Sintered silica bodies with persistent luminescence", N. Ojha, T. Trautvetter, I. Norrbo, A. Kalide, M. Lastusaari, R. Mueller, L. Petit, Scripta Materialia, 166 (2019) 15–18
98. "Ternary borosilicates as potential cladding glasses for semiconductor core optical fibers", I. Dmitrieva, P. Lopez-Iscoa, D. Milanese, and L. Petit, International Journal of Applied Glass Science, 10 (2019) 151–156
97. "Successful preparation of fluorine containing glasses with persistent luminescence using the direct doping method", A. Szczodra, L. Kuusela, I. Norrbo, A. Mardoukhi, M. Hokka, M. Lastusaari, L. Petit, Journal of Alloys and Compounds, 787 (2019) 1260-1264
96. "Optical, structural and luminescence properties of oxyfluoride phosphate glasses and glass-ceramics doped with Yb<sup>3+</sup>", R. Sen, N. N. G. Boetti, M. Hokka, L. Petit, Journal of Non Crystalline Solids: X 1 (2019) 100003
95. "Spectroscopic properties of Er<sup>3+</sup>-doped particles-containing phosphate glasses fabricated using direct doping method", P. Lopez-Iscoa, N. Ojha, U. Aryal, D. Pugliese, N. G. Boetti, D. Milanese, L. Petit, Materials, 12 (2019) 129
94. *Preface to the Special Issue of Optical Materials* associated with the "Photoluminescence in Rare Earths 2017: Photonic Materials and Devices (PRE'17)" Workshop(Conference Paper), Dorosz, D., Ferrari, M., Petit, L., Optical Materials, 87 (2019) 1-2
93. "Phosphate glasses with persistent luminescence prepared using the direct doping method", N. Ojha, M. Tuomisto, M. Lastusaari, L. Petit, Optical Materials, 87 (2019) 151-156
92. "Core-clad phosphate glass fibers for biosensing", A. Mishra, F. Desevedavy, L. Petit, F. Smektala, J. Massera, Materials Science & Engineering C, 96 (2019) 458–465

## **2018**

91. *Feature issue introduction: mid-infrared optical materials and their device applications*, J.Hu, L. Mawst, S. Moss, L. Petit, and D. Ting, Opt. Mater. Express 8(7) (2018) 2026-2034

90. "NaYF<sub>4</sub>:Er<sup>3+</sup>,Yb<sup>3+</sup> nanocrystals-containing fluorophosphate glasses with upconversion prepared using the direct particles doping method", N. Ojha, M. Tuomisto, M. Lastusaari, L. Petit, RSC Advances, **8** (2018) 19226 - 19236
89. "Influence of the phosphate glass melt on the corrosion of functional particles occurring during the preparation of glass-ceramics", N. Ojha, T. Laihinen, T. Salminen, M. Lastusaari, L. Petit, Ceramics International, **44** (2018) 11807-11811
88. "Luminescence of Er<sup>3+</sup> doped oxyfluoride phosphate glasses and glass-ceramics", A. Nommeots-Nomm, N. G. Boetti, T. Salminen, J. Massera, M. Hokka, L. Petit, Journal of Alloys and Compounds, **751** (2018) 224-230
87. "Persistent luminescent borosilicate glasses using direct particles doping method", P. Roldán Del Cerro, T. Salminen, M. Lastusaari, L. Petit, Scripta Materialia, **151** (2018) 38-41
86. "Decomposition of persistent luminescent microparticles in corrosive phosphate glass melt", N. Ojha, H. Nguyen, T. Laihinen, T. Salminen, M. Lastusaari, L. Petit, Corrosion Science, **135** (2018) 207-214
85. "Better understanding of the role of SiO<sub>2</sub>, P<sub>2</sub>O<sub>5</sub> and Al<sub>2</sub>O<sub>3</sub> on the spectroscopic properties of Yb<sup>3+</sup> doped silica sol-gel glasses", B. Glorieux, T. Salminen, J. Massera, M. Lastusaari, L. Petit, Journal of Non-Crystalline Solids, **482** (2018) 46-51
84. "Design, synthesis and structure-property relationships of Er<sup>3+</sup>-doped TiO<sub>2</sub> luminescent particles synthesized by sol-gel", P. Lopez-Iscoa, D. Pugliese, N. G. Boetti, D. Janner, G. Baldi, L. Petit, D. Milanese, Nanomaterials, **8** (20) (2018) doi:10.3390/nano8010020
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18. "Processing and characterization of borosilicate glasses and scaffolds with persistent luminescence", P. Roldán Del Cerro, M. Saarinen, J. Massera, I. Norrbo, M. Lastusaari, L. Petit, *Invited proceeding*, International Conference on Transparent Optical Networks ICTON, Bucharest (Romania), 1-5 July 2018

### **2017**

17. "Novel Er<sup>3+</sup> doped phosphate glass-ceramics for photonics", L. Petit, H. Nguyen, M. Hongisto, T. Salminen, T. Hakkarainen, P. Lopez-Iscoa, D. Pugliese, N. G. Boetti, D. Milanese, *Invited proceeding*, International Conference on Transparent Optical Networks ICTON, Girona (Spain), 2-6 July 2017

### **2015**

16. "Measuring bend losses in large-mode-area fibers", C. Ye, J. Koponen, V. Aallos, L. Petit, O. Kimmelma, T. Kokki, SPIE Photonics West, San Francisco /CA, February 7 (2015)

### **2014**

15. "Mode coupling in few-mode large-mode-area fibers", C. Ye, J. Koponen, V. Aallos, L. Petit, O. Kimmelma, T. Kokki, SPIE Photonics West, San Francisco /CA, February 4-6 (2014)

### **2010**

14. "Spin-coated Ge<sub>23</sub>Sb<sub>7</sub>S<sub>70</sub> thin films with large photo-induced refractive index change", S. Song, N. Carlie, L. Petit, K. Richardson C.B. Arnold, Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference: 2010 Laser Science to Photonic Applications, CLEO/QELS (2010), 5499510
13. "Towards on-chip, integrated chalcogenide glass based biochemical sensors", J. Hu, A. Agarwal, L. Kimerling, N. Carlie, B. Zdyrko, L. Petit, I. Luginov, K. Richardson, 2010 Conference on Optical Fiber Communication, Collocated National Fiber Optic Engineers Conference, OFC/NFOEC (2010) 5465492
12. "Optical loss reduction in HIC chalcogenide glass waveguides via thermal reflow", J. Hu, N. Feng, A. Agarwal, N. Carlie, L. Petit, K. Richardson, and L. Kimerling, 2009 Conference on Lasers and Electro-Optics and 2009 Conference on Quantum Electronics and Laser Science Conference, CLEO/QELS (2009), 5225198

11. "Application of Micro-thermal Analysis for Metal, Oxide, and Non-oxide Thin Film Materials" N. Carlie, J. Massera, L. Petit, and K. Richardson, *Frontiers of Characterization and Metrology for Nanoelectronics*, Albany, NY/USA, May 11-15 (2009)

10. "Integrating Optics and Micro-fluidic Channels Using Femtosecond Laser Irradiation", T. Anderson, M. Ramme, N. Carlie, J. Choi, C. Faris, L. Petit, K. Richardson, M. Richardson, *SPIE Photonics West*, San Jose/CA, January 24-29 (2009)

