

UPCONline 2021 CONFERENCE PROGRAM



Labrox

KAIVOGEN

The Technology Partnership

EDINBURGH INSTRUMENTS

Eurotek International

METHODS AND APPLICATIONS IN FLUORESCENCE



Laser

LUMITO

CHEMICALS 101

Program UPCONline 2021

PARIS Time	Tuesday (06/04/21)	PARIS Time	Wednesday (07/04/21)	PARIS Time	Thursday (08/04/21)	PARIS Time	Friday (09/04/21)
9:00 - 9:15	Opening remarks	9:00 - 9:40	Emory Chan (IV)	9:00 - 9:20	Denitza Denkova (CB)	9:00 - 9:20	Nina Kaczorowska (CB)
9:20 - 9:40	Artur Bednarkiewicz (CB)	9:45 - 10:05	Yiqing Lu (CB)	9:25 - 9:45	Shihui Wen (CB)	9:25 - 9:45	Sanathana K. V. Sekar (CB)
9:45 - 10:05	Beatriz Julian-Lopez (CB)	10:10 - 10:30	Lucia Labrador-Paez (CB)	9:50 - 10:10	Diego Mendez-Gonzalez (CB)	9:50 - 10:10	Richard Knighton (CB)
10:10 - 10:30	Bengang Xing (CB)	10:35 - 11:20	Break / Poster discussion	10:15 - 10:35	Tomasz Grzyb (CB)	10:15 - 10:35	Louise Natrajan (CB)
10:35 - 11:20	Break / Poster discussion	11:25 - 12:35	Lingdong Sun (KN)	10:40 - 11:20	Break / Poster discussion	10:40 - 11:20	Break / Poster discussion
11:25 - 12:05	Marta-Maria Natile (IV)	12:40 - 13:00	Maria Tesa (CB)	11:25 - 12:05	Michael Kumke (IV)	11:25 - 12:35	Julia Pérez-Prieto (KN)
12:10 - 12:30	Damien Hudry (CB)	13:00 - 14:30	Break / Poster discussion	12:10 - 12:30	Alexandra Schroter (CB)	12:40 - 13:00	Matej Pastucha (CB)
12:35 - 12:55	Ida Erling (CB)	14:35 - 14:55	Laura Frances-Soriano (CB)	12:35 - 12:55	Daniel Horak (CB)	13:00 - 14:30	Break / Poster discussion
13:00 - 14:30	Break / Poster discussion	15:00 - 15:20	Gilles Ledoux (CB)	13:00 - 14:30	Break / Poster discussion	14:35 - 15:15	Haichun Liu (IV)
14:35 - 15:15	Luis Carlos (IV)	15:25 - 15:45	Changwhan Lee (CB)	14:35 - 15:45	Gang Han (KN)	15:20 - 15:40	Daria Pominova (CB)
15:20 - 15:40	Lining Sun (CB)	15:50 - 16:10	Wenshu Xu (CB)	15:50 - 16:10	Matthias Mickert (CB)	15:45 - 16:05	Julian Brandmeier (CB)
15:45 - 16:05	Adolfo Speghini (CB)	16:15 - 16:45	Break / Poster discussion	16:15 - 16:45	Break / Poster discussion	16:10 - 16:30	Closing remarks Preview UPCON 2022/23
16:10 - 16:45	Break / Poster discussion	16:45 - 17:25	Christophe Coudret (IV)	16:45 - 17:25	Darja Lisjak (IV)	ABBREVIATIONS	
16:45 - 17:25	Jennifer Dionne (IV)	17:30 - 17:50	Bruce Cohen (CB)	17:30 - 17:50	Ute Resch-Genger (CB)	KN (Keynote): 55 min + 10 min discussion	
17:30 - 17:50	Markus Haase (CB)	17:55 - 18:15	Rajesh Komban (CB)	17:55 - 18:15	Bahman Galesorkhi (CB)	IV (Invited): 30 min + 6 min discussion	
17:55 - 18:15	Daniel Avram (CB)	18:20 - 19:30	Poster discussion	18:20 - 19:30	Poster discussion	CB (Contributed): 15 min + 3 min discussion	
18:20 - 19:30	Poster discussion						

