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SUMMARY

- **Research interest:** Development of novel lanthanide-based nanophosphors as multifunctional nanocarriers for biomedical and energy conversion applications and fundamental aspects of lanthanide-based functionalities in materials and molecules
- **Co-/Author of articles** in international journals (23) and conference proceedings (10) as well as book chapters (2); >630 citations since 2004 and on the rise; $h_{\text{index}} = 13$ (*Google Scholar*); one paper selected as “*Very Important Paper*”, two *Highly-Cited* papers; majority of papers published as first or corresponding author
- Oral (more than 55; 23 of them *invited*; 1 *keynote* lecture), poster **presentations** and seminar talks (more than 25) at international and national conferences and meetings
- **Co-/Supervision** of 13 undergraduate students (2 pending), 7 master students (4 pending), 3 PhD students, and 1 postdoctoral fellow (pending)
- Organized/co-organized 17 **international conference symposia**
- Member of **CAMaR**, the new **Centre for Advanced Materials Research** at the University of Ottawa
- **International collaborations** with research groups in Canada, Japan, Germany, Sweden, France, Italy, and the USA
- **Awards** by the American Ceramic Society

ACCOMPLISHMENTS AS INDEPENDENT RESEARCHER (SINCE JANUARY 2016):

- 1 **Review paper** published; 1 **research paper** published (4 additional manuscripts submitted)
- >1M CAD in **research funding** from various funding sources
- **Supervision** of 4 master’s thesis (4 pending), 13 undergraduate students (2 pending), and 1 postdoctoral fellow (pending)
- 16 **invited talks** at international conferences, 1 **keynote lecture**, 11 **seminar talks**; upcoming in 2018/2019: 2 additional invited talks at international conferences
- 14 conference **symposium (co-)organizations** - among these: (i) establishment of a new symposium focusing on frequency converting materials for solar applications at ACerS conference MCARE - the 3rd edition took place in Aug 2018; invited to be Conference co-Chair of MCARE 2019; (ii) co-founder of SHIFT 2017, an international conference on spectral shaping for biomedical and energy applications (see list of organized symposia for further details)
- Undergraduate and graduate **teaching** in both official languages (English, French)

EDUCATION AND TRAINING

Nov 2012 - Dec 2015: Postdoctoral Researcher / Humboldt Fellow

Institut National de la Recherche Scientifique (INRS-EMT), Centre Énergie Matériaux Télécommunications, Varennes, Canada,

Groups of Prof. Fiorenzo Vetrone and Prof. François Légaré

Funded by Alexander von Humboldt Foundation from Sep 2013 to Aug 2015

Lanthanide-based fluoride nanostructures for nanothermometry

Jan 2009 - Oct 2012: Postdoctoral Researcher

Tokyo University of Science, Noda, Japan

Department of Materials Science and Technology

Centre for Technologies against Cancer

Group of Prof. Kohei Soga

Lanthanide-doped Gd₂O₃ nanostructures for applications as upconverting and NIR emitting biomarkers

Sep 2004 - Dec 2008: PhD in Materials Science

Dr.-Ing., magna cum laude (very good, 1.0)

Saarland University, Saarbrücken, Germany

Synthesis of lanthanide containing oxides and hydroxides: new concepts for the control of morphology and functional properties

Supervisor: Prof. Sanjay Mathur, Funded by the German Research Foundation

Apr - Jun 2008: Short Research Stay

Tokyo University of Science, Noda, Japan

Department of Materials Science and Technology (Group of Prof. Kohei Soga)

Investigation of the optical properties of Eu³⁺-doped zirconia prepared by hydrothermal synthesis

Jun 2003: Short Research Stay

SINTEF, Oslo, Norway

Department of Materials and Chemistry (Group of Dr. Rune Bredesen)

Development of lanthanide containing metal-organic compounds for the application as single-source precursors in material synthesis

Oct 1998 - May 2004: Diplom-Ingenieur of Materials Science

Dipl.-Ing. (very good, 1.0)

Saarland University, Saarbrücken, Germany

Molecular synthesis of nanostructured MgAl₂O₄ thin films and powders and their characterization

Supervisor: Prof. Sanjay Mathur

Sep 2000 - Dec 2001: German-French double diploma in Materials Science

École Européenne d'Ingénieurs en Génie des Matériaux (EEIGM), Institut National Polytechnique Lorraine (INPL), Nancy, France

EMPLOYMENT HISTORY

Jan 2016 - present: Assistant Professor

University of Ottawa, Ottawa, Canada

Department of Chemistry and Biomolecular Sciences

Development of novel lanthanide-based nanophosphors as multifunctional nanocarriers for near-infrared based bioimaging and energy conversion applications; Fundamental aspects of lanthanides in materials and molecules

May 2002 - October 2006: Student Assistant

Leibniz Institute of New Materials, Saarbrücken, Germany
Department of Nanocrystalline Materials and Thin Film Systems
Group of Prof. Sanjay Mathur

Synthesis of metal-organic precursors and their application in MOCVD process as well as solvothermal synthesis for the preparation of thin films and nanostructured powders

RECOGNITIONS AND AWARDS

2018: 2018 Du-Co Ceramics Young Professional Award of the *American Ceramic Society (ACerS)* for demonstration of exceptional leadership and service to *ACerS* (<http://ceramics.org/?awards=du-co-ceramics-young-professional-award>)

2017: Travel award by the *German Academic Exchange Service (DAAD)*
Scholarship Award for participation in the seminar "Modern Methods of Microstructure Analysis" and in the "International Materials Research Meeting of the Greater Region", Saarbrücken, Germany, March 30th to April 7th 2017

2013 - 2015: Feodor Lynen Fellowship for Postdoctoral Researchers
Alexander von Humboldt Foundation, Germany

2014: 2014 Global Young Investigator (GYI) Award of the Engineering Ceramics Division of the *American Ceramic Society* recognizing "the outstanding young ceramic engineer and scientist whose achievements have been significant to the profession and to the general welfare of the community around the globe."
(<http://ceramics.org/?awards=engineering-ceramics-division-global-young-investigator-award>)

2012: Invitation to participate in the **2012 ACerS Future Leaders Program**
4th International Congress on Ceramics (ICC4), Chicago, Illinois, USA, July 17th and 18th

2008: Poster Award
XXI. Tage der Seltenen Erden – Terrae Rarae, Bochum Germany
Cytotoxicity of Gd(OH)₃ Nanostructures prepared by Solvothermal Synthesis

2007: Poster Award
2nd Place, 31st International Conference & Exposition on Advanced Ceramics & Composites, Daytona Beach, Florida, USA
Microporous ZrO₂ Membrane Preparation by Liquid-Injection MOCVD

2006: Poster Award
ICIM9 – 9th International Conference on Inorganic Membranes, Lillehammer, Norway
Microporous ZrO₂ Membrane Preparation by Liquid-Injection MOCVD

2005: Poster Award
RIVA – 5th Iberian Vacuum Meeting, University of Minho, Portugal
Protective and Biocompatible Nanostructured Surfaces by Chemical Vapor Deposition

2005: Prize for Excellent Diploma Thesis by the *Association of German Engineers Saar*
(<https://www.vdi.de/ueber-uns/vdi-vor-ort/bezirksvereine/bezirksverein-saar/ehrungen/foerderpreis-des-vdi-bv-saar/>)

2000 - 2001: Erasmus Scholarship

Student exchange program, École Européenne d'Ingénieurs en Génie des Matériaux (EEIGM), Nancy, France

AWARDS OBTAINED BY SUPERVISED STUDENTS

2018: Ontario Graduate Scholarship – Nikita Panov

2016: 2nd Place in the category “My Project in 180 Seconds” – Alexander Therien, 28^e Colloque Annuel des Étudiantes et Étudiants de 1^{er} Cycle en Chimie de l’Université de Sherbrooke, Sherbrooke, Canada, *Conversion Additive Rouge et Vert par des Nanostructures de TiO₂ Dopé avec des Lanthanides comme Candidat Potentiel pour des Applications Solaires*

SUPERVISORY EXPERIENCE

CURRENT GROUP MEMBERS AT THE UNIVERSITY OF OTTAWA

Graduate Level (4 in total):

- Fadi Oussta, Master’s Thesis, since Sep 2018
- Ilias Halimi, Master’s Thesis, since Sep 2017
- Nan Liu, Master’s Thesis, since Sep 2017
- Nikita Panov, Master’s Thesis, since Sep 2017, OGS Scholarship Sep 2018

Undergraduate Level (2 in total):

- Faduma Abdirahman, Honours Project, since Sep 2018
- Emma Mary Boase, Honours Project, since Sep 2018

Postdoctoral Level (1 in total):

- Dr. Riccardo Marin, since Nov 2017, co-supervised

PREVIOUS GROUP MEMBERS AT THE UNIVERSITY OF OTTAWA (SINCE 2016)

Graduate Level (1 in total):

- Yacine Mazouzi, graduate (Master level), Summer Work Placement (Apr - Aug 2017), Student Home University: University Pierre and Marie Curie, Paris, France. Next position: accepted for PhD program in France.

Undergraduate Level (12 in total):

- Steven Maurizio, RISE Awardee, Summer Exchange Student (May - Aug 2018), Student Home University: Concordia University, Montreal, Canada
- Faduma Abdirahman, volunteer (May - Aug 2018). Next position: Honours Project (Sep 2018 - Apr 2019), supervisor: Eva Hemmer
- Fadi Oussta, volunteer (Oct 2016 - Aug 2017), Honours Project (Sep 2017 - Apr 2018), volunteer (May 2018). Next position: Graduate studies at the University of Ottawa (Sep 2018 onwards)
- Kinna Zhao, volunteer (Oct 2016), UROP student (Nov 2016 - Apr 2017), Honours Project (Sep 2017 - Apr 2018). Next position: study in progress.
- Nathaniel Leslie, undergraduate, volunteer (May - Oct 2016), UROP student (Nov 2016 - Apr 2017), CO-OP Summer Student (May - Aug 2017), undergraduate volunteer (Sep - Dec 2017). Next position: study in progress. Honours Project (Jan - Apr 2019)
- Jeffry Colin, undergraduate, Honours Project (Sep 2016 - Apr 2017). Next position: study in progress.
- Rebecca Duris, undergraduate, Honours Project (Sep 2016 - Apr 2017). Next position: study in progress.
- Alexander Therien, undergraduate, CO-OP Summer & Fall Student (May - Dec 2016), Honours Project (Jan - Apr 2017). Next position: Graduate studies at University of Western Ontario, Canada.
- Brad Martire, undergraduate, UROP student (Nov 2016 - Apr 2017). Next position: study in progress.
- Jamal Al-Refae, undergraduate, UROP student (November 2016 - April 2017). Next position: study in progress.

- Rayan Ghadieh, undergraduate, CO-OP Summer Student (May 2016 - August 2016). Next position: study in progress.
- Fozia Nur, undergraduate, volunteer (May 2016 - August 2016). Next position: study in progress.

CO-SUPERVISED STUDENTS (BEFORE 2016, 8 IN TOTAL)**Oct - Dec 2015, INRS-EMT, Varennes, Canada**

Co-supervision of a PhD thesis: *Lanthanide-doped core-shell nanostructures for near-infrared based nanothermometry*, Artiom Skripka (Group of Prof. F. Vetrone). Thesis in progress.