#### **2008**

9. "Microstructured chalcogenide glasses using femtosecond laser irradiation or photolithography", T. Anderson, N. Carlie, J. Hu, L. Petit, A. Agarwal, J. Choi, L. Kimerling, K. Richardson, M. Richardson, *2008 Conference on Quantum Electronics and Laser Science Conference on Lasers and Electro-Optics, CLEO/QELS*, (2008) 4551649

8. "Design, fabrication and integration of HIC glass waveguides on a silicon platform," J. Hu, N. Carlie, N. Feng, L. Petit, A. Agarwal, K. Richardson, and L. Kimerling, *SPIE Photonics West*, San Jose CA/US, January 20<sup>th</sup>-25<sup>th</sup> (2008)

#### **2007**

7. "Formation/dissolution of metallic nanoparticles in SiO<sub>2</sub> film using cw and ns UV exposure", J. Choi, J. Massera, L. Petit, Y. Obeng, K. Richardson, M. Richardson, *Pacific Rim Conference on Lasers and Electro-Optics, CLEO - Technical Digest*, (2007), 4391260

6. "Measurement of photo-induced refractive index change in As<sub>0.42-x</sub>YGeSb<sub>0.58</sub> bulks induced by Fs Near IR laser exposure", J. Choi, N. Carlie, L. Petit, T. Anderson, K. Richardson, M. Richardson, *Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS*, (2007), 4382295, 100-101

5. "Low-loss integrated planar chalcogenide waveguides for microfluidic chemical sensing", J. Hu, V. Tarasov, N. Carlie, L. Petit, R. Sun, A. Agarwal, K. Richardson, and L. Kimerling, *Proc. SPIE*, **6444**, 64440N, San Jose (CA) (2007)

#### **2004**

**4 Invited** "Femtosecond laser micro-structuring and refractive index modification applied to laser and photonic devices," M. Richardson, A. Zoubir, C. Rivero, C. Lopez, L. Petit and K. Richardson, in *Proc. SPIE vol. 5347*, San Jose (2004)

3. "Femtosecond Direct writing of Waveguides in Non-oxide Glasses," A. Zoubir, M. Richardson, C. Lopez, L. Petit, K. Richardson, C. Rivero, and A. Schulte, in *Proc. SPIE*, San Jose, (2004)

#### **2003**

2. "Second harmonic generation in thermally poled Bi<sub>2</sub>O<sub>3</sub> – ZnO – TeO<sub>2</sub> glasses", G. Senthil Murugan, E. Fargin, L. Petit, V. Rodriguez, F. Adamietz and P. Le Coustumer, *SPIE Photonics West*, Santa Clara CA / US (2003)

1. "Anion exchange of Oxygen by Sulfur in GeO<sub>2</sub>-based Glasses," J. Norrel, M. DeCastro, L. Petit, T. Cardinal, F. Guillen, K. Richardson, P. Vinatier and M. Couzi, *Rare-Earth-Doped Materials and Devices VII*, *Proc. SPIE vol. 4990-31*, San Jose CA (2003)

### **CONFERENCE PRESENTATIONS**

#### **2021**

144. "Stabilization of the trisulphide chromophore in sodalite", S. Rashid, M. Lastusaari, A. Lemiere, L. Petit, *Optics and Photonics Day*, Turku (Finland), 23rd-25th August 2021

143. "Bioceramic Scaffolds with Persistent Deep Red Luminescence", S. Vuori, A. Szczodra, A. Lemiere, J. Massera, L. Petit, M. Lastusaari, *Optics and Photonics Day*, Turku (Finland), 23rd-25th August 2021

142. "Response of various Yb<sup>3+</sup> -doped oxide glasses to different radiation treatments", M. Hongisto, S. Danto, M. Ghena, D. Iancu, D. Ighigeanu, L. Mihai, V. Jubera, L. Petit, *Optics and Photonics Day*, Turku (Finland), 23rd-25th August 2021

141. "Development of new glass-based composites with persistent luminescence", N. Garcia Arango, V. Lahti, S. Vuori, M. Lastusaari, L. Petit, *Optics and Photonics Day*, Turku (Finland), 23rd-25th August 2021

140. "Development of glasses and glass-ceramics for MIR applications", A. Lemiere, L. Kuusela, M. Guidat, A. Veber, M. Baah, P. Karvinen, M. Roussey, L. Petit, *Optics and Photonics Day*, Turku (Finland), 23rd-25th August 2021

#### **2020**

139. “Impact of Fe<sub>2</sub>O<sub>3</sub> addition on the crystallization of Er<sup>3+</sup> doped fluorophosphate glasses”, I. Dmitrieva, W. Blanc, L. Petit, *Invited proceeding*, International Conference on Transparent Optical Networks ICTON, Bari (Italy), 19-23 July 2020
138. “Synthesis and properties of Er-doped KPO<sub>3</sub>-Ca(PO<sub>3</sub>)<sub>2</sub> glass and glass-ceramic”, V. Lahti, A. Veber, L. Petit, *Invited proceeding*, International Conference on Transparent Optical Networks ICTON, Bari (Italy), 19-23 July 2020
137. “Transparent Yb- and Er-doped glass ceramics”, L. Petit, A. Veber, M. Hongisto, N. Ojha, I. Dmitrieva, SPIE Photonics Europe, Strasbourg (France) March 29th- April 2nd 2020

## **2019**

136. *Invited* “Progress on the preparation of novel phosphate based glasses and glass-ceramics for photonics”, A. Veber, Laetitia Petit, International Conference on Photonics Research, Antalya (Turkey), 4-9 November, 2019
135. “Crystallization study of Er<sup>3+</sup> doped glasses in NaPO<sub>3</sub>-CaF<sub>2</sub>-TiO<sub>2</sub>/MgO/ZnO system”, N. Ojha, A. Szczodra, N. G. Boetti, M. Hokka, J. Massera, L. Petit, 8th International Workshop on photoluminescence in rare earths: photonic materials and devices, Nice (France), 4th-6th September 2019
134. “Electrons and protons irradiation of Er<sup>3+</sup>, Yb<sup>3+</sup> codoped phosphate glasses”, R. Sen, L. Mihai, D. Sporea, M. Straticiu, I. Burducea, D. Ighigeanu, L. Petit, 8th International Workshop on photoluminescence in rare earths: photonic materials and devices, Nice (France), 4th-6th September 2019
133. *Invited* “Progress on the preparation of glass-based phosphate materials for photonics”, L. Petit, 8th International Workshop on photoluminescence in rare earths: photonic materials and devices, Nice (France), 4th-6th September 2019
132. *Invited* “Persistent luminescent glasses prepared using the direct doping method”, U. Aryal, N. Ojha, T. Trautvetter, M. Lastusaari, J. Ueda, R. Mueller, A. Veber, L. Petit, International Conference on Transparent Optical Networks ICTON, Angers (France), 9th-13th July 2019
131. *Invited* “Nanoparticles in optical waveguides: a toolbox to promote lasers, amplifiers and sensors.”, W. Blanc, M. Vermillac, L. Petit, A. Lukowiak, F. Mady, M. Benabdesselam, S. Chaussedent, A. Mehdi, M. Ferrari, International Conference on Transparent Optical Networks ICTON, Angers (France), 9th-13th July 2019
130. “Glasses for photonic/biophotonic applications”, A. Veber, L. Petit, Optics and Photonics Day, Espoo (Finland), 27<sup>th</sup>-29<sup>th</sup> May 2019
129. “Fabrication and characterization of new phosphate glasses and glass-ceramics suitable for drawing optical and biophotonic fibers”, P. Lopez-Iscoa, N. Ojha, D. Pugliese, R. Gumenyuk, J. Massera, N. G. Boetti, D. Janner, C. Boussard-Plédel, D. Milanese, L. Petit, CLEO/Europe-EQEC 2019, 23<sup>rd</sup>-27<sup>th</sup> June, 2019
128. *Invited* “Fabrication and characterization of phosphate biophotonic fibers”, L. Petit, SPIE Optics+Optoelectronics, Prague (Czech Republic), April 1<sup>st</sup> – 4<sup>th</sup> 2019