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Tuesday April 6 th , 2021		
Paris Time	Event	Session chair
9:00 - 9:15	Opening remarks	
9:20 - 9:40	CB1- Photon Avalanche Upconverting Nanoparticles for biomedical applications Artur Bednarkiewicz	N. Hildebrandt
9:45 - 10:05	CB2- β - to α - phase transformation and size tuning of $\text{Yb}^{3+}, \text{Tm}^{3+}:\text{NaYF}_4$ NPs induced by microwave treatment Beatriz Julián-López	
10:10 - 10:30	CB3- Unique Upconversion Paradigms towards Optogenetic Manipulation of Cellular Functions and Precise Profiling of Pathological Dynamics Bengang Xing	
10:35 - 11:20	Break / Poster discussion	
11:25 - 12:05	IV1- Upconverting nanoparticles to shift the photo-activation of metallodrugs in therapeutics window Marta-Maria Natile	L. Carlos
12:10 - 12:30	CB4- Interface Nano-Engineering in Core-Shell Upconverting Nanocrystals Damien Hudry	
12:35 - 12:55	CB5- Upcon [®] : readers and particles for sensitive lateral flow assays Ida Erling	
13:00 - 14:30	Break / Poster discussion	
14:35 - 15:15	IV2- Upconversion nanothermometry: Up to basics Luis Carlos	A. Bednarkiewicz
15:20 - 15:40	CB6- Tailored Rare earth-doped Upconversion Luminescence Nanomaterials for Sensing, Bioimaging, and Treatment Lining Sun	
15:45 - 16:05	CB7- Green synthesis of Ln^{3+} ions activated alkaline-earth fluoride nanostructures Adolfo Speghini	
16:10 - 16:45	Break / Poster discussion	
16:45 - 17:25	IV3- Engineering upconverting nanoparticles as nano-Newton mechanical force sensors for immunology Jennifer Dionne	T. Soukka
17:30 - 17:50	CB8- On the nucleation of β - NaREF_4 particles and the formation of colloidal crystals Markus Haase	
17:55 - 18:15	CB9- Local symmetry effects on the upconversion emission intensity, shape and mechanisms under pulsed excitation Daniel Avram	
18:20 - 19:30	Poster discussion	

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Wednesday April 7 th , 2021		
Paris Time	Event	Session chair
9:00 - 9:40	IV4- Discovery and assembly of upconverting nanoparticles for low-power microlasers and imaging Emory Chan	H.-H. Gorris
9:45 - 10:05	CB10- Photon-avalanche upconversion nanoparticles for super-resolution microscopy Yiqing Lu	
10:10 - 10:30	CB11- Obtaining upconversion luminescence decay rates by the frequency domain method Lucía Labrador-Páez	
10:35 - 11:20	Break / Poster discussion	
11:25 - 12:35	KN1- New Insights in Tailoring the Luminescence of Lanthanide Nanocrystals Lingdong Sun	J. Perez-Prieto
12:40 - 13:00	CB12- Configuring a Photoluminescence Spectrometer for Upconversion Applications Maria Tesa	
13:00 - 14:30	Break / Poster discussion	
14:35 - 14:55	CB13- Energy transfer processes in DNA-coated upconverting nanoparticles with 980 nm and 808 nm excitation Laura Francés-Soriano	L. Sun
15:00 - 15:20	CB14- Multi-wavelength excitation as a way to decrease the non-linearity upconversion processes Gilles Ledoux	
15:25 - 15:45	CB15- Extremely nonlinear photon avalanching nanoparticles (ANPs): a new class of upconverting nanocrystals Changwhan Lee	
15:50 - 16:10	CB16- Commercialisation and applications of functionalised UCNPs Wenshu Xu	
16:15 - 16:45	Break / Poster discussion	
16:45 - 17:25	IV5- Upconverting nanolamps: how small? How bright?" Christophe Coudret	M. Kumke
17:30 - 17:50	CB17- Bringing Abbe into the 21st century: real-time 70-nm resolution confocal imaging with photon avalanching nanoparticles Bruce Cohen	
17:55 - 18:15	CB18- Tuning emission and absorption/excitation characteristics of upconversion nanoparticles for various applications * Rajesh Kombar	
18:20 - 19:30	Poster discussion	