Aug - Dec 2015, INRS-EMT, Varennes, Canada

Leading and Mentoring of a PhD student project: *Layer-by-layer assembly of human serum albumin on upconverting nanoparticles for LRET-based drug release modeling*, Isabel Gessner and Markus Schütz (in collaboration with Prof. S. Mathur, University of Cologne). Ongoing collaboration under my leadership.

Jun - Aug 2015, INRS-EMT, Varennes, Canada

Leading and Mentoring of a PhD student project: *Controlled drug release from polymer-conjugated upconverting nanoparticles based on disulfide bond cleavage*, Anna Jurewicz (in collaboration with Prof. S. Mathur, University of Cologne), graduation in 2017. Next position: Scientific Inside Sales Representative at STEMCELL Technologies, Cologne, Germany.

Jan - Dec 2015, INRS-EMT, Varennes, Canada

Co-supervision of a PhD thesis: *Coupling of sulfide-based quantum dots with upconverting nanoparticles: Energy transfer and plasmonic enhancement*, Riccardo Marin (Group of Prof. F. Vetrone), graduation in 2017. Next position: postdoctoral researcher at the University of Ottawa, Canada.

Jan 2013 - Dec 2015, INRS-EMT, Varennes, Canada

Co-supervision of a PhD thesis: *Upconverting nanoparticles for imaging and therapeutics application*, Yue Huang (Group of Prof. F. Vetrone), graduation in 2016. Next position: postdoctoral researcher at the University of Pennsylvania, USA.

Jan 2009 - Mar 2013, Tokyo University of Science, Noda, Japan

Co-supervision of a master thesis: *Improvement of probe function of Y_2O_3 nanoparticles modified with PEG-b-PAAC for bioimaging*, Yoshie Ebina (Group of Prof. Kohei Soga), graduation in 2013. Next position: industrial position, Japan.

Nov 2006 - May 2007, Würzburg University, Würzburg, Germany

Co-supervision of a diploma thesis: *Solvothermalsynthese von Lanthanoidferraten aus chemischen Vorstufen – Solvothermal synthesis of lanthanide ferrates from molecular precursors*, Victoria Colquhoun (Group of Prof. Sanjay Mathur), graduation in 2007. Next position: doctoral studies at the University of Würzburg and the University of Dortmund, Germany.

SCIENTIFIC PUBLICATIONS

- Exponential growth in citation numbers over the past 5 years (2013: 26, 2015: 80, 2017: 130, 2018: already 148 in September 2018; source: *Google Scholar*)
- * Corresponding Author, * (co-)Supervised Student and * Postdoc Contribution
- Published/Accepted articles 20 and 23 were published as PI.

ACCEPTED/PUBLISHED FULL ARTICLES

23. Probing optical anisotropy and polymorph-dependent photoluminescence in [Ln₂] complexes via hyperspectral imaging on single crystals. Dylan Errulat, Bulat Gabidullin, Muralee Murugesu* and **Eva Hemmer***. *Chem. Eur. J.* **2018**, online version, doi.org/10.1002/chem.201801224. (IF 2016: 5.317, IF 2017: 5.160)
22. Core or shell? Er³⁺ FRET donors in upconversion nanoparticles. Shashi Bhuckory, **Eva Hemmer**, Yu-Tang Wu, Akram Yahia-Ammar, Fiorenzo Vetrone* and Niko Hildebrandt*. *Eur. J. Inorg. Chem.* **2017**, 44, 5186–5195. (IF 2016: 2.444, IF 2017: 2.507, Citations: 1).
 - Highlighted as **Cover Feature**
 - Selected as **Very Important Paper**
21. Covering the optical spectrum through collective rare-earth doping of NaGdF₄ nanoparticles: 806 and 980 nm excitation routes. Artiom Skripka*, Riccardo Marin*, Antonio Benayas, Patrizia Canton, **Eva Hemmer** and Fiorenzo Vetrone*. *Phys. Chem. Chem. Phys.* **2017**, 19, 11825-11834. (IF 2015: 4.449, IF 2017: 3.906, Citations: 10)
20. Optical nanoprobe for biomedical applications: Shining a light on upconverting and near-infrared emitting nanoparticles for imaging, thermal sensing, and photodynamic therapy. **Eva Hemmer***, Pablo Acosta Mora, Jorge Méndez Ramos and Stefan Fischer. *J. Mater. Chem. B* **2017**, 5, 4365-4392. (IF 2015: 4.872, IF 2017: 4.776, Citations: 24)
 - Invited contribution to **Special Issue: Emerging Investigators 2017**
19. Self-assembled photoadditives in polyester films allow stop and go chemical release. Ting Cheng, Richard O'Rorke, Raphael Francois Ortiz, Tay Yee Yan, **Eva Hemmer**, Fiorenzo Vetrone, Robert S. Marks and Terry W.J. Steele*. *Acta Biomater.* **2017**, 54, 186-200. (IF 2015: 6.008, IF 2017: 6.383, Citations: 2)
18. Double rare-earth nanothermometer in aqueous media: Opening the third optical transparency window to temperature sensing. Artiom Skripka*, Antonio Benayas, Riccardo Marin*, Patrizia Canton, **Eva Hemmer** and Fiorenzo Vetrone*. *Nanoscale* **2017**, 9, 3079-3085. (IF 2015: 7.760, IF 2017: 7.233, Citations: 25)
 - As of Nov / Dec 2017, this **highly cited paper** received enough citations to place it in the **top 1%** of the academic field of Physics based on a highly cited threshold for the field and publication year (*Web of Science*).
 - Featured in Themed Collection **Nanotechnology Day USA 2018** (*Royal Society of Chemistry, Nanoscale*).
17. Multifunctional liposome nanocarriers combining upconverting nanoparticles and anticancer drugs. Yue Huang*, **Eva Hemmer**, Federico Rosei and Fiorenzo Vetrone*. *J. Phys. Chem. B* **2016**, 120, 4992-5001. (IF 2014: 3.302, IF 2017: 3.146, Citations: 14)
16. Exploiting the biological windows: Current perspectives on fluorescent bioprobes emitting above 1000 nm. **Eva Hemmer**, Antonio Benayas, François Légaré and Fiorenzo Vetrone*. *Nanoscale Horiz.* **2016**, 1, 168-184. (IF 2014: N/A, IF 2017: 9.391, Citations: 83)
 - Chosen as **Front Cover**

- As of Mar /Apr 2018, this **highly cited paper** received enough citations to place it in the **top 1%** of the academic field of Chemistry based on a highly cited threshold for the field and publication year (*Web of Science*).
- 15. Templating influence of molecular precursors on Pr(OH)₃ nanostructures. **Eva Hemmer**, Christian Cavellius, Volker Huch, Sanjay Mathur*. *Inorg. Chem.* **2015**, 54 (13), 6267-6280. (IF 2014: 4.762, IF 2017: 4.700, Citations: 9)
- 14. Temperature-induced energy transfer in dye-conjugated upconverting nanoparticles: a new candidate for nanothermometry. **Eva Hemmer**, Marta Quintanilla, François Légaré, and Fiorenzo Vetrone*, *Chem. Mater.* **2015**, 27 (1), 235-244. (IF 2014: 8.354, IF 2017: 9.890, Citations: 42)
- 13. Lanthanide-based nanostructures for optical bioimaging: Small particles with large promise. **Eva Hemmer**, Fiorenzo Vetrone and Kohei Soga* (*Review Paper*), *MRS Bulletin* **2014**, 39 (11), 960-964. (IF 2013: 5.069, IF 2017: 4.788, Citations: 11)
- 12. Upconverting and NIR emitting rare earth based nanostructures for NIR-bioimaging. **Eva Hemmer***, Nallusamy Venkatachalam, Hiroshi Hyodo, Akito Hattori, Yoshie Ebina*, Hidehiro Kishimoto and Kohei Soga, *Nanoscale* **2013**, 5, 11339-11361. (IF 2013: 6.739, IF 2017: 7.233, Citations: 124)
- 11. Er³⁺-doped Y₂O₃ nanophosphors for near-infrared fluorescence bioimaging applications. Nallusamy Venkatachalam*, Tomoyoshi Yamano, **Eva Hemmer**, Hiroshi Hyodo, Hidehiro Kishimoto and Kohei Soga, *J. Am. Ceram. Soc.* **2013**, 96 (9), 2759-2765. (IF 2013: 2.428, IF 2017: 2.956, Citations: 29)
- 10. Cytotoxic aspects of gadolinium oxide nanostructures for upconversion and NIR bioimaging. **Eva Hemmer***, Tomoyoshi Yamano, Hidehiro Kishimoto, Nallusamy Venkatachalam, Hiroshi Hyodo and Kohei Soga, *Acta Biomater.* **2013**, 9 (1), 4734-4743. (IF 2013: 5.684, IF 2017: 6.383, Citations: 45)
- 9. The role of pH in PEG-*b*-PAAc modification of gadolinium oxide nanostructures for biomedical applications. **Eva Hemmer***, Nallusamy Venkatachalam, Hiroshi Hyodo and Kohei Soga, *Adv. Mater. Sci. Eng.* **2012**, Article ID 748098, 15 pp. doi:10.1155/2012/748098. (IF 2012: 0.5, IF 2017: 1.372, Citations: 6)
- 8. Nanostructured ZrO₂ membranes prepared by liquid-injection chemical vapor deposition. **Eva Hemmer**, Izumi Kumakiri*, Nicolas Lecerf, Rune Bredesen, Sven Barth, Jessica Altmayer, Nicole Donia, Christian Cavellius, Kohei Soga and Sanjay Mathur, *Micro. Meso. Mater.* **2012**, 163, 229-236. (IF 2012: 3.365, IF 2017: 3.649, Citations: 6)
- 7. Application of ceramic/polymer conjugate materials for near infrared biophotonics. Kohei Soga*, Kimikazu Tokuzen, Keisuke Fukuda, Hiroshi Hyodo, **Eva Hemmer**, Nallusamy Venkatachalam and Hidehiro Kishimoto, *J. Photopolym. Sci. Tech.* **2012**, 25 (1), 57-62. (IF 2012: 0.98, IF 2017: 0.868, Citations: 10)
- 6. In vitro and in vivo investigations of upconversion and NIR emitting Gd₂O₃:Er³⁺,Yb³⁺ nanostructures for biomedical applications. **Eva Hemmer***, Hiroyuki Takeshita, Tomoyoshi Yamano, Takanori Fujiki, Yvonne Kohl, Karin Löw, Nallusamy Venkatachalam, Hiroshi Hyodo, Hidehiro Kishimoto and Kohei Soga, *J. Mater. Sci.: Mater. Med.* **2012**, 23, 2399-2412. (IF 2012: 2.141, IF 2017: 2.448, Citations: 27)
- 5. Synthesis and toxicity assay of ceramic nanophosphors for bioimaging with near infrared excitation. Nallusamy Venkatachalam*, **Eva Hemmer**, Tomoyoshi Yamano, Hiroshi Hyodo, Hidehiro Kishimoto and Kohei Soga, *Prog. Cryst. Growth Charact. Mater.* **2012**, 58, 121-134. (IF 2012: 1.6, IF 2017: 3.147, Citations: 12)
- 4. Homo- and heterometallic terbium alkoxides - synthesis, characterization and conversion to luminescent oxide nanostructures. **Eva Hemmer**, Volker Huch, Matthias Adlung, Claudia Wickleder and Sanjay Mathur*, *Eur. J. Inorg. Chem.* **2011**, 13, 2148-2157. (IF 2011: 3.049, IF 2017: 2.507, Citations: 7)