## **2018**

127. *Invited* “New biophotonic materials from persistent luminescent particles containing bioactive glasses”, L. Petit, International Conference on Photonics Research, Antalya (Turkey), 8-12 October, 2018
126. “Fabrication and characterization of a multi-mode Er<sup>3+</sup>-doped phosphate fiber for biomedical applications”, P. Lopez-Iscoa; A. Mishra; N. Ojha; D. Pugliese; R. Gumenyuk; N.G. Boetti; D. Janner; J. Massera; J. Troles; B. Bureau; C. Boussard-Plédel; L. Petit; D. Milanese; European Optical Society Biennial Meeting (EOSAM), Delft (Netherlands), 8 - 12 October, 2018
125. “Upconverter phosphate glasses prepared using direct doping method”, N. Ojha, T. Salminen, L. Petit, M. Tuomisto, M. Lastusaari, 15th International Conference on the Physics of Non-Crystalline Solids, Saint Malo (France) July 8-13, 2018
124. *Invited* “Processing and characterization of borosilicate glasses with persistent luminescence”, P. Roldán Del Cerro, T. Salminen, L. Petit, M. Saarinen, J. Massera, I. Norrbo, M. Lastusaari, International Conference on Transparent Optical Networks ICTON 2018, Bucharest (Romania), July 1-5, 2018
123. “Novel particles-containing glasses for photonic/biophotonic applications”, N. Ojha, P. Roldán Del Cerro, M. Lastusaari, J. Massera, L. Petit, Optics and Photonics Day, Jyväskylä (Finland) May 28-30 2018
122. “Alpha particle irradiation on various properties of Er<sup>3+</sup>, Yb<sup>3+</sup> doped phosphate glasses”, R. Sen, A. Poudel, I. Dmitrieva, R. Gumenyuk, L. Mihai, D. Sporea, O. Mureşan, I. Rusen, T. Hakkarainen, N. G. Boetti, T. Niemi, L. Petit, SPIE photonics Europe, Strasbourg (France) April 22-26, 2018.

121. "Upconversion in low rare earth concentrated phosphate glasses prepared using direct doping method" N. Ojha, M. Tuomisto, T. Laihinen, M. Lastusaari, L. Petit, SPIE photonics Europe, Strasbourg (France) April 22-26, 2018.
120. **Invited** "Novel phosphate glass-ceramics and particles-containing phosphate glasses", L. Petit, 15th Annual Congress on Materials Research and Technology, Theme: Advance Materials Research for Better Future, Paris (France) February 19-20, 2018

### **2017**

119. "Fabrication and characterization of erbium doped bioactive glasses, glass ceramics and optical fibers, P. Lopez-Iscoa, D. Pugliese, N. G. Boetti, D. Janner, L. Petit, Daniel Milanese, 7th International Workshop on photoluminescence in rare earths: photonic materials and devices (PRE'17), Rome (Italy), 30 November - 2 December, 2017
118. "Corrosion of microparticles in phosphate glass melt", N. Ojha, M. Tuomisto, T. Laihinen, T. Salminen, M. Lastusaari, L. Petit, 7th International Workshop on photoluminescence in rare earths: photonic materials and devices (PRE'17), Rome (Italy), 30 November - 2 December, 2017
117. "Er<sup>3+</sup> doped oxyfluoride phosphate glasses and glass-ceramics", A. Nommeots-Nomm, T. Salminen, N. G. Boetti, M. Hokka, J. Massera, L. Petit, 7th International Workshop on photoluminescence in rare earths: photonic materials and devices (PRE'17), Rome (Italy), 30 November - 2 December, 2017
116. "Fabrication and characterization of single-mode and multi-mode Er-doped phosphate fibers for biomedical applications", P. Lopez-Iscoa, D. Pugliese, A. Mishra, N. Ojha, R. Gumenyuk, N. G. Boetti, D. Janner, J. Massera, B. Bureau, C. Boussard-Plédel, L. Petit, D. Milanese, 7th International Workshop on photoluminescence in rare earths: photonic materials and devices (PRE'17), Rome (Italy), 30 November - 2 December, 2017
115. "Er<sup>3+</sup> and Yb<sup>3+</sup> doped particles containing phosphate glasses prepared using direct doping method", N. Ojha, H. Nguyen, F. Dubos, M. Tuomisto, T. Salminen, M. Lastusaari, B. Glorieux, L. Petit, 7th International Workshop on photoluminescence in rare earths: photonic materials and devices (PRE'17), Rome (Italy), 30 November - 2 December, 2017
114. "Oxyfluoride phosphate glasses: thermal and dissolution characteristics", A. Nommeots-Nomm, L. Petit, J. Massera, 2nd International Conference on Phosphate Materials", St Anne's College, Oxford (UK) 24-28 July, 2017
113. "Phosphate single core and core-clad fibers for potential use in biosensing", A. Mishra, F. Desevedavy, L. Petit, F. Smektala, J. Massera, 2nd International Conference on Phosphate Materials", St Anne's College, Oxford (UK) 24-28 July, 2017
112. "Synthesis and characterization of innovative Er<sup>3+</sup>-doped nanoparticles containing phosphate glasses and glass ceramics", P. Lopez-Iscoa, L. Petit, J. Massera, D. Janner, N. G. Boetti, D. Pugliese, D. Milanese, 2nd International Conference on Phosphate Materials", St Anne's College, Oxford (UK) 24-28 July, 2017
111. **Invited** "Novel Er<sup>3+</sup> doped phosphate glass-ceramics", L. Petit, H. Nguyen, M. Hongisto, T. Salminen, T. Hakkarainen, P. Lopez-Iscoa, D. Pugliese, N. G. Boetti, D. Milanese **Invited proceeding**, International Conference on Transparent Optical Networks ICTON 2017, Girona (Spain) July 2-6, 2017

### **2016**

110. **Invited** "Glasses for Photonics", L. Petit, Symposium on Future Prospects for Photonics, Tampere (Finland), 14-15 December 2016
109. **Invited** "Novel Glasses and Glass-Ceramics for Photonics", L. Petit, EAGLES meeting "Rare-Earth Doped Glass Materials and Fibre Lasers" jointly with COST Action MP1401 "Advanced fibre laser and coherent source as tools for society, manufacturing and lifescience", Povo-Trento (Italy), 18-19 October 2016
108. **Invited** "Novel Glasses and Glass-Ceramics for Photonics", L. Petit, EMN Meeting on Photonics 2016, Barcelona (Spain) September 19th to 23th, 2016.
107. "Effect of partial crystallization on the thermal, structural and Er<sup>3+</sup> luminescence properties of phosphate glasses", P. Lopez-Iscoa, L. Petit, J. Massera, D. Milanese, D. Janner, N. G. Boetti, D. Pugliese, C. Novara, S. Fiorilli, M. Salvo, M. Ferraris, EMN Meeting on Photonics 2016, Barcelona (Spain) September 19th to 23th, 2016.
106. "Synthesis and characterization of Er<sup>3+</sup>-doped Al<sub>2</sub>O<sub>3</sub>, TiO<sub>2</sub> and TiO<sub>2</sub>@SiO<sub>2</sub> core-shell structure nanoparticles and their incorporation into phosphate glasses", P. Lopez-Iscoa, M. Ferraris, M. Salvo, D. Milanese, L. Petit, J. Massera, G. Baldi, FOTONICA, June 6-8, Roma, Italy (2016)

105. "Phosphate single core and core-clad fiber: Impact of immersion in TRIS on light loss and mechanical properties", A. Mishra, F. Desevedavy, L. Petit, F. Smekatala, J. Massera, Glass and Optical Materials division Spring meeting, May 22-26, Madison/WI, USA (2016)

104. "Design, synthesis and characterization of innovative glasses with erbium-doped nanoparticles", P Lopez-Iscoa, L. Petit, J. Massera, D. Milanese, G. Baldi, M. Salvo, M. Ferraris, Glass and Optical Materials division Spring meeting, May 22-26, Madison/WI, USA (2016)

#### **2015**

103. "Borophosphate glasses/fibers and their in-vitro properties", J. Massera, Y. Shpotyuk, T. Jouan, C. Boussard-Plédel, B. Bureau, L. Petit, M. Ojansivu, S. Miettinen, 27th European Conference on Biomaterials (ESB), Krakow, Poland, 30th August to 3rd September 2015.

102. "Measuring bend losses in large-mode-area fibers", C. Ye, J. Koponen, V. Aallos, T. Kokki, L. Petit, O. Kimmelma, SPIE Photonics West, San Francisco /CA, February 7 (2015)

#### **2014**

101. "Mode coupling in few-mode large-mode-area fibers", C. Ye, J. Koponen, V. Aallos, L. Petit, O. Kimmelma, T. Kokki, SPIE Photonics West, San Francisco /CA, February 4-6 (2014)

100. "Processing and characterization of new glass-ceramics melted with microparticles", J. Massera, L. Petit, P. Gluchowski, M. Lastusaari, J. Hölsä, L. Hupa, ESG, Parma, Italy (2014)

99. "Nanoparticles doping of glasses", J. Massera, L. Petit, J. Koponen, B. Glorieux, L. Hupa, M. Hupa, 1<sup>st</sup> Joint Meeting DGG- ACerS GOMD, Aachen, Germany, (2014)

#### **2013**

98. "Phosphate glass fiber reactivity and optical response in simulated body fluid", J. Massera, I. Ahmed, V. Aallos, L. Petit, L. Hupa, Materials Science and Technology, Montreal, Quebec, Canada, (2013)

97. "Cooperative effect of P<sub>2</sub>O<sub>5</sub> and Al<sub>2</sub>O<sub>3</sub> introduction on the physical, thermal, optical, luminescence and structural properties of erbium-doped borosilicate glasses", K. Bourhis, J. Massera, L. Petit, H. Ihalainen, A. Fargues, T. Cardinal, L. Hupa, M. Hupa, M. Dussauze, V. Rodriguez, M. Ferraris, ICG, Prague, Czech Republic (2013)

#### **2012**

96. "The impact of Sr on the thermal, structural and in vitro properties of calcium phosphate (bioactive) glasses", J. Massera, L. Petit, T. Cardinal, J.J. Videau, M. Hupa, L. Hupa, XIII International Conference on the Physics of Non-Crystalline Solids, Yichang, China (2012)

95. "Influence of the introduction of Al<sub>2</sub>O<sub>3</sub> and/or P<sub>2</sub>O<sub>5</sub> on the physical, structural, absorption and luminescence properties of erbium-doped borosilicate glasses", Fotonica, Florence, Italy (2012)

#### **2011**

94. "Detection of volatile vapors by FT-IR spectroscopy with the aid of enrichment polymer nano-layers", J. Giammarco,; B. Zdyrko, J. Hu, A. Agarwal, L. Kimerling, N. Carlie, L.a Petit, K. Richardson, I. Luzinov, 3rd International Conference from Nanoparticles and Nanomaterials to Nanodevices and Nanosystems (IC4N); Crete, Greece, (2011)

93. "Enrichment polymer layers for detection of volatile vapors by ATR FT-IR", J. Giammarco,; B. Zdyrko, J. Hu, A. Agarwal, L. Kimerling, N. Carlie, L. Petit, K. Richardson, I. Luzinov 241st ACS National Meeting, Anaheim, CA (2011)

#### **2010**

92. "Design and application of multiple polymer layered systems to facilitate waveguide sensor detection", J. Giammarco,; B. Zdyrko, J. Hu, A. Agarwal, L. Kimerling, N. Carlie, L.a Petit, K. Richardson, I. Luzinov , Abstracts of Papers, 240th ACS National Meeting, Boston, MA(2010)

91. *Invited* "Chalcogenide glasses and their photosensitivity: engineered materials for device applications", K. Richardson, J. Musgraves, N. Carlie, G. Guery, P. Wachtel, L. Petit, J. Hu, A. Agarwal, L.C. Kimberling, T. Anderson, M. Richardson, OSA Topical Meeting on Bragg Gratings, Photosensitivity and Poling in glass waveguides, Karlsruhe, Germany (2010)

90. "Spin-coated Ge<sub>23</sub>Sb<sub>7</sub>S<sub>70</sub> thin films with large photo-induced refractive index change", S. Song, N. Carlie, L. Petit, K. Richardson C.B. Arnold, Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference: 2010 Laser Science to Photonic Applications, CLEO/QELS (2010), 5499510

89. "Towards on-chip, integrated chalcogenide glass based biochemical sensors", J. Hu, A. Agarwal, L. Kimerling, N. Carlie, B. Zdyrko, L. Petit, I. Luzinov., K. Richardson, 2010 Conference on

Optical Fiber Communication, Collocated National Fiber Optic Engineers Conference, OFC/NFOEC (2010) 5465492

88. "Optical loss reduction in HIC chalcogenide glass waveguides via thermal reflow", J. Hu, N. Feng, A. Agarwal, N. Carlie, , L. Petit, K. Richardson, and L. Kimerling, 2009 Conference on Lasers and Electro-Optics and 2009 Conference on Quantum Electronics and Laser Science Conference, CLEO/QELS (2009), 5225198
87. "Application of Micro-thermal Analysis for Metal, Oxide, and Non-oxide Thin Film Materials" N. Carlie, J. Massera, L. Petit, and K. Richardson, Frontiers of Characterization and Metrology for Nanoelectronics, Albany, NY/USA, May 11-15 (2009)
86. "Integrating Optics and Micro-fluidic Channels Using Femtosecond Laser Irradiation", T. Anderson, M. Ramme, N. Carlie, J. Choi, C. Faris, L. Petit, K. Richardson, M. Richardson, SPIE Photonics West, San Jose/CA, January 24-29 (2009)