3. Influence of the host phase on the vibrational spectra of Eu³⁺-doped zirconia prepared by hydrothermal processing. **Eva Hemmer***, Kohei Soga, Tomoya Konishi, Tomoaki Watanabe, Takaaki Taniguchi and Sanjay Mathur, *J. Am. Ceram. Soc.* **2010**, 93 (11), 3873-3879. (IF 2010: 2.169, IF 2017: 2.956, Citations: 15)
2. Probing cytotoxicity of gadolinium hydroxide nanostructures. **Eva Hemmer**, Yvonne Kohl, Victoria Colquhoun*, Hagen Thielecke, Kohei Soga and Sanjay Mathur*, *J. Phys. Chem. B* **2010**, 114 (12), 4358-4365. (IF 2010: 3.603, IF 2017: 3.146, Citations: 24)
1. Chemical vapour deposition of MgAl₂O₄ thin films using different Mg-Al alkoxides: role of precursor chemistry. Sanjay Mathur*, Michael Veith*, Thomas Ruegamer, **Eva Hemmer** and Hao Shen, *Chem. Mater.* **2004**, 16 (7), 1304-1312. (IF 2004: N/A, IF 2017: 9.890, Citations: 63)

CONFERENCE PROCEEDINGS

10. NIR-emitting gadolinium oxide nanostructures for bioimaging applications. **Eva Hemmer***, Tomoyoshi Yamano, Hidehiro Kishimoto, Nallusamy Venkatachalam, Hiroshi Hyodo and Kohei Soga, *Proc. International Union of Materials Research Societies – International Conference in Asia (IUMRS-ICA)*, Taipei, Taiwan, **2011**.
9. Gadolinium-containing inorganic nanostructures for biomedical applications: cytotoxic aspects. **Eva Hemmer***, Tomoyoshi Yamano, Hidehiro Kishimoto and Kohei Soga, *IEEE Explore, Proc. International Conference on Nanoscience and Nanotechnology (ICONN)*, Sydney, Australia, **2010**, 225-229.
8. Synthesis and cytotoxic aspects of gadolinium oxide nanostructures for biomedical applications. **Eva Hemmer***, Tomoyoshi Yamano, Hidehiro Kishimoto and Kohei Soga, *Adv. Nat. Sci.: Nanosci. Nanotechnol., Proc. The 5th International Workshop on Advanced Materials Science and Nanotechnology (IWAMSN)*, Hanoi, Vietnam, **2010**.
7. Cytotoxicity of Gd₂O₃:Ln³⁺ nanostructures and their potential as biomarkers. **Eva Hemmer***, Tomoyoshi Yamano, Hidehiro Kishimoto and Kohei Soga, *Proc. 7th International Conference on f Elements, ICfE-7* (Ed.: G. Meyer), *Terrae Rarae* **2009**, 09, 1-10. doi: 10.3286/tr.200909
6. Biocompatibility of Eu³⁺-doped gadolinium hydroxide and oxide nanorods. Yvonne Kohl, **Eva Hemmer**, Kohei Soga, Sanjay Mathur* and Hagen Thielecke, *Proc. 7th International Conference on f Elements, ICfE-7* (Ed.: G. Meyer), *Terrae Rarae* **2009**, 14, 1-9. doi: 10.3286/tr.200914
5. Microporous ZrO₂ membrane preparation by liquid-injection MOCVD. Sanjay Mathur*, **Eva Hemmer**, Sven Barth, Jessica Altmayer and Nicole Donia, *Proceedings of 31st Cocoa Beach Conference* **2007**, 165-173.
4. Protective and bio-compatible nanostructured surfaces by CVD techniques: controlled modulation of surface and phase structures. Sanjay Mathur*, Jessica Altmayer, **Eva Hemmer**, Nicole Donia, Sven Barth, Thomas Ruegamer, Patrick Kuhn, Christian Cavelius and Shen Hao, *6th International Conference on Glass and Plastics: Advanced Coatings for Large-Area or High-Volume Products / ed. Michel A. Aegerter*, Dresden, Germany **2006**, 133-134.
3. Microporous ZrO₂ film preparation by chemical vapor deposition. Sanjay Mathur*, **Eva Hemmer**, Sven Barth, Jessica Altmayer, Nicole Donia, Nicolas Lecerf, Izumi Kumakiri and Rune Bredesen, *Proc. 9th Int. Conf. on Inorganic Membranes / ed. R. Bredesen and H. Raeder*, Lillehammer, Norway **2006**, 524-527.
2. Influence of precursor design on the growth of nanomaterials. Sanjay Mathur*, Hao Shen, **Eva Hemmer**, Thomas Ruegamer and Christian Holzapfel, *Mat. Res. Soc. Symp. Proc. Vol. 848*, **2005** Materials Research Society, FF1.10.1-FF1.10.6.
1. Single-step molecular building block approach to nanoscaled AB₂O₄ spinel oxides. Sanjay Mathur*, Hao Shen, Sven Barth, **Eva Hemmer**, Thomas Ruegamer and Christian Cavelius, *Natural Sciences, Chemistry, Chemical Technology, Kyrgyz, National University Letters* **2004**, 3, 108-112.

OTHER PUBLICATIONS

BOOK CHAPTERS

2. Chapter 11: Nanothermometry using upconverting nanoparticles, **Eva Hemmer** and Fiorenzo Vetrone, in *Upconverting Nanomaterials: Perspectives, synthesis, and applications*, Edited by Claudia Altavilla, CRC Press, **2016**, 319-357.
1. Solvothermal synthesis of gadolinium hydroxide and oxide powders and their potential for biomedical applications. **Eva Hemmer***, Yvonne Kohl, Sanjay Mathur, Hagen Thielecke and Kohei Soga, in *Nanostructured Materials and Systems*, Edited by Sanjay Mathur, Hao Shen and Mrityunjay Singh, John Wiley & Sons, Inc., Hoboken, NJ, USA, **2010**. (DOI: 10.1002/9780470909812.ch3)

PhD THESIS - 2008

Darstellung lanthanoidhaltiger Oxid- und Hydroxidphasen: neue Konzepte zur Kontrolle von Morphologie und funktionellen Eigenschaften (Synthesis of lanthanide containing oxides and hydroxides: new concepts for the control of morphology and functional properties)

Saarländische Universitäts- und Landesbibliothek

Fakultät 8: Naturwissenschaftlich-Technische Fakultät III

URN: urn:nbn:de:bsz:291-scidok-20216

URL: <http://scidok.sulb.uni-saarland.de/volltexte/2009/2021/>

CONFERENCE AND SEMINAR PRESENTATIONS

- 56 oral presentations at international conferences in total, among these 23 **invited** presentations and 1 **keynote** lecture
- 3 mentoring presentations at student workshops and early career symposia, 1 additional invitation at the Materials Education Symposium of the 2018 MRS Fall Meeting, Boston
- 27 seminar, workshop and national meeting presentations
- * (co-)Supervised Student and * Postdoc Contribution (presentations given by supervised students and postdocs are listed separately, 6 in total)

INTERNATIONAL CONFERENCE CONTRIBUTIONS

56. **12th International Conference on Ceramic Materials and Components for Energy and Environmental Applications (CMCEE 2018)**, Symposium T1S6: Advanced Multifunctional Nanomaterials and Systems for Photovoltaic and Photonic Technologies, Singapore, Jul **2018**
Riccardo Marin*, Dylan Errulat, Ilias Halimi*, Adolfo Speghini, Muralee Murugesu and **Eva Hemmer**, *From materials to molecules: Energy transfer in lanthanide-based hybrid systems. (Invited Talk)*
55. **12th International Conference on Ceramic Materials and Components for Energy and Environmental Applications (CMCEE 2018)**, Symposium T4S12: Advanced Ceramic Materials for Photonics, Energy and Health, Singapore, Jul **2018**
Eva Hemmer, *Lanthanide-doped nanoparticles: Light-emitting probes and energy donors. (Invited Talk)*
54. **International Conference on Energy, Materials and Photonic (EMP 2018)**, Symposium: Nanostructured & Hybrid Materials, Montreal, Quebec, Canada, Jul **2018**
Eva Hemmer, *Photoluminescent lanthanide-based molecules and materials. (Invited Talk)*
53. **2018 Glass and Optical Materials Division (GOMD) Meeting**, Symposium 3: Optical and Electronic Materials and Devices: Fundamentals and Applications, San Antonio, Texas, USA, May **2018**
Eva Hemmer, *Frequency conversion in lanthanide-based molecules and materials. (Invited Talk)*

52. **2nd Conference and Spring School on Properties, Design and Applications of Upconversion Nanomaterials (UPCON 2018)**, Valencia, Spain, Apr **2018**
Eva Hemmer, Lanthanide-doped nanoparticles as versatile donors in luminescence energy transfer pairs. (Keynote Lecture)
51. **19th International Symposium on Eco-Materials Processing and Design (ISEPD 2018)**, Jaipur, India, Feb **2018**
Dylan Errulat, Bulat Gabidullin, Muralee Murugesu and Eva Hemmer, Probing optical anisotropy and polymorph-dependent photoluminescence in lanthanide-complex single crystals via hyperspectral imaging. (Invited Talk)
50. **42nd International Conference and Exposition on Advanced Ceramics and Composites (42nd ICACC)**, Symposium S7: 12th International Symposium on Functional Nanomaterials and Thin Films for Sustainable Energy Harvesting, Environmental, and Health Applications, Daytona Beach, Florida, USA, Jan **2018**
Eva Hemmer, Frequency converting lanthanide-based materials and molecules. (Invited Talk)
49. **42nd International Conference and Exposition on Advanced Ceramics and Composites (42nd ICACC)**, Symposium S17: Advanced Ceramic Materials and Processing for Photonics and Energy, Daytona Beach, Florida, USA, Jan **2018**
Dylan Errulat, Muralee Murugesu and Eva Hemmer, Photoluminescent properties and hyperspectral imaging of Eu^{3+} complexes. (Invited Talk)
48. **2017 MRS Fall Meeting & Exhibit - International Summit of the MRS University Chapters on "Sustainability and Nanotechnology"**, Boston, Massachusetts, USA, Nov **2017**
Eva Hemmer, Exploiting luminescence energy transfer in lanthanide-based nanostructures for biomedical applications. (Invited Talk)
47. **18th International Conference on Luminescence (ICL 2017)**, Joao Pessoa, Brazil, Aug **2017**
Eva Hemmer, Fiorenzo Vetrone and Kohei Soga, Synthetic strategies for multifunctional lanthanide-based oxide and fluoride nanoprobos. (Invited Talk)
46. **100th Canadian Chemistry Conference and Exhibition (CSC 2017)**, Symposium: Nano/Hybrid Materials, Toronto, Ontario, Canada, May - Jun **2017**
Eva Hemmer, Shining a light on lanthanide-based nanoparticles: synthesis pathways and potential applications.
45. **12th Pacific Rim Conference on Ceramic and Glass Technology (PACRIM 12)**, Symposium 32: Nanostructured Bioceramics and Ceramics for Biomedical Applications, Waikoloa, Hawaii, USA, May **2017**
Eva Hemmer, Lanthanide-based nanostructures as potential players in the biomedical field. (Invited Talk)
44. **1st International Network Meeting of the European School of Materials (EUSMAT)**, Saarland University, Saarbrücken, Germany, Mar - Apr **2017**
Eva Hemmer, Lanthanide-based nanoparticles: Versatile luminescent probes.
43. **Materials Challenges in Alternative and Renewable Energy Conference (MCARE 2017)**, Symposium 5: Spectral Conversion Materials for Energy Applications, Jeju, Korea, Feb **2017**
Eva Hemmer, Kohei Soga and Fiorenzo Vetrone, Synthetic strategies for upconverting and near-infrared emitting lanthanide-doped nanostructures.
42. **Summer School & International Workshop on Advanced Materials Challenges for Health and Alternative Energy Solutions (AMAES V)**, Cologne, Germany, Aug - Sep **2016**
Eva Hemmer, A snapshot on lanthanide-based luminescent nanomaterials: Synthesis and biomedical applications. (Invited Talk)