## **2009**

85. ***Invited*** "Progress on the fabrication of on-chip, integrated chalcogenide glass-based sensors", L. Petit, N. Carlie, B. Zdyrko, I. Luzinov, K. Richardson, J. Hu, A. Agarwal, L.C. Kimerling, T. Anderson, M. Richardson, OSA Topical Meeting on Advances in Optical Materials, San Jose, CA (2009)
84. "Nucleation and Growth Behavior of Tellurite based glasses", J. Massera, J. Remond, M. Davis, L. Petit, K. Richardson, Crystallization 2009, 9th International Symposium on Crystallization in Glasses and Liquids, Foz Do Iguacu, Brazil, September 10th – 13th, 2009.
83. "Stability of femtosecond laser written structures in bulk chalcogenide glass", J. Choi, A. Royon, N. Carlie, L. Petit, T. Anderson, K. Richardson and M. Richardson, 10th International Symposium on Laser Precision Microfabrication (LAMP)", Kobe, Japan (2009)
82. ***Invited***, "Measurement of the refractive index of chalcogenide thin films using prism coupling in the near and mid-infrared". N. Carlie, N. C. Anheier, H. A. Qiao, M. Phillips, B. E. Bernacki , L. Petit, K. Richardson, 8<sup>th</sup> Pacific Rim Conference on Ceramic and Glass Technology, Symposium on Glasses for Optoelectronic and Optical Applications- Photosensitivity in Glasses, Vancouver BC, Canada (2009)
81. ***Invited***, "Processing and Characterization of active and passive oxysulfide bulk and thin film glasses for optical applications: a review," K. Richardson, L. Petit and C. Smith, 8<sup>th</sup> Pacific Rim Conference on Ceramic and Glass Technology, Symposium on Glasses for Optoelectronic and Optical Applications- Photosensitivity in Glasses, Vancouver BC, Canada (2009)
80. ***Invited*** "Planar Chalcogenide Glass Microcavities: A Versatile Device Platform," J. Hu, I. Matts, A. M. Agarwal, L. C. Kimerling, N. Carlie, L. Petit, B. Zdyrko, I. Luzinov, K. Richardson, 8<sup>th</sup> Pacific Rim Conference on Ceramic and Glass Technology, Symposium on Glasses for Optoelectronic and Optical Applications- Photosensitivity in Glasses, Vancouver BC, Canada (2009)
79. "Nucleation and growth behavior of TeO<sub>2</sub>-Bi<sub>2</sub>O<sub>3</sub>-ZnO glasses," J. Massera, I. Moog, J. Remond, L. Petit, and K. Richardson, 8<sup>th</sup> Pacific Rim Conference on Ceramic and Glass Technology, Symposium on Glasses for Optoelectronic and Optical Applications- Photosensitivity in Glasses, Vancouver BC, Canada (2009)
78. "Viscosity properties of Tellurite- and borophosphate-based glasses," B . Tincher, A. Stratulat, S. Gaylord, J. Massera, L. Petit, and K. Richardson, 8<sup>th</sup> Pacific Rim Conference on Ceramic and Glass Technology, Symposium on Glasses for Optoelectronic and Optical Applications- Photosensitivity in Glasses, Vancouver BC, Canada (2009)
77. "Cavity-Enhanced Photosensitivity in Chalcogenide Glass ," J. Hu, A. Agarwal, L. C. Kimerling, M. Torregiani, F. Morichetti, A. Melloni, N. Carlie, L. Petit, and K. Richardson, paper IWB4, Integrated Photonics and Nanophotonics Research and Applications (IPNRA), Honolulu HI (2009)
76. "Thermal and Structural Property Characterization of Commercially Moldable Glasses," P. Wachtel, S. Gaylord, B. Tincher, P. Joseph, B. Ananthasayanam, C. Cox, U. Fotheringham, L. Petit and K. Richardson, paper TD06-09, SPIE OPTIFAB, Rochester NY, (2009)
75. "Application of Micro-thermal Analysis for Metal, Oxide, and Non-oxide Thin Film Materials" N. Carlie, J. Massera, L. Petit, and K. Richardson, Frontiers of Characterization and Metrology for Nanoelectronics, Albany, NY/USA May 11-15 (2009)
74. "Polymer coatings as enrichment layers for evanescent wave sensors", Bogdan Zdyrko, Juejun Hu, Anu Agarwal, Lionel Kimerling, Nathan Carlie, Laetitia Petit, Kathleen Richardson,

Troy Anderson, Martin Richardson and Igor Luzinov, 237th ACS National Meeting, Salt Lake City, March 22-26 (2009)

73. "Integrating Optics and Micro-fluidic Channels Using Femtosecond Laser Irradiation", T. Anderson, M. Ramme, N. Carlie, J. Choi, C. Faris, L. Petit, K. Richardson, M. Richardson, SPIE Photonics West, San Jose/CU, January 24-29 (2009)