41. **XXV International Materials Research Congress (IMRC 2016)**, Symposium B.2 Inorganic Luminescent Materials and Applications, Cancun, Mexico, Aug **2016**
Eva Hemmer, Marta Quintanilla, Artiom Skripka*, François Légaré and Fiorenzo Vetrone, *Potential and limitations of lanthanide-based upconverters and near-infrared emitters. (Invited Talk)*
40. **9th International Conference on High Temperature Ceramic Matrix Composites and Global Forum on Advanced Materials and Technologies for Sustainable Development 2016 (HTCMC 9 and GFMAT 2016)**, Symposium G2: Functional Nanomaterials for Sustainable Energy Technologies, Session: Nanotechnology for Sustainable Generation of Renewable Fuels, Toronto, Ontario, Canada, Jun **2016**
Eva Hemmer, François Légaré and Fiorenzo Vetrone, *Potential and limitations of near-infrared excited lanthanide-doped nanostructures as multifunctional players. (Invited Talk)*
39. **9th International Conference on High Temperature Ceramic Matrix Composites and Global Forum on Advanced Materials and Technologies for Sustainable Development 2016 (HTCMC 9 and GFMAT 2016)**, Symposium: Young Professionals Forum - Next Generation Materials for Multifunctional Applications and Sustainable Development, and Concurrent Societal Challenges in the New Millennium, Session: Health, Toronto, Ontario, Canada, Jun **2016**
Eva Hemmer, Artiom Skripka*, François Légaré and Fiorenzo Vetrone, *Exploiting the near-infrared biological window for lanthanide-based temperature measurements.*
38. **Canadian Association of Physicists Congress (CAP 2016)**, Symposium: Condensed Matter and Materials Physics, Session: Materials Growth and Processing, Ottawa, Ontario, Canada, Jun **2016**
Eva Hemmer, *Upconverting and near-infrared emitting nanoparticles: From synthetic strategies to potential applications. (Invited Talk)*
37. **99th Canadian Chemistry Conference and Exhibition (CSC 2016)**, Symposium: Nanomaterials in Health Applications, Halifax, Nova Scotia, Canada, Jun **2016**
Eva Hemmer, Artiom Skripka*, François Légaré and Fiorenzo Vetrone, *Lanthanide-based near-infrared emitters for biomedical applications.*
36. **40th International Conference and Exposition on Advanced Ceramics and Composites (40th ICACC)**, Symposium FS2: Advanced Ceramic Materials and Processing for Photonics and Energy, Session: Bioimaging and Thermal Sensing, Daytona Beach, Florida, USA, Jan **2016**
Eva Hemmer, François Légaré and Fiorenzo Vetrone, *From bioprobes to potential players in energy conversion technologies - Multifunctional lanthanide-nanophosphors. (Invited Talk)*
35. **40th International Conference and Exposition on Advanced Ceramics and Composites (40th ICACC)**, Symposium S5: Next Generation Bioceramics and Biocomposites, Session: Bioceramics II, Daytona Beach, Florida, USA, Jan **2016**
Eva Hemmer, François Légaré, and Fiorenzo Vetrone, *Using light to measure temperature: Lanthanide-doped nanoparticles for nanothermometry. (Invited Talk)*
34. **The International Chemical Congress of Pacific Basin Societies (Pacifichem 2015)**, Symposium: Luminescent Nanomaterials: Properties, Mechanisms, and Applications, Honolulu, Hawaii, USA, Dec **2015**
Eva Hemmer, Artiom Skripka*, Masao Kamimura, François Légaré, Kohei, Soga, and Fiorenzo Vetrone, *Lanthanide-doped nanostructures for near-infrared nanothermometry.*
33. **The International Chemical Congress of Pacific Basin Societies (Pacifichem 2015)**, Symposium: Multi-scale & Synergistic Supramolecular Systems in Material and Biomedical Sciences, Honolulu, Hawaii, USA, Dec **2015**
Eva Hemmer, Marta Quintanilla, François Légaré, and Fiorenzo Vetrone, *Lanthanide-based nanoparticles as new candidates for nanothermometry. (Invited Talk)*

32. **98th Canadian Chemistry Conference and Exhibition (CSC 2015)**, Symposium: Advanced Functional Nanomaterials, Ottawa, Ontario, Canada, Jun **2015**
Eva Hemmer, Marta Quintanilla, François Légaré and Fiorenzo Vetrone, *Temperature-induced energy transfer in dye-conjugated upconverting nanoparticles for nanothermometry applications.*
31. **Materials Challenges in Alternative and Renewable Energy Conference (MCARE 2015)**, Symposium 4: Materials for Next Generation Photovoltaics - Perovskite, Chalcopyrite, Graphene, Quantum dots, etc, Jeju, Korea, Feb **2015**
Eva Hemmer, Marta Quintanilla, Shadi Rohani, François Légaré and Fiorenzo Vetrone, *Upconverting lanthanide-nanophosphors: From promising biomarkers to new players in energy conversion technologies.* (**Invited Talk**)
30. **39th International Conference and Exposition on Advanced Ceramics and Composites (39th ICACC)**, Symposium S7: 9th International Symposium on Nanostructured Materials: Innovative Synthesis and Processing of Nanostructured, Nanocomposite and Hybrid Functional Materials for Energy, Health and Sustainability, Session: Nanotoxicity, Drug-delivery and Health Aspects of Engineered Nanostructures, Daytona Beach, Florida, USA, Jan **2015**
Eva Hemmer, Marta Quintanilla, Shadi Rohani, Jose Marques-Hueso, Bryce S. Richards, François Légaré and Fiorenzo Vetrone, *Upconverting lanthanide-nanophosphors: New players in bioimaging and energy conversion technologies?*
29. **39th International Conference and Exposition on Advanced Ceramics and Composites (39th ICACC)**, Symposium: 4th Global Young Investigator Forum, Session: Biomaterials and Biophotonics, Daytona Beach, Florida, USA, Jan **2015**
Eva Hemmer, François Légaré and Fiorenzo Vetrone, *Lanthanide-doped NaGdF₄ nanoparticles as promising probes for nanothermometry.*
28. **27th Rare Earth Research Conference (27th RERC)**, Symposium: Bioanalysis and Medical Applications I, Squaw Valley, California, USA, Jun **2014**
Eva Hemmer, François Légaré, Kohei Soga and Fiorenzo Vetrone, *Lanthanide-based nanoparticles as promising probes for NIR-bioimaging and nanothermometry.* (**Invited Talk**)
27. **EMN Summer Meeting (Energy Material Nanotechnology)**, Session 8: Nanomedicine and Nanobiology, Cancun, Mexico, Jun **2014**
Eva Hemmer, François Légaré and Fiorenzo Vetrone, *Lanthanide-based upconverting nanoparticles as nanothermometers.* (**Invited Talk**)
26. **38th International Conference and Exposition on Advanced Ceramics and Composites (38th ICACC)**, Symposium S7: 8th International Symposium on Nanostructured Materials and Nanocomposites, Daytona Beach, Florida, USA, Jan **2014**
Eva Hemmer, François Légaré and Fiorenzo Vetrone, *Lanthanide-doped NaGdF₄ nanostructures: Synthesis, characterization and their potential for nanothermometry.*
25. **38th International Conference and Exposition on Advanced Ceramics and Composites (38th ICACC)**, 3rd Global Young Investigator Forum, Daytona Beach, Florida, USA, Jan **2014**
Eva Hemmer, Tomoyoshi Yamano, Hidehiro Kishimoto, Fiorenzo Vetrone, François Légaré and Kohei Soga, *Ln³⁺-doped Gd₂O₃ nanostructures for NIR-NIR bioimaging.* (**Invited Talk**)
24. **Materials Science & Technology 2013 (MS&T 2013)**, Symposium: Next Generation Biomaterials, Session: Advanced Materials for Medical Applications, Montréal, Québec, Canada, Oct **2013**
Eva Hemmer, Kohei Soga, Hidehiro Kishimoto, François Légaré and Fiorenzo Vetrone, *Upconverting and NIR-emitting gadolinium-based nanostructures for Bioimaging.* (**Invited Talk**)