## **2008**

- 72 Invited** "Fabrication of monolithically integrated high index contrast (HIC) planar glass structures, K. Richardson, 2<sup>nd</sup> International meeting on Transparent Conducting Oxides (TCO), Heraklion, Crete (2008)
71. "Characterization of Structural Relaxation for use in an ABAQUS Simulation of Lens Molding, "Scott Gaylord, B. Ananthasayanam, L. Petit, V. Blouin, P. Joseph, K. Richardson, Optical Fabrication and Testing Workshop, OSA Annual Meeting, Rochester New York (2008)
70. "Microfluidic Integrated Glass Optical Resonators for Label-free Biological Detection," J. Hu, N. Carlie, X. Sun, L. Petit, B. Zdyrko, A. Agarwal, I. Luzinov, K. Richardson, L. Kimerling, MRS Fall Meeting, December 1-5, 2008, Boston, MA/USA,
- 69. Invited** "Integrated glass optical resonators for biochemical sensing," J. Hu, N. Carlie, L. Petit, A. Agarwal, K. Richardson, L. Kimerling, International Symposium on Spectral Sensing Research, June 23-27, 2008, Hoboken, NJ/USA
68. "Polymer coatings for enhancement of chalcogenide based IR sensor", B. Zdyrko, J. Hu, A. Agarwal, L. Kimerling, N. Carlie, L. Petit, K. Richardson, I. Luzinov, Abstracts of Papers, 236th ACS National Meeting, August 17-21, 2008, Philadelphia, PA/USA
67. "Integrated HIC high-Q resonators in chalcogenide glass," J. Hu, N. Carlie, L. Petit, A. Agarwal, K. Richardson, L. Kimerling, OSA: IPNRA, July 13-16, 2008, Boston, MA/USA
66. "Processing and characterization of new oxysulfide glasses in the Ge-Sb-S-Te-O system", C. Smith, L. Petit, K. Richardson, OSA Annual Meeting, Frontiers in Optics 2008 Laser Science XXIV, Rochester, NY, October 2008
65. "Radio Frequency Sputtering of 70TeO<sub>2</sub>-10Bi<sub>2</sub>O<sub>3</sub>-20ZnO Glasses", A. Haldeman, S. Perero, M. Ferraris, L. Petit, K. Richardson, OSA Annual Meeting, Frontiers in Optics 2008 Laser Science XXIV, Rochester, NY, October 2008
64. "Polymer coatings for enhancement of chalcogenide based IR sensor", B. Zdyrko, J. Hu, Juejun; A. Agarwal, L. Kimerling, N. Carlie, L. Petit, K. Richardson, I. Luzinov, Abstracts of Papers, 236<sup>th</sup> ACS National Meeting, Philadelphia, PA, August 17-21, 2008.
63. "Tellurite and Borophosphate-based Glasses for MIR fiber applications", J. Massera, A. Haldeman, R. Thieulin, L. Petit, K. Richardson, Glass and Optical materials Division meeting (GOMD), Tuscon AZ / USA May 19<sup>th</sup> -22<sup>rd</sup> 2008
62. "Processing and characterization of active and passive oxysulfide glasses for optical applications", L. Petit, J. Abel, L. Burka, V. Nazabal, C. Maurel, T. Cardinal, K. Richardson, Glass and Optical materials Division meeting (GOMD), Tuscon AZ / USA May 19<sup>th</sup> -22<sup>rd</sup> 2008
61. "Microstructured Chalcogenide Glasses using Femtosecond Laser Irradiation or Photolithography", T. Anderson, N. Carlie, J. Hu, A. Agarwal, L.C. Kimerling, K. Richardson, M. Richardson, Conference on Lasers and Electro-Optics (CLEO), San Jose/CA, USA), May 2008.
- 60. Invited** "Design, fabrication & integration of High-Index-Contrast (HIC) glass waveguides on a silicon platform, K. Richardson, International Symposium on Non-Oxide Glasses, Montpellier France (2008)
59. "Femtosecond NIR irradiation of bulk glasses and thin films in the As-Ge(Sb)-S system", N. Carlie, J. Choi, J. Hu, L. Petit, K. Richardson, A. Agarwal, L. Kimerling, M. Richardson, 16<sup>th</sup> International Symposium on Non-oxide and New Optical Glasses (ISNOG), Montpellier/France, April 21-25 2008
58. "Formation/dissolution of metallic nanoparticles in SiO<sub>2</sub> thin films prepared by sol-gel technique", J. Choi, J. Massera, A. Martin, L. Petit, M. Richardson Y. Obeng and K. Richardson, 16<sup>th</sup> International Symposium on Non-oxide and New Optical Glasses (ISNOG), Montpellier/France, April 21-25 2008
57. "Processing and characterization of active and passive oxysulfide glasses for optical applications", J. Abel, L. Burka, L. Petit, V. Nazabal, C. Maurel, T. Cardinal, K. Richardson, 16<sup>th</sup> International Symposium on Non-oxide and New Optical Glasses (ISNOG), Montpellier/France, April 21-25 2008

56. "Elaboration and Characterization of Germanium Oxysulfide Glasses for Optics", C. Maurel, T. Cardinal, P. Vinatier, L. Petit, K. Richardson, M. Lahaye, F. Guillen, M. Couzi, F. Adamietz, V. Rodriguez, L. Canioni, "5<sup>th</sup> French – Spanish Meeting on the Solid State of physics and Chemistry", Lyon/France, April 2-4 2008.
55. "Design, Fabrication and Integration of HIC Glass Waveguides on a Silicon Platform", J. Hu, N. Carlie, N.-N. Feng, L. Petit, A. Agarwal, K. Richardson, L. Kimerling, Proc. SPIE, San Jose (CA), Jan. 2008

## 2007

54. "Measurement of Photo-Induced Refractive Index Change in  $As_{0.42-x-y}Ge_xSb_yS_{0.58}$  Bulks Induced by Fs Near IR Laser Exposure", J. Choi, N. Carlie, L. Petit, T. Anderson, K. Richardson, and M. Richardson, 20<sup>th</sup> annual meeting of the IEEE Lasers and Electro-Optics Society (LEOS), Orlando / USA (2007)
53. "Formation/dissolution of metallic nanoparticles in  $SiO_2$  film using cw and ns UV exposure", J. Choi, J. Massera, L. Petit, M. Richardson, Y. Obeng and K. Richardson, The 7th Pacific Rim Conference on Laser and Electro-Optics (CLEO/Pacific Rim), Seoul / Korea (2007)
52. "Tellurite Based Glasses for Infrared Fiber", A. Haldeman, J. Massera, R. Thieulin, L. Petit, K. Richardson, OSA Frontiers in Optics 2007 Laser Science XXIII, Rochester PA/USA, Sept 2007
51. "Elaboration and Characterization of Oxysulfide thin films for Optics", C. Maurel, T. Cardinal, P. Vinatier, L. Petit, K. Richardson, N. Carlie, F. Guillen, M. Lahaye, M. Couzi, F. Adamietz, V. Rodriguez, F. Lagugne-Labarthe, V. Nazabal, A. Royon, L. Canioni,, International Congress on Glass, Strasbourg, France, July 1<sup>st</sup>-6<sup>th</sup> (2007)
50. "Elaboration and Characterization of Germanium Oxysulfide Glasses for Optics", L. Petit, K. Richardson, C. Maurel, T. Cardinal, P. Vinatier, M. Lahaye, F. Guillen, M. Couzi, F. Adamietz, V. Rodriguez, L. Canioni, Glass and Optical materials Division meeting, Rochester, NY / USA May 20<sup>th</sup> -23<sup>rd</sup> (2007)
49. "Low-loss Ge-Sb-S Waveguide Fabrication for Chemical/Biological Sensing Applications", J. Hu, V. Tarasov, N. Carlie, L. Petit, A. Agarwal, K. Richardson, and L. Kimerling, Glass and Optical materials Division meeting, Rochester, NY / USA May 20<sup>th</sup> -23<sup>rd</sup> (2007)
48. "Determination of thermal properties of amorphous As-Se-Te films by micro-thermal analysis" N. Carlie, J. Massera, L. Petit, C. Vigreux-Bercovici, A. Pradel, and K. Richardson; Glass and Optical materials Division meeting, Rochester, NY / USA May 20<sup>th</sup> -23<sup>rd</sup> (2007)
47. "Formation/Dissolution of Metallic Nanoparticles in Films", J. Massera, J. Choi, L. Petit, M. Richardson, Y. Obeng, K. Richardson, Glass and Optical Materials division Spring 2007 meeting, Rochester NY / US May 20<sup>th</sup> -23<sup>rd</sup> (2007)
46. "Study of the interactions between the glass and mold during the molding process", S. W. Gaylord, L. Petit, R. Burtovyy, I. Luginov, K. Richardson, Clemson Univ., Glass and Optical Materials division Spring 2007 meeting, Rochester NY/US, May 20<sup>th</sup> -23<sup>rd</sup> (2007)
45. "Refractive index modifications in Chalcogenide films induce by sub-bandgap near-IR femtosecond pulses", T. Anderson, N. Carlie, L. Petit, J. Hu, A. Agarwal, J.J. Viens, J. Choi, L.C. Kimmerling, K. Richardson, M. Richardson, CLEO/QELS, Baltimore / US (2007)
44. "Femtosecond-laser induced negative refractive index shift in thin film  $Ge_{0.23}Sb_{0.07}S_{0.70}$  chalcogenide glass", T. Anderson, N. Carlie, L. Petit, J. Hu, A. Agarwal, J.J. Viens, J. Choi, L.C. Kimmerling, K. Richardson, M. Richardson, 8th International Symposium on Laser Precision Microfabrication (LPM), Vienna / Austria (2007)
43. "Study of the interactions between the glass and mold during the molding process", S. W. Gaylord, L. Petit, R. Burtovyy, I. Luginov, K. Richardson, Clemson Univ., SPIE Optifab, Rochester NY/US, May 15th-17th (2007)
42. "Low-loss integrated planar chalcogenide waveguides for chemical sensing", J. Hu, V. Tarasov, N. Carlie, L. Petit, R. Sun, A. Agarwal, K. Richardson, and L. Kimerling, SPIE Photonics West, San Jose CA/US, January 22<sup>nd</sup>-25<sup>th</sup> (2007)