23. **Materials Science & Technology 2013 (MS&T 2013)**, Symposium: Optical Nanomaterials for Photonics/Biophotonics, Session: Rare Earth Based Nanomaterials, Montréal, Québec, Canada, Oct **2013**
Eva Hemmer, Rafik Naccache, Shadi Rohani, Marta Quintanilla Morales, François Légaré and Fiorenzo Vetrone, *Lanthanide-doped NaGdF₄ nanostructures for biomedical applications*.
22. **10th Pacific Rim Conference on Ceramic and Glass Technology (PACRIM 10)**, Joint Session Symposium 23 and 24: Bioceramics, Joint Session: Bone and Dental Cements; Implants and Scaffolds; Bioactive, Porous or Resorbable Bioceramics; Biocompatibility 1, San Diego, California, USA, Jun **2013**
Eva Hemmer, Tomoyoshi Yamano, Hidehiro Kishimoto, Fiorenzo Vetrone, François Légaré and Kohei Soga, *Upconverting and NIR-emission showing Er³⁺ and Yb³⁺ doped Gd₂O₃ nanostructures for bioimaging*.
21. **2013 MRS Spring Meeting**, Symposium RR: Lanthanide Nanomaterials for Imaging, Sensing, and Optoelectronics, Session RR1: Lanthanide Nanomaterials 1, San Francisco, California, USA, Apr **2013**
Eva Hemmer, Tomoyoshi Yamano, Hidehiro Kishimoto, Fiorenzo Vetrone, François Légaré and Kohei Soga, *Ln³⁺ doped Gd₂O₃ nanostructures for NIR-NIR bioimaging*.
20. **International Conference of Young Researchers on Advanced Materials (ICYRAM 2012)**, Symposium BH2, Bionanotechnology Session, Singapore, Jul **2012**
Eva Hemmer, Tomoyoshi Yamano, Hiroyuki Takeshita, Hidehiro Kishimoto, Michael A. Boss, Ron B. Goldfarb and Kohei Soga, *Er³⁺ and Yb³⁺ doped Gd₂O₃ nanostructures for hybrid bioimaging*.
19. **36th International Conference and Exposition on Advanced Ceramics and Composites**, Symposium FS4: Advanced (Ceramic) Materials and Processing for Photonics and Energy, Session: Multifunctional Materials for Biological Applications, Daytona Beach, Florida, USA, Jan **2012**
Eva Hemmer, Tomoyoshi Yamano, Hiroyuki Takeshita, Takanori Fujiki, Hidehiro Kishimoto, Michael A. Boss, Ron B. Goldfarb and Kohei Soga, *In-vitro and in-vivo investigation of near-infrared emitting, paramagnetic Gd₂O₃:Er³⁺,Yb³⁺ nanostructures for bioimaging applications*.
18. **36th International Conference and Exposition on Advanced Ceramics and Composites**, Symposium: Global Young Investigators Forum, Session: Frontiers in Ceramic Chemistry and Biomedical Applications, Daytona Beach, Florida, USA, Jan **2012**
Eva Hemmer, Tomoyoshi Yamano, Hiroyuki Takeshita, Takanori Fujiki, Hidehiro Kishimoto, Ron B. Goldfarb and Kohei Soga, *PEG-b-PAAc modified Gd₂O₃:Er³⁺,Yb³⁺ nanostructures as over-1000-nm near-infrared fluorescence biomarkers*.
17. **The 6th International Conference of the Africa Materials Research Society (Africa MRS 2011)**, Symposium Nanobio/Sensors, Victoria Falls, Zimbabwe, Dec **2011**
Eva Hemmer, Tomoyoshi Yamano, Hiroyuki Takeshita, Takanori Fujiki, Hidehiro Kishimoto, Mike A. Boss, Ron B. Goldfarb and Kohei Soga, *Multifunctional Er³⁺ and Yb³⁺ doped Gd₂O₃ nanostructures for opto-magnetic bioimaging. (Invited Talk)*
16. **The 6th International Conference of the Africa Materials Research Society (Africa MRS 2011)**, Symposium Nanobio/Sensors, Victoria Falls, Zimbabwe, Dec **2011**
Eva Hemmer, Tomoyoshi Yamano, Hiroyuki Takeshita, Takanori Fujiki, Hidehiro Kishimoto and Kohei Soga, *Ln³⁺-doped gadolinium oxide nanostructures for NIR bioimaging*.
15. **International Union of Materials Research Societies – International Conference in Asia (IUMRS-ICA 2011)**, Symposium B3: Nanotechnology for Bio/Medical Materials, Session S-1 Nano-Hybrids, Taipei, Taiwan, Sep **2011**
Eva Hemmer, Tomoyoshi Yamano, Hidehiro Kishimoto, Nallusamy Venkatachalam, Hiroshi Hyodo and Kohei Soga, *NIR-emitting gadolinium oxide nanostructures for bioimaging applications*.

14. **International Symposium on Technologies against Cancer (ISTC)**, Session C: Visualization and Recognition of Cancer, Funabori, Tokyo, Japan, Sep **2011**
Eva Hemmer, Tomoyoshi Yamano, Hidehiro Kishimoto and Kohei Soga, *NIR-emitting gadolinium oxide nanostructures for bioimaging applications*.
13. **9th Pacific Rim Conference on Ceramic and Glass Technology (PACRIM 9)**, Symposium S1: Biomaterials, Session S1.1, Cairns, Australia, Jul **2011**
Eva Hemmer, Tomoyoshi Yamano, Hidehiro Kishimoto and Kohei Soga, *Gd₂O₃:Er³⁺, Yb³⁺ nanostructures for biomedical applications: synthesis and cytotoxic aspects*.
12. **International Workshop on Advanced Materials Science and Nanotechnology (5th IWAMSN)**, NLE1-Session: Nanotechnology in Life Science and Environmental Technology, Hanoi, Vietnam, Nov **2010**
Eva Hemmer, Tomoyoshi Yamano, Hidehiro Kishimoto and Kohei Soga, *Synthesis and cytotoxic aspects of gadolinium oxide nanostructures for biomedical applications*.
11. **2010 MRS Spring Meeting**, Symposium N20: Functional Oxide Synthesis and Characterization, San Francisco, California, USA, Apr **2010**
Eva Hemmer, Kohei Soga, Tomoyoshi Yamano, Hidehiro Kishimoto, Yvonne Kohl, Hagen Thielecke and Sanjay Mathur, *Ln³⁺:Gd₂O₃ nanostructures as potential biomarkers: synthesis, characterization and cytotoxicity studies*.
10. **International Conference on Nanoscience and Nanotechnology (ICONN)**, Session 6, Symposium 3: Bio Nanotechnology, Nano-Medicine and Nanobionics, Sydney, Australia, Feb **2010**
Eva Hemmer, Kohei Soga, Tomoyoshi Yamano, Hidehiro Kishimoto, Yvonne Kohl, Hagen Thielecke and Sanjay Mathur, *Gadolinium-containing inorganic nanostructures for biomedical applications: cytotoxic aspects*.
9. **7th International Conference on f-Elements (ICfE)**, Cologne, Germany, Aug **2009**
Eva Hemmer, Tomoyoshi Yamano, Hidehiro Kishimoto and Kohei Soga, *Cytotoxicity of Gd₂O₃:Ln³⁺ nanostructures and their potential as biomarkers*.
8. **8th Pacific Rim Conference on Ceramic and Glass Technology (PACRIM 8)**, Symposium 07: Nanostructured Materials and Systems, Session: Nanomaterials: New Compositions and Architectures, Vancouver, Canada, May - Jun **2009**
Eva Hemmer, Sanjay Mathur, Yvonne Kohl and Hagen Thielecke, *Lanthanide-based nanostructures: solvothermal synthesis, characterization and cytotoxicity studies*.
7. **XXI. Tage der Seltenen Erden – Terrae Rarae**, Bochum, Germany, Dec **2008**
Sanjay Mathur and **Eva Hemmer**, *Synthesis of new precursors for the preparation of lanthanide-containing nanomaterials*.
6. **Materials Science and Engineering (MSE 08)**, Topic A: Functional Materials, Symposium A14: Nanostructured Materials: Science and Technology, Session: Functional Nanostructures: Synthesis and Applications, Nuremberg, Germany, Sep **2008**
Sanjay Mathur, **Eva Hemmer**, Victoria Colquhoun*, Christian Cavelius and Hao Shen, *Molecule-based solvothermal synthesis of lanthanide containing nanomaterials*.
5. **31st International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites**, Symposium on Nanostructured Materials & Nanotechnology, Daytona Beach, Florida, USA, Jan **2007**
Eva Hemmer and Sanjay Mathur, *Synthesis of lanthanide containing nanomaterials by chemical vapor deposition and hydrothermal processes using new lanthanide precursors*.
4. **5th Iberian Vacuum Meeting (RIVA)**, University of Minho, Portugal, Sep **2005**
Eva Hemmer, Jessica Altmayer, Thomas Rügamer, Hao Shen and Sanjay Mathur *Mechanical behavior of MgAl₂O₄ spinel films prepared by CVD*.

3. **IUPAC New Directions in Chemistry – Workshop in Advanced Materials (WAM III)**, Stellenbosch, South Africa, Sep **2005**
Sanjay Mathur* and **Eva Hemmer**, *Nanostructured coatings by chemical vapor deposition*.
2. **European Materials Research Society 2005 Spring Meeting (E-MRS)**, Symposium C: Rare Earth Doped Photonic Materials, Session IX: Organic and Related Materials, Strasbourg, France, May - Jun **2005**
Sanjay Mathur, Hao Shen, **Eva Hemmer**, Christian Cavelius, Christian Petersen, Nicolas Lecerc and Aivaras Kareiva, *Molecular design of optically active nanocomposites*.
1. **European Materials Research Society 2005 Spring Meeting (E-MRS)**, Symposium K: Protective Coatings and Thin Films, Session VII: Innovative Coatings, Deposition Processes and Surface Treatments, Strasbourg, France, May - Jun **2005**
Sanjay Mathur, Hao Shen, **Eva Hemmer**, Thomas Ruegamer, Jessica Altmayer and Patrick Kuhn, *Protective coatings by chemical vapor deposition*.

SEMINARS, WORKSHOPS & NATIONAL MEETINGS

27. **Eva Hemmer**, *Ln^{3+} -based materials and molecules: A versatile optical landscape*. Seminar, Host: Prof. Gunnar Westin, Uppsala University, Department of Chemistry, Uppsala, Sweden, 09. May **2018**.
26. **Eva Hemmer**, *Ln^{3+} -based materials and molecules: A versatile optical landscape*. Seminar, Host: MRS University Chapter Cologne, University of Cologne, Department of Inorganic Chemistry, Cologne, Germany, 03. May **2018**.
25. **Eva Hemmer**, *Synthesis approaches for upconverting nanoparticles*. (**Invited Spring School Lecture**), **2nd Conference and Spring School on Properties, Design and Applications of Upconversion Nanomaterials (UPCON 2018)**, Valencia, Spain, Apr **2018**
24. **Eva Hemmer**, *Shining a light on lanthanides in materials and molecules*. Seminar, Host: Prof. Clifford Rossiter, State University of New York, Department of Chemistry, Potsdam (NY), USA, 24. Oct **2017**.
23. **Eva Hemmer**, *Shining a light on lanthanides in materials and molecules* (**Invited Presentation**). RISE Conference 2017, StFX University, Antigonish (Nova Scotia), Canada, 17.-19. Aug **2017**.
22. **Eva Hemmer**, *Shining a light on lanthanide-based nanoparticles as potential versatile bioprobes*. Seminar, Host: Prof. Clara Santato, École Polytechnique de Montréal, Department of Engineering Physics, Montreal, Canada, 8. May **2017**.
21. **Eva Hemmer**, *Shining a light on upconverting and near-infrared emitting nanoparticles* (**Invited Presentation**). Center for Advanced Materials Research (CAMaR) Opening Celebration and Workshop, University of Ottawa, Ottawa, Canada, 1.-2. May **2017**.
20. **Eva Hemmer**, *A snapshot on lanthanide-based nanoparticles: Potential and challenges*. Seminar, Host: The Centre for Catalysis Research and Innovation (CCRI), University of Ottawa, Ottawa, Canada, 13. Apr **2017**.
19. **Eva Hemmer**, *Lanthanide-based nanostructures as potential players in the biomedical field*. Seminar, Host: Prof. Maikel C. Rheinstädter, McMaster University, Brockhouse Institute, Hamilton, Canada, 6. Mar **2017**.
18. **Eva Hemmer**, *Upconverting and near-infrared emitting nanoparticles: From synthetic strategies to potential applications*. Seminar, Host: Prof. Robert J. Crutchley, Carleton University, Department of Chemistry, Ottawa, Canada, 18. Nov **2016**.
17. **Eva Hemmer**, *Upconverting and near-infrared emitting nanoparticles: From synthetic strategies to potential applications*. Seminar, Host: Prof. Sjoerd Roorda, Université de Montréal, Physics Department, Montreal, Canada, 11. Nov **2016**.