## 2006

41. **Invited** "Engineering of glasses for advanced optical applications", L. Petit\*, N. Carlie, K. Richardson, C. Maurel, T. Cardinal, T. Anderson, J. Choi, M. Richardson, AATCC, Atlanta/GA, October 31-November 2 (2006)
40. **Invited** "Engineering of glasses for advanced optical applications", L. Petit\*, N. Carlie, K. Richardson, C. Maurel, T. Cardinal, T. Anderson, J. Choi, M. Richardson, The Southeastern Regional Meeting of the American Chemical Society, Augusta/GA, November 1-4 (2006)

39. "Comparison of response of different oxysulfide and chalcogenide glasses to IR femtosecond laser exposure", N. Carlie\*, L. Petit, K. Richardson, T. Anderson, J. Choi, M. Richardson, C. Maurel, T. Cardinal, P. Vinatier, M. Couzi, SPIE: Great Lakes Photonics Symposium, Dayton/OH, June 12-16, (2006)
38. "Structural, Electrical and Optical Properties of As-Se-Te-Cu Chalcogenide Glass System", J. Hu\*, X. Sun, J.-F. Viens, A. M. Agarwal, L. C. Kimerling, N. Carlie, L. Petit, K. Richardson, Glass and Optical Materials division Spring 2006 meeting, Greenville/SC, May 16-19 (2006)
37. "Effect of Sulfur substitution for Se on the structure, the nonlinear properties and the photosensitivity of Gallium-germanium-based sulfo-selenide glasses" L. Petit\*, N. Carlie, R. Villeneuve, J. Massera, T. Anderson, J. Choi, A. Humeau, G. Boudebs, M. Couzi, M. Richardson, K. Richardson, Glass and Optical Materials division Spring 2006 meeting, Greenville/SC, May 16-19 (2006)
36. "Comparison of response of different chalcogenide glasses to femtosecond laser exposure", T. Anderson\*, N. Carlie, J. Hu, J. Choi, L. Petit, A. M. Agarwal, M. Couzi, J.J. Viens, L. C. Kimerling, K. Richardson, M. Richardson, Glass and Optical Materials division Spring 2006 meeting, Greenville/SC, May 16-19 (2006)
35. "Measurements of photoinduced structural modification of oxide glasses and polymers using Ti:Sapphire femtosecond laser", J. Choi\*, N. Carlie, T. Anderson, L. Petit, M. Couzi, K. Richardson, M. Richardson, Glass and Optical Materials division spring 2006 meeting, Greenville/SC, May 16-19 (2006)
34. "Introduction of Gold into Arsenic – Based Sulfide Glasses", N. Carlie\*, L. Petit, B. Hanrahan, T. Anderson, J. Choi, T. Cardinal, F. Guillen, A. Humeau, G. Boudebs, M. Richardson, K. Richardson, Glass and Optical Materials division spring 2006 meeting, Greenville/SC, May 16-19 (2006)
33. "Elaboration and Characterization of Germanium Oxysulfide Thin Films for Optics", C. Maurel\*, N. Carlie, T. Cardinal, P. Vinatier, M. Couzi, L. Petit, K. Richardson, F. Guillen, V. Nazabal, L. Canioni, A. Royon, S. W. Martin, Glass and Optical Materials division Spring 2006 meeting, Greenville/SC, May 16-19 (2006)
32. "Elaboration and Characterization of Germanium Oxysulfide Thin Films for Optics", C. Maurel\*, T. Cardinal, P. Vinatier, M. Couzi, V. Rodriguez, F. Adamietz, F. Lagugn -Labarhet, L. Petit, K. Richardson, F. Guillen, L. Canioni, V. Nazabal, 4<sup>eme</sup> Rencontre Franco-Espagnole sur la Chimie et la Physique de l'Etat Solide, Bilbao/ Espagne, April (2006)

## 2005

31. "Femtosecond laser materials processing", ", L.Petit, N. Carlie, C. Lopez, C. Rivero, T. Anderson\*, J. Choi, A. Zoubir, M. Richardson, K. Richardson, OSA Optics in the Southeast, Atlanta/GA, October 6-8 (2005)
30. "Effect of sulfur substitution for Se on the structure and photosensitivity of new germanium-based sulfide Glasses", L.Petit\*, N. Carlie, T. Anderson, J. Choi, M. Richardson, K. Richardson, OSA Optics in the Southeast, Atlanta/GA, October 6-8 (2005)
29. "Femtosecond laser materials processing", L.Petit\*, N. Carlie, C. Lopez, C. Rivero, T. Anderson, J. Choi, A. Zoubir, M. Richardson, K. Richardson, 6<sup>th</sup> Pacific RIM conference on ceramic and glass technology (PACRIM 6), Maui/HI, September 11-16 (2005)
28. "Effect of sulfur substitution for Se on the structure and photosensitivity of new germanium-based sulfide Glasses", L.Petit\*, N. Carlie, T. Anderson, J. Choi, M. Richardson, K. Richardson, 6<sup>th</sup> Pacific RIM conference on ceramic and glass technology (PACRIM 6), Maui/HI, September 11-16 (2005)
27. "Femtosecond direct exposure of new photosensitive germanium- based chalcogenide glasses", N. Carlie\*, L. Petit, T. Anderson, J.Y. Choi, M. Richardson, K. Richardson, 17th University Conference on Glass Science, and 1st International Materials Institute Workshop on New Functionality in Glasses, State College/PA, June 30 (2005)
26. **Invited** "Non-lithographic Optical Applications, Systems and Materials in the Deep UV", K. Richardson\*, L. Petit, 3<sup>rd</sup> Symposium on Novel Optical Technologies, Germany, May (2005)
25. "Comparison of chalcogenide glasses photostructural modification after femtosecond laser exposure", T. Anderson\*, L. Petit, N. Carlie, M. Richardson, J. Choi, K. Richardson, 6<sup>th</sup> International Symposium in Laser Precision Microfabrication (LPM 2005), Williamsburg VA/FL, April 4-8 (2005)

24. "Femtosecond direct exposure of new sulfo-selenide glasses", L. Petit\*, N. Carlie, T. Anderson, J.Y. Choi, M. Richardson, K. Richardson, 6<sup>th</sup> International Symposium in Laser Precision Microfabrication (LPM 2005), Williamsburg VA/FL, April 4-8 (2005)