16. **Eva Hemmer**, *Lanthanide-based nanoparticles for upconversion and near-infrared bioimaging*. Seminar, Host: Prof. Kohei Soga, Tokyo University of Science, Department of Materials Science and Technology, Katsushika, Tokyo, Japan, 04. Mar **2015**.
15. **Eva Hemmer**, *Lanthanide-based nanoparticles for upconversion and near-infrared bioimaging*. Seminar, Host: Prof. Paul Mayer, University of Ottawa, Department of Chemistry, Ottawa, Canada, 16. Dec **2014**.
14. **Eva Hemmer**, François Légaré and Fiorenzo Vetrone, *Lanthanide-based upconverting nanoparticles as nanothermometers*. 1st Annual Montreal Postdoctoral Research Day, McGill University, Montréal, Canada, 15. Apr **2014**.
13. **Eva Hemmer**, Kohei Soga, Hidehiro Kishimoto, François Légaré and Fiorenzo Vetrone, *Upconverting and NIR-emitting gadolinium-based nanostructures for bioimaging*. Seminar, Host: Prof. Sanjay Mathur, University of Cologne, Institute of Inorganic Chemistry, Cologne, Germany, 09. Jan **2014**.
12. **Eva Hemmer**, Tomoyoshi Yamano, Hiroyuki Takeshita, Hidehiro Kishimoto, Micheal A. Boss, Ron B. Goldfarb and Kohei Soga, *Multifunctional Er³⁺ and Yb³⁺ doped Gd₂O₃ nanostructures for opto-magnetic bioimaging*. Seminar, Host: Prof. François Légaré, Institut National de la Recherche Scientifique, Centre Énergie Matériaux Télécommunications, Varennes, Québec, Canada, 12. Jun **2012**.
11. **Eva Hemmer**, Izumi Kumakiri, Rune Bredesen, Sanjay Mathur, Hidehiro Kishimoto, Ron B. Goldfarb and Kohei Soga, *Synthesis and characterization of functional ceramic nanomaterials: from membranes to biomarkers*. Seminar, Host: Dr. Izumi Kumakiri, Yamaguchi University, Environmental Science and Engineering, Graduating School of Science and Engineering, Ube, Japan, 17. May **2012**.
10. **Eva Hemmer**, Tomoyoshi Yamano, Hiroyuki Takeshita, Takanori Fujiki, Hidehiro Kishimoto, Michael A. Boss, Ron B. Goldfarb, Yvonne Kohl, Karin Löw and Kohei Soga, *Multifunctional Er³⁺ and Yb³⁺ doped Gd₂O₃ nanostructures for opto-magnetic bioimaging*. (Poster Presentation) 2nd CTC Workshop, Tokyo University of Science, Noda, Japan, 28. Apr **2012**.
9. **Eva Hemmer**, Tomoyoshi Yamano, Hiroyuki Takeshita, Takanori Fujiki, Hidehiro Kishimoto, Michael A. Boss, Ron B. Goldfarb and Kohei Soga, *Multifunctional Er³⁺ and Yb³⁺ doped Gd₂O₃ nanostructures for opto-magnetic bioimaging*. Seminar, Host: Dr. Ron B. Goldfarb, National Institute of Standards and Technology (NIST), Boulder, Colorado, USA, 20. Jan **2012**.
8. Participating at RMIT Symposium Nanoscience & Nanotechnology for Renewable Energy Applications, Host: Prof. Yasuhiro Tachibana, RMIT University, Melbourne, Australia, 15. Jul **2011**.
7. **Eva Hemmer**, Tomoyoshi Yamano, Hidehiro Kishimoto and Kohei Soga, *Synthesis and cytotoxic aspects of Gd₂O₃:Er³⁺,Yb³⁺ nanostructures for biomedical applications*. Seminar, Host: Prof. Sanjay Mathur, University of Cologne, Institute of Inorganic Chemistry, Cologne, Germany, 07. Sep **2010**.
6. **Eva Hemmer**, *Darstellung lanthanoidhaltiger Oxid- und Hydroxidphasen: Neue Konzepte zur Kontrolle von Morphologie und funktionellen Eigenschaften*. Seminar, Host: Prof. Frank Mücklich, Saarland University, Lehrstuhl für Funktionswerkstoffe, Saarbrücken, Germany, 11. Nov **2008**.
5. **Eva Hemmer**, Sanjay Mathur, Matthias Adlung, Claudia Wickleder, *Homo- und heteroleptische Lanthanoidverbindungen für die Herstellung Ln-haltiger Nanostrukturen*. (Poster Presentation) 14. Vortragstagung der Wöhler-Vereinigung, Garching / Munich, Germany, 8.-10. Oct **2008**.
4. Sanjay Mathur and **Eva Hemmer**, *Synthese Ln-haltiger molekularer Vorstufen und deren Einsatz in der Materialsynthese*. SPP 1166 – Lumineszenz Clustertreffen, Host: Prof. Claudia Wickleder, Institute of Inorganic Chemistry, University of Siegen, Siegen, Germany, 10. Jul **2008**.
3. **Eva Hemmer**, Nicole Donia, Jessica Altmayer, Sven Barth, Jens Kondratiuk, Thomas Rügamer, Christian Cavelius, Hao Shen and Sanjay Mathur, *Nanostrukturierte Oberflächen mittels Chemischer*

- Gasphasenabscheidung (CVD)*. Bayern Innovativ Kooperationsforum "Funktionalisierte Oberflächen", Augsburg, Germany, 22. Nov **2007**.
2. **Eva Hemmer** and Sanjay Mathur, *Lanthanoid-haltige Nanostrukturen mittels Solvothermalbehandlung molekularer Vorstufen*. 3. Antragskolloquium DFG Schwerpunktprogramm 1166, Lanthanoidspezifische Funktionalitäten in Molekül und Material, Bonn-Röttgen, Germany, 28.-29. Nov **2007**.
 1. **Eva Hemmer**, Amadou Ndiaye, Sanjay Mathur, Michael Veith, *Homo- und heteroleptische Lanthanoidverbindungen und ihre Anwendungen in der Materialforschung*. Antragskolloquium DFG Schwerpunktprogramm 1166, Lanthanoidspezifische Funktionalitäten in Molekül und Material, Bonn-Röttgen, Germany, 28.-30. Nov **2005**.

OTHER ORAL PRESENTATIONS

3. **ACerS Winter Workshop 2018**, Daytona Beach, Florida, USA, Jan **2018**
Eva Hemmer, *Mobility, Flexibility and Opportunities: A (maybe) Less Common Engineering Career Path*
2. **12th Pacific Rim Conference on Ceramic and Glass Technology (PACRIM 12)**, Young Investigator Forum: Design and Application of Next-Generation Multifunctional Materials - Addressing the New Millennium's Societal Challenges, Waikoloa, Hawaii, USA, Jun **2017**
Eva Hemmer, *From molecules to materials – A scientific trip around the globe*.
1. **41st International Conference and Exposition on Advanced Ceramics and Composites (40st ICACC)**, Symposium: 6th Global Young Investigator Forum, Special Topic: Networking for Early-Career Ceramic Engineers, Daytona Beach, Florida, USA, Jan **2017**
Eva Hemmer, *Dreaming of a career in science: What comes first - network or mobility?*

INTERNATIONAL CONFERENCE POSTERS

7. **1st International Network Meeting of the European School of Materials (EUSMAT)**, International Materials Research Meeting in the Greater Region (IMR-Meeting), Saarland University, Saarbrücken, Germany, Apr **2017**
Jeffrey Collin*, Rebecca Duris*, Alexander Therien*, Nathaniel Leslie*, Brad Martire*, Jamal Al-Refaae*, Kinna Zhao*, Fadi Oussta* and **Eva Hemmer**, *Lanthanide-based nanocarriers for biomedical & energy harvesting applications*.
6. **MRS Workshop Series – Functionalized Nanobiomaterials for Medical Applications**, Denver, Colorado, USA, Oct **2010**
Eva Hemmer, Tomoyoshi Yamano, Hidehiro Kishimoto and Kohei Soga, *Synthesis, characterization and cytotoxicity of Ln³⁺-doped Gd₂O₃ nanostructures for applications as biomarker*.
5. **8th Pacific Rim Conference on Ceramic and Glass Technology (PACRIM 8)**, Vancouver, Canada, May - Jun **2009**
Eva Hemmer, Kohei Soga, Sanjay Mathur, Yvonne Kohl and Hagen Thielecke, *Synthesis of Gd₂O₃:Er³⁺, Yb³⁺ nanostructures and their potential for biomedical applications*.
4. **XXI. Tage der Seltenen Erden – Terrae Rarae**, Bochum, Germany, Dec **2008**
Sanjay Mathur, **Eva Hemmer**, Yvonne Kohl and Hagen Thielecke, *Cytotoxicity of Gd(OH)₃ nanostructures prepared by solvothermal synthesis*.
3. **31st International Conference & Exposition on Advanced Ceramics & Composites**, Daytona Beach, Florida, Jan **2007**
Sanjay Mathur, **Eva Hemmer**, Sven Barth, Jessica Altmayer, Nicole Donia, Nicolas Lecerf, Izumi

- Kumakiri and Rune Bredesen, *Microporous ZrO₂ film preparation by chemical vapor deposition*.
2. **9th International Conference on Inorganic Membranes (ICIM9)**, Lillehammer, Norway, Jun **2006**
Sanjay Mathur, **Eva Hemmer**, Sven Barth, Jessica Altmayer, Nicole Donia, Nicolas Lecerf, Izumi Kumakiri and Rune Bredesen, *Microporous ZrO₂ membrane preparation by liquid-injection MOCVD*.
 1. **5th Iberian Vacuum Meeting (RIVA)**, University of Minho, Portugal, Sep **2005**
Sanjay Mathur, **Eva Hemmer**, Jessica Altmayer and Thomas Rügamer, *Protective and biocompatible nanostructured surfaces by chemical vapor deposition*.

TALKS PRESENTED BY SUPERVISED STUDENTS (*) & POSTDOCS (✱)

6. **RISE Conference 2018**, Université du Québec à Montréal, Montreal, Quebec, Canada, Aug **2018**
Steven Maurizio* and **Eva Hemmer**, *The Influence of Cation Concentration on the Crystal Phase Formation of Ultra-Small Lanthanide-Doped Nanomaterials*.
5. **Materials Challenges in Alternative and Renewable Energy Conference (MCARE 2018)**, Symposium 6: Materials for Spectral Energy Conversion, Vancouver, British Columbia, Canada, Aug **2018**
Ricardo Marin✱, Dylan Errulat, Ilias Halimi*, Giacomo Lucchini, Adolfo, Speghini, Muralee Murugesu and **Eva Hemmer**, *A self-assembled Förster resonance energy transfer system based on upconverting nanoparticles and lanthanide ion complexes*.
4. **2018 Ottawa-Carleton Chemistry Institute Day (OCCI Day 2018)**, Ottawa, Canada, May **2018**
Nikita Panov*, *Microwave-assisted synthesis of lanthanide-doped LiYF₄ upconversion nanoparticles: A quest for lanthanide-doped LiYF₄ microparticles*.
3. **1st uOttawa Advanced Materials Workshop**, Ottawa, Canada, Mar **2018**
Ricardo Marin✱, *Lanthanide-based materials: Exploring multifunctional platforms for opto-magnetic applications*.
2. **1st uOttawa Advanced Materials Workshop**, Ottawa, Canada, Mar **2018**
Nikita Panov*, *Microwave-assisted synthesis of lanthanide-doped LiYF₄ upconversion nanoparticles*.
1. **28^e Colloque Annuel des Étudiantes et Étudiants de 1^{er} Cycle en Chimie de l'Université de Sherbrooke**, Sherbrooke, Canada, Oct **2016**
Alexander Therien*, Daniele Benetti, Haiguang Zhao, Federico Rosei, **Eva Hemmer**, *Conversion additive rouge et vert par des nanostructures de TiO₂ dopé avec des lanthanides comme candidat potentiel pour des applications solaires*
• Awarded 2nd place at the Student Competition "My Project in 180 Second"

TALKS PRESENTED BY COLLABORATORS & CO-SUPERVISED STUDENTS (*)

17. **Materials Science & Technology 2016 (MS&T 2016)**, Salt Lake City, Utah, USA, Oct **2016**
Artiom Skripka*, **Eva Hemmer**, Antonio Benayas and Fiorenzo Vetrone, *Lanthanide nanoparticles: Near-infrared spectral imaging and nanothermometry*.
16. **7th International Conference on Optical, Optoelectronic and Photonic Materials and Applications (ICOOPMA 2016)**, Montreal, Quebec, Canada, Jun **2016**
Artiom Skripka*, **Eva Hemmer**, Masao Kamimura, Kohei Soga and Fiorenzo Vetrone, *Near-infrared emitting Ho³⁺, Er³⁺-doped NaGdF₄ nanoparticles: Multi-wavelength excitation and temperature sensing*.
15. **2nd International Conference "Current Trends of Cancer Theranostics" (CTCT-2016)**, Druskininkai, Lithuania, Jun **2016**

- Artiom Skripka*, **Eva Hemmer**, Masao Kamimura, Kohei Soga and Fiorenzo Vetrone, *Rare-earth based nanoparticles for biomedical imaging and temperature sensing within second and third biological transparency windows.*
14. **2nd International Conference “Current Trends of Cancer Theranostics” (CTCT-2016)**, Druskininkai, Lithuania, Jun **2016**
Isabel Gessner*, Markus Schütz*, **Eva Hemmer**, Marc A. Gauthier, Fiorenzo Vetrone and Sanjay Mathur, *Upconverting NaGdF₄:Er³⁺,Yb³⁺ nanoparticles for energy transfer based drug release modeling.*
 13. **Materials Challenges in Alternative and Renewable Energy Conference (MCARE 2016)**, Symposium 2: Spectral Conversion Materials for Energy Applications, Session: Lanthanides, Dyes and Quantum Dots for Photovoltaic Applications, Clearwater, Florida, USA, Apr **2016**
Marta Quintanilla, **Eva Hemmer**, Jose Marques-Hueso, Shadi Rohani, Reza Zamani, Vladimir Roddatis, Bryce Richards and Fiorenzo Vetrone, *Upconversion quantum yield in lanthanide-doped nanoparticles: Going deeper into size, shape and host material dependencies.*
 12. **11th International Conference on Excitonic and Photonic Processes in Condensed Matter and Nano Materials (Excon 2015)**, Montreal, Canada, May **2015**
Marta Quintanilla, **Eva Hemmer**, Jose Marques-Hueso, Reza Zamani, Bryce S. Richards and Fiorenzo Vetrone, *Underlying phenomena ruling quantum yield in upconversion nanoparticles.*
 11. **39th International Conference and Exposition on Advanced Ceramics and Composites (39th ICACC)**, Symposium: 4th Global Young Investigator Forum, Session: Biomaterials and Biophotonics, Daytona Beach, Florida, USA, Jan **2015**
Marta Quintanilla Morales, Shadi Rohani, Jose Marques-Hueso, **Eva Hemmer**, Bryce Richards, Luca Razzari and Fiorenzo Vetrone, *How dark is the dark side of lanthanide-based upconversion: Quantum yield and possibilities of enhancement.*
 10. **38th International Conference and Exposition on Advanced Ceramics and Composites (38th ICACC)**, Symposium S7: 8th International Symposium on Nanostructured Materials and Nanocomposites, Daytona Beach, Florida, USA, Jan **2014**
Kohei Soga, Nallusamy Venkatachalam, and **Eva Hemmer**, *Nanostructured materials and nanocomposites for OTN-NIR small animal fluorescence imaging.*
 9. **Materials Science & Technology 2013 (MS&T 2013)**, Symposium: Optical Nanomaterials for Photonics/Biophotonics, Session: Metal and Plasmonic Nanostructures, Montreal, Québec, Canada, Oct **2013**
Shadi Rohani, **Eva Hemmer**, Rafik Naccache, Marta Quintanilla, Luca Razzari, Fiorenzo Vetrone, *Luminescent emission of lanthanide doped nanoparticles in the presence of gold nanorods.*
 8. **Materials Science & Technology 2013 (MS&T 2013)**, Symposium: Optical Nanomaterials for Photonics/Biophotonics, Session: Metal and Plasmonic Nanostructures, Montreal, Québec, Canada, Oct **2013**
Yue Huang*, Rafik Naccache, Marta Quintanilla Morales, Antonio Benayas Hernandez, **Eva Hemmer**, Federico Rosei, Fiorenzo Vetrone, *Multifunctional nanoplatfom based on upconversion luminescent and gold nanorods for targeted cancer therapy.*
 7. **10th Pacific Rim Conference on Ceramic and Glass Technology (PACRIM 10)**, Joint Session Symposium 23 and 24: Bioceramics, Joint Session: Bone and Dental Cements; Implants and Scaffolds; Bioactive, Porous or Resorbable Bioceramics; Biocompatibility 1, San Diego, California, USA, Jun **2013**
Kohei Soga, Hiroshi Hyodo, **Eva Hemmer**, Nallusamy Venkatachalam, Hidehiro Kishimoto, *Ceramic-polymer conjugation for near infrared bioimaging probes.*

6. **Symposium on Polyscale Technologies for Biomedical Engineering and Environmental Science (PT-BMES 2012)**, National Tsing Hua University, Hsinchu, Taiwan, Sep 2012
Yoshie Ebina*, Nallusamy Venkatachalam, **Eva Hemmer**, Hiroshi Hyodo, Kohei Soga, *Surface modification of Y_2O_3 nanoparticles with high density PEG layer.*
5. **International Union of Materials Research Societies – International Conference in Asia (IUMRS-ICA 2011)**, Symposium B3: Nanotechnology for Bio/Medical Materials, Session S-7 Sensing/Imaging, Taipei, Taiwan, Sep 2011
Kohei Soga, Hiriyoshi Hyodo, Nallusamy Venkatachalam, **Eva Hemmer** and Hidehiro Kishimoto, *Polyscale approach for developing over-1000-nm near infrared biomedical imaging system.*
4. **International Conference on Materials for Advanced Technologies (ICMAT 2011)**, Suntec, Singapore, Jun - Jul 2011
Kohei Soga, Hiroshi Hyodo, Nallusamy Venkatachalam, **Eva Hemmer** and Hidehiro Kishimoto, *Next generation over-1000-nm NIR fluorescence bioimaging.*
3. **34th International Conference and Exposition on Advanced Ceramics and Composites**, Daytona Beach, Florida, USA, Jan 2010
Yvonne Kohl, **Eva Hemmer**, Kohei Soga, Sanjay Mathur and Hagen Thielecke, *Cellular interaction and biocompatibility of Eu^{3+} -doped gadolinium hydroxide and oxide nanostructures.*
2. **32nd International Conference and Exposition on Advanced Ceramics and Composites**, Daytona Beach, Florida, USA, Jan 2008
Sanjay Mathur, **Eva Hemmer**, Victoria Colquhoun*, Christian Cavelius and Hao Shen, *Synthesis of new lanthanide precursors for the preparation of lanthanide containing nanomaterials by solvothermal processes.*
1. **2005 MRS Spring Meeting**, San Francisco, California, USA, Mar - Apr 2005
Jessica Altmayer, **Eva Hemmer**, Hao Shen, Michael Veith and Sanjay Mathur, *Influence of precursor composition on the chemical vapor deposition of $MgAl_2O_4$ oxides.*

POSTERS PRESENTED BY COLLABORATORS & CO-SUPERVISED STUDENTS (*)

4. **16th International Conference on Molecule-based Magnets (ICMM 2018)**, Rio de Janeiro, Brazil, Sep 2018
Gabriel Brunet, Riccardo Marin*, **Eva Hemmer** and Muralee Murugesu, *A multifunctional and high-performance ytterbium-based single-molecule magnet.*
3. **1st Conference and Spring School on Properties, Design and Applications of Upconverting Nanomaterials**, Wroclaw, Poland, May 2016
Shashi Bhuckory, Akram Yahia-Ammar, **Eva Hemmer**, Fiorenzo Vetrone and Niko Hildebrandt, *Morphological and optical characterization of PEGylated- Er^{3+} , Yb^{3+} -doped $NaGdF_4$ upconversion nanoparticles for FRET.*
2. **International Symposium on Technologies against Cancer (ISTC)**, Funabori, Tokyo, Japan, Sep 2011
Nallusamy Venkatachalam, Yoshie Ebina*, Hiroyuki Takeshita, **Eva Hemmer**, Hiroshi Hyodo, Hidehiro Kishimoto and Kohei Soga, *Er^{3+} doped Y_2O_3 nanophosphors for NIR bioimaging: synthesis, surface modification and toxicity assessment.*
1. **7th International Conference on f-Elements (ICfE)**, Cologne, Germany, Aug 2009
Yvonne Kohl, **Eva Hemmer**, Kohei Soga, Sanjay Mathur, Hagen Thielecke, *Biocompatibility of Eu^{3+} -doped gadolinium hydroxide and oxide nanorods.*

FURTHER CONTRIBUTIONS**TEACHING EXPERIENCE****Sep - Dec 2018: University of Ottawa, Ottawa, Canada**

Undergraduate Course “*Chimie Minérale des Éléments*” (course code: CHM 2753)

Sep - Dec 2018: University of Ottawa, Ottawa, Canada

Undergraduate Course “*Advanced Characterization Methods of Materials Science and Catalysis*” (course code: CHM 4380)

Feb - Apr 2018: University of Ottawa, Ottawa, Canada

Graduate Course “*Advanced Topics in Inorganic Chemistry: Synthesis and Properties of Lanthanide-based Materials*” (course code: CHM 8302 K)

Feb 2018: University of Ottawa, Ottawa, Canada

Guest Lecture at Undergraduate Course “*Photochemistry and Photobiology*” (course code: CHM 4381)

Sep - Dec 2017: University of Ottawa, Ottawa, Canada

Undergraduate Course “*Chimie Minérale des Éléments*” (course code: CHM 2753)

Oct 2017: University of Ottawa, Ottawa, Canada

Guest Lecture at Undergraduate Course “*Advanced Characterization Methods in Material Science and Catalysis*” (course code: CHM 4380)

Jan 2017: Mount Allison University, Chemistry and Biochemistry Department, Sackville, Canada

e-Seminar for Current Topics in Bioanalytical Chemistry Guest Speaker Series (*Strategies and Challenges in the Synthesis of Upconverting and Near-Infrared Emitting Nanoparticles for Biomedical Applications*, 30.01.2017)