#### 2004

23. "Optical characterization of Germanium Oxysulfide thin films from their transmission spectra", N. Carlie\*, B. Campbell, G. Orveillon, L. Petit, K. Richardson, T. Cardinal, M. Couzi, F. Guillen, P. Vinatier, Glass & Optical Materials Division Fall 2004 Meeting, Cocoa Beach FL / US, November 7-12 (2004)
22. "Effect of the introduction of silver in germanium-based sulfide glasses", L. Petit\*, N. Carlie, M. Blangero, F. Hernandez, K. Richardson, T. Cardinal, Glass & Optical Materials Division Fall 2004 Meeting, Cocoa Beach FL / US, November 7-12 (2004)
21. "Optical characterization of Germanium Oxysulfide thin films from their transmission spectra", N. Carlie\*, B. Campbell, G. Orveillon, L. Petit, K. Richardson, T. Cardinal, M. Couzi, F. Guillen, P. Vinatier, Optical Society of America Annual Meeting: Special Sessions for Undergraduates, Rochester, NY/ US, October 11- 14 (2004)
20. "fs laser processing of organic and inorganic materials: issues and results", K. Richardson\*, A. Zoubir, C. Lopez, C. Rivero, L. Petit, M. Richardson, 5<sup>th</sup> International Symposium in Laser Precision Microfabrication, Science and Applications, (LPM 2004), Nara / Japan, May 11-14 (2004)
19. "New Germanium-Based Sulfide Glasses for Telecommunication Applications", N. Carlie\*, B. Campbell, L. Petit, K. Richardson, T. Cardinal, M. Couzi, F. Guillen, P. Vinatier, 2004 UCF Showcase of Undergraduate Research Excellence (SURE) Competition, UCF, Orlando, FL, April 9 (2004)
18. **Invited** "Femtosecond laser micro-structuring and refractive index modification applied to laser and photonic devices," M. Richardson\*, A. Zoubir, C. Rivero, C. Lopez, L. Petit and K. Richardson, presented at the SPIE Photonics West conference, paper # 5347-4, Santa Clara CA / US (2004)
17. "Femtosecond direct writing of waveguides in non-oxide glasses", A. Zoubir\*, M. Richardson, C. Lopez, L. Petit, K. Richardson, C. Rivero, A. Schulte, Photonics West, Santa Clara CA / US (2004)

#### 2003

16. "New chemical route for the preparation of borogermanium - based oxysulfide glasses", L. Petit\*, G. Orveillon, B. Campbell, M. Couzi, F. Guillen, T. Cardinal, E. Fargin and K.C. Richardson, OISE, Orlando FL / US (2003)
15. "Effect of borate introduction on sulfination heat treatment in germanium oxide based glasses", L. Petit\*, K. Richardson, W. Li, S. Seal, G. Orveillon, B. Campbell, C. Labrugere, M. Lahaye, T. Cardinal, F. Guillen, P. Vinatier and E. Fargin, Glass and optical Materials Division Fall 2003 meeting, Corning NY / US (2003)
14. **Invited** "3-D fs Microfabrication and characterization of Integrated components in Chalcogenide Glasses," K. A. Richardson\*, C. Lopez, C. Rivero, L. Petit, A. Zoubir, and M. C. Richardson, paper #I-14, presented at the X<sup>th</sup> International Conference on the Physics of Non-Crystalline Solids, Parma / Italy (2003)
13. "Second harmonic generation in thermally poled Bi<sub>2</sub>O<sub>3</sub> – ZnO – TeO<sub>2</sub> glasses", G. Senthil Murugan\*, E. Fargin, L. Petit, V. Rodriguez, F. Adamietz and P. Le Coustumer, Photonics West, Santa Clara CA / US (2003)
12. "Anion exchange of Oxygen by Sulfur in GeO<sub>2</sub>-based Glasses," J. Norrel, M. DeCastro, L. Petit\*, T. Cardinal, F. Guillen, K. Richardson, P. Vinatier and M. Couzi, Rare-Earth-Doped Materials and Devices VII, Proc. SPIE vol. 4990, paper #4990-31, San Jose CA / US (2003)

#### 2002

11. "Photoluminescence spectroscopy and TEM study of the crystallization mechanism in photosensitive glasses," V. Jubera\*, H. Francois-Cyr, L. Petit, T. Cardinal, V. Smirnov, P. LeCoustumer, K. Richardson, O. Efimov, and L. Glebov, Ann. Meeting of the European Glass Society, Montpellier/France, June (2002)
- 10 "Structure and optical properties of niobium-sodium borophosphate glasses", L. Petit, T. Cardinal\*, J.J. Videau, M. Ménétrier, G. LeFlem, L. Montagne, G. Palavit and Zeyer M., 2002 Glass Odyssey, Montpellier / France, June (2002)

9. “Yb<sup>3+</sup> spectroscopic properties investigation in niobium borophosphate and tellurite glasses”, L. Petit\*, T. Cardinal, J.J. Videau, R. Iazcuage, G. LeFlem, Y. Guyot and G. Boulon, OPTRO 2002, Paris / France (2002)
8. “Chemical Dissymetrisation of submicrometer silica beads as a first step for new difunctional particles”, L. Petit, S. Recul, C. Poncet-Legrand, S. Ravaine\*, C. Mingotaud and E. Duguet, Second International Conference on Silica, Mulhouse / France (2001)
7. “Erbium luminescence in tellurite glasses”, L. Petit\*, T. Cardinal, J.J. Videau, G. Boulon, G. LeFlem, M. Couzi and T. Buffeteau, American Ceramic Society Annual Meeting, Indianapolis IN / US, April (2001)
6. “Improvement of Erbium luminescence in tellurite glasses”, L. Petit\*, T. Cardinal, J.J. Videau, G. Boulon, G. LeFlem and M. Couzi, Journée de l'école doctorale de chimie, Bordeaux / France, May (2001)

#### **2000**

5. “Dissymmetric silica nanoparticles built at the gas-water interface”, L. Petit, E. Sellier, E. Duguet\*, S. Ravaine and C. Mingotaud, 9th International Conference on Organized Films, Postdam / Germany (2000)
4. “Dissymetrization as a first step for new difunctional particles”, L. Petit, C. Mingotaud\*, S. Ravaine and E. Duguet, 3rd International Conference on Scientific and Clinical Applications of Magnetic Carriers, Rostock / Germany (2000)
3. “Luminescence de Er<sup>3+</sup> dans des verres borophosphates de niobium présentant un indice non-linéaire élevé”, L. Petit, T. Cardinal, J.J. Videau\*, G. Boulon and G. LeFlem, 8ème Journée du Groupe Français des Luminophores, UCBL Lyon / France (2000)
2. “Erbium luminescence in niobium borophosphate glasses”, L. Petit, T. Cardinal\*, J.J. Videau, G. Boulon and G. LeFlem, Proceeding rencontre Franco-espagnole, Carcans / France (2000)

#### **1999**

1. “Amplification dans les verres oxygénés dopés à l'Erbium présentant un indice non linéaire élevé”, L. Petit, T. Cardinal\*, J.J. Videau and G. LeFlem, Colloque Bilan du Programme Télécommunications, projet N°TL 97084, Paris / France (1999)