Sep - Dec 2016: University of Ottawa, Ottawa, Canada

Undergraduate Course “*Chimie Minérale des Éléments*” (course code: CHM 2753)

Feb 2014: INRS-EMT, Varennes, Canada

Organization and teaching in the frame of the visit of *cégép* (college) students to the research laboratories of INRS (2 days)

Jul 2008 - Jan 2009: University of Cologne, Cologne, Germany

Institute of Inorganic Chemistry (Group of Prof. Sanjay Mathur)
Supervision of practical training in inorganic chemistry for students

Nov 2006 - May 2008: Würzburg University, Würzburg, Germany

Institute of Inorganic Chemistry (Group of Prof. Sanjay Mathur)
Co-organization of a practical training in inorganic chemistry for students and leading the additional seminar

COMMITTEE AND JURY MEMBERSHIPS

2018 - 2021: Member of the *Strategic Planning and Emerging Opportunities Committee* of the American Ceramic Society

Since 2018: Treasurer of the *Canada Chapter* of the American Ceramic Society

Since 2018: Chair of the *Student Engagement Committee* of the *Materials Research Society (MRS)* Committee for Academic Affairs

Since 2018: Coordinator of the *Departmental Seminar Series*, Department of Chemistry and Biomolecular Sciences, University of Ottawa

Since 2017: Member of *RISE (Reactive Intermediates Student Exchange)*, a Canadian summer student exchange program for undergraduate students in the chemical sciences (<http://www.risecanada.ca/>)

Since 2016: Member of the *Departmental Social Committee*, Department of Chemistry and Biomolecular Sciences, University of Ottawa

Since 2016: Member of the *American Ceramic Society Book Committee*

2017 - 2018: Judge (poster presentations) at the 2017 and 2018 ACerS *International Conference and Exposition on Advanced Ceramics and Composites (ICACC)*, Daytona Beach, Florida, USA, Jan 2017 and 2018

2016 - 2018: Member of the *Faculty Council*, Faculty of Science, University of Ottawa

2017: Member of *Selection Committee*, Assistant Professor in Biomaterials, Department of Chemistry and Biomolecular Sciences, University of Ottawa

2016: Judge (students' poster presentations) at the 9th *International Conference on High Temperature Ceramic Matrix Composites and Global Forum on Advanced Materials and Technologies for Sustainable Development 2016* by the ACerS (GFMAT 2016), Symposium: Young Professionals Forum, Toronto, Ontario, Canada, Jun 2016

2016: Judge at the 28^e *Colloque de Chimie* (undergraduate students' conference), Sherbrooke University, Sherbrooke, 21. Oct 2016

2016: Judge (students' oral presentations) at the *CAP Congress* (CAP 2016), Division of Condensed Matter and Materials Physics, Ottawa, Ontario, Canada, June 2016

2015: Judge at the 18th *Annual Chemistry and Biochemistry Graduate Research Conference*, Concordia University, Montréal, 20. Nov 2015

2015: Judge (students' oral and poster presentations) at the 98th *Canadian Chemistry Conference and Exhibition* (CSC 2015), Symposium: Advanced Functional Nanomaterials, Ottawa, Ontario, Canada, Jun 2015

2014 - 2015: Member of the *ECD International Committee of the Engineering Ceramics Division of the American Ceramic Society*

2014: Judge at the 10th *McGill Interdisciplinary Graduate Student Research Symposium*, McGill University, Montréal, 1. Apr 2014

2013: Judge at the 16th *Annual Chemistry and Biochemistry Graduate Research Conference*, Concordia University, Montréal, 22. Nov 2013

CONFERENCE ORGANIZING COMMITTEES

2019: Member of the *Organizing Committee* of the *Young Professional Network* at the 4th International Conference on Innovations in Biomaterials, Biomanufacturing, and Biotechnologies (Bio-4) & 2nd Global Forum on Advanced Materials and Technologies for Sustainable Development (GFMAT-2) by ACerS (Toronto, Canada, Jul 2019)

2019: Member of the *Organizing Committee* of the Symposium *Educating and Mentoring Young Materials Scientists for Career Development* at the International Conference on Ceramic Materials for Advanced Technologies (10th ICMAT, Singapore, Jun 2019)

2019: Member of the *Organizing Committee* of the 2019 *Winter Workshop* by the ACerS and the 8th *Global Young Investigator Forum* at the 43rd International Conference and Exposition on Advanced Ceramics and Composites by the ACerS (43rd ICACC, Daytona Beach, Florida, USA, Jan 2019)

2018: Lead-Organizer of the *Organizing Committee* of the Symposium for *Spectral Conversion Materials – Design, Synthesis and Application* at the Materials Challenges in Alternative and Renewable Energy Conference by the ACerS (MCARE, Vancouver, Canada, Aug 2018)

2018: Member of the *Organizing Committee* of the Symposium *Advanced Multifunctional Nanomaterials and Systems for Photovoltaic and Photonic Technologies* at the International Conference on Ceramic Materials and Components for Energy and Environmental Applications, endorsed by ACerS (CMCEE-12, Singapore, Jul 2018)

2018: Member of the *International Advisory Board* of the *14th International Ceramics Congress and 8th Forum on New Materials* (CIMTEC, Perugia, Italy, Jun 2018)

2018: Member of the *Organizing Committee of the 2018 Winter Workshop* by the ACerS and the *7th Global Young Investigator Forum* at the 42nd International Conference and Exposition on Advanced Ceramics and Composites by the ACerS (42nd ICACC, Daytona Beach, Florida, USA, Jan 2018)

Panelist and Speaker at the Winter Workshop's *Ceramic International Career Panel*

2017: Lead-Organizer of the *Organizing Committee of the Symposium Nanostructure-based Optical Bioprobes – Advances, Trends and Challenges in Optical and Multimodular Bioimaging and Sensing* at the Materials Research Society Fall Meeting (MRS Fall, Boston, USA, Nov 2017)

2017: Co-founder and member of the *Organizing Committee of the International Conference on Spectral Shaping for Biomedical and Energy Applications* (SHIFT, Tenerife, Spain, Nov 2017).

The idea for SHIFT 2017 was born by Prof. Jorge Méndez (Universidad LaLaguna, Tenerife, Spain) when attending the *Symposium for Spectral Conversion Materials for Energy Applications* at MCARE 2016 as invited speaker. The idea was quickly picked up by MCARE attendees Prof. Ruud Schropp (Eindhoven University of Technology, the Netherlands), Prof. Eva Hemmer (University of Ottawa, Canada), Dr. Stefan Fischer (Stanford University, USA), Prof. José Marqués-Hueso (Heriot-Watt University, UK), and Dr. Marta Quintanilla (CIC-biomaGUNE, Spain), as well as Dr. Luca Salassa (DIPC Donostia International Physics Center, Spain) forming the international organization team of SHIFT 2017. In November 2017, 120 delegates from America (USA, Brazil, Canada), Africa (Morocco), Europe (16 EU countries, Russia, Israel), and Asia (China, India, Japan, South Korea, Singapore) attended the meeting, bringing together well-known international experts in the field of optical probes for biomedical and energy applications coming from prestigious universities and research institutes such as Stanford, Harvard, Berkeley Tokyo, and Singapore Universities as well as Max Planck and Fraunhofer Institutes. Planning for *SHIFT 2019* has already begun.

Press release (in Spanish): <https://www.ull.es/portal/noticias/inaugurado-congreso-shift/>
<https://youtu.be/tNIMhhX8G2A>

2017: Member of the *Organizing Committee of the Young Investigator Forum: Design and Application of Next-Generation Multifunctional Materials - Addressing the New Millennium's Societal Challenges* at the 12th Pacific Rim Conference on Ceramic and Glass Technology by the ACerS (PACRIM 12, Waikoloa, Hawaii, USA, May 2017)

2017: Lead-Organizer of the *Organizing Committee of the Symposium for Spectral Conversion Materials - Design, Synthesis and Application* at the Materials Challenges in Alternative and Renewable Energy Conference by ACerS (MCARE, Jeju Island, Korea, Feb 2017)

2017: Member of the *Organizing Committee of the 6th Global Young Investigator Forum* at the 41st International Conference and Exposition on Advanced Ceramics and Composites by ACerS (41st ICACC, Daytona Beach, Florida, USA, Jan 2017)

2016: Member of the *Organizing Committee of the Young Professionals Forum: Next Generation Materials for Multifunctional Applications and Sustainable Development, and Concurrent Societal Challenges in the*

New Millennium at the Global Forum on Advanced Materials and Technologies for Sustainable Development by ACerS (GFMAT, Toronto, Canada, Jun 2016)

2016: Lead-Organizer of the *Organizing Committee of the Symposium for Spectral Conversion Materials for Energy Applications* at the Materials Challenges in Alternative and Renewable Energy Conference by ACerS (MCARE, Clearwater, Florida, USA, Apr 2016)

2016: Member of the *Organizing Committee of Symposium 5: Next Generation Bioceramics and Biocomposites* at the 40th International Conference and Exposition on Advanced Ceramics and Composites by ACerS (40th ICACC, Daytona Beach, Florida, USA, Jan 2016)

2016: Member of the *Organizing Committee of the 5th Global Young Investigator Forum* at the 40th International Conference and Exposition on Advanced Ceramics and Composites by ACerS (40th ICACC, Daytona Beach, Florida, USA, Jan 2016)

2015: Member of the *Organizing Committee of the 4th Global Young Investigator Forum* at the 39th International Conference and Exposition on Advanced Ceramics and Composites by ACerS (39th ICACC, Daytona Beach, Florida, USA, Jan 2015)

SCIENTIFIC JOURNAL REFEREE

ACS Biomaterials Science and Engineering, ACS Nano, Advanced Materials, Applied Materials & Interfaces, Applied Physics Letters, Applied Surface Science, Chemistry of Materials, Chemistry Open, Colloids & Surfaces B, Crystal Growth & Design, European Journal of Inorganic Chemistry, Inorganic Chemistry, Inorganic Chemistry Frontiers, International Journal of Nanomedicine, International Journal of Molecular Science, International Materials Review, Journal of Biomaterials Applications, Journal of Electroceramics, Journal of Luminescence, Journal of Materials Chemistry B, Journal of Materials Chemistry C, Journal of Materials Research, Journal of the American Ceramic Society, Journal of Visualized Experiments, Luminescence: The Journal of Biological and Chemical Luminescence, Microchimica Acta, Molecular Pharmaceutics, Nanoscale, Nature Communications, New Journal of Chemistry, Optical Materials, Optical Materials Express, Organometallics, RSC Advances, Scientific Reports

SCIENTIFIC PROPOSAL REFEREE

NSERC (Discovery Grant); University of Ottawa's Office of International Research (MINCyT); University of Ottawa's Undergraduate Office (UROP); National Research Funding Competition Chile (FONDECYT); German Research Foundation (DFG)

EDITORIAL ACTIVITY

- Member of the editorial team of the book "*Near-Infrared-Emitting Nanoparticles for Biomedical Applications*" to be published by Springer-Nature, anticipated date of publication: end of 2018
- Co-Editor of the 2017 MRS Boston Fall Meeting special issue of *MRS Advances* (Volume 3, Issue 14, 2018), Publisher: Materials Research Society and Cambridge University Press

Ottawa, September 2018