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Thursday April 8 th , 2021		
Paris Time	Event	Session chair
9:00 - 9:20	CB19- Upconversion nanoparticle markers enable spontaneous 3D super-resolution imaging in confocal microscopes Denitza Denkova	C. Coudret
9:25 - 9:45	CB20- Bright Single Upconversion Nanocrystals at varied excitation power Shihui Wen	
9:50 - 10:10	CB21- Avoiding degradation of upconverting nanoparticles in aqueous media by using hydrophobic polymer shells Diego Mendez-Gonzalez	
10:15 - 10:35	CB22- Looking for up-conversion from above 1000 nm Tomasz Grzyb	
10:40 - 11:20	Break / Poster discussion	
11:25 - 12:05	IV6- Up and Down with Luminescent Lanthanide Ions in Small and not so Small Tailored Nanocrystals Michael Kumke	D. Lisjak
12:10 - 12:30	CB23- Small and Bright Core-Shell Upconversion Nanoparticles with High Concentration of Sensitizer- and Activator-Ions Alexandra Schroter	
12:35 - 12:55	CB24- Upconverting nanoparticles for nanomedicine: Small, smart and safe? Daniel Horak	
13:00 - 14:30	Break / Poster discussion	
14:35 - 15:45	KN2- See the unseen via Upconversion Nanoparticles Gang Han	H. Liu
15:50 - 16:10	CB25- Upconversion nanoparticles as labels for histopathological tissue evaluation Matthias Mickert	
16:15 - 16:45	Break / Poster discussion	
16:45 - 17:25	IV7- Dissolution problematics of NaYF ₄ -based upconverting nanoparticles and guideline for the design of protective coatings Darja Lisjak	L. Charbonnière
17:30 - 17:50	CB26- Influence of Surface Chemistry and Size on the Stability of β -NaYF ₄ :Yb,Er Nanocrystals in Various Environments Ute Resch-Genger	
17:55 - 18:15	CB27- Erbium Complexes as Promising Candidates for Molecular Light-upconversion Bahman Golesorkhi	
18:20 - 19:30	Poster discussion	

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Friday April 9 th , 2021		
Paris Time	Event	Session chair
9:00 - 9:20	CB28- Upconversion in Bi ³⁺ co-doped rare earth ternary vanadates Nina Kaczorowska	L. Labrador-Páez
9:25 - 9:45	CB29- Multi-variable compensated quantum yield measurements of upconverting nanoparticles with high dynamic range: a systematic approach Sanathana K. V. Sekar	
9:50 - 10:10	CB30- Solution-State Molecular Upconversion in Deuterated Heterononanuclear (Ln ³⁺ = Yb/Tb, 8:1, 6:3) Complexes Richard Knighton	
10:15 - 10:35	CB31- The Development of Sensing Platforms for the Detection of Substrates Using Protein Bound Upconversion Phosphors Louise Natrajan	
10:40 - 11:20	Break / Poster discussion	
11:25 - 12:35	KN3- NIR-triggered nanohybrids: construction and visualization Julia Pérez-Prieto	L. Frances-Soriano
12:40 - 13:00	CB32- Detection of honeybee bacterial pathogens with upconversion-linked immunosorbent assay Matej Pastucha	
13:00 - 14:30	Break / Poster discussion	
14:35 - 15:15	IV8- Huge upconversion luminescence enhancement by a cascade optical field modulation strategy facilitating selective multispectral narrow-band near-infrared photodetection Haichun Liu	N. Hildebrandt
15:20 - 15:40	CB33- The effect of excitation mode on the quality of bioimaging with upconversion nanoparticles Daria Pominova	
15:45 - 16:05	CB34- Highly sensitive immunoassay for human cardiac troponin based on photon-upconversion nanoparticles Julian Brandmeier	
16:10 - 16:30	Closing remarks Preview UPCON 2022/23	

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POSTERS	
Number	Abstract title and presenting author
P1	Optical Stability Studies of Hexagonal Upconverting Nanocrystals and Development of Monitoring Tools Elina Andresen
P2	Surface modification of upconverting nanoparticles to enhance bacterial targeting and annihilation Marylyn S. Arai
P3	Challenges in the design of ratiometric UCNP-based nanoprobe for intracellular application Carla Arnau del Valle
P4	Melanoma chemotherapy with doxorubicin loaded upconversion nanoparticles Verónica Bastos
P5	Self-calibrated double luminescent thermometers through upconverting nanoparticles Carlos D.S. Brites
P6	Application of Upconversion Nanoparticles to monitor luminescent tracers in water Juan M. Bujjamer
P7	Lanthanide-doped KY ₃ F ₁₀ nanostructures as biocompatible multifunctional materials in nanomedicine Chiara Cressoni
P8	Primary luminescent nanothermometers for temperature measurements reliability assessment Joana Costa Martins
P9	LiYbF ₄ :Tm ³⁺ @LiYF ₄ nanoparticles showing NIR to UV upconversion phenomenon Adrian Drozdowski
P10	Photon avalanching in Tm ³⁺ doped LiYF ₄ nano, micro and bulk crystals Magdalena Dudek
P11	Investigation of the photophysical properties of ultra-small upconverting nanoparticles Ali Eftekhari
P12	Assessing the influence of PEG functionalization in the toxicity of up-converting nanoparticles SrF ₂ doped with Yb ³⁺ and Er ³⁺ on freshwater organisms Anna Ekner-Grzyb
P13	Upconversion immunoassays for environmental control, food safety, and biomedicine Zdeněk Farka
P14	Nd ³⁺ -sensitized upconversion nanoparticles with a non-onion-layered structure Juan Ferrera-González
P15	Multiband Emission from Single β-NaYF ₄ (Yb,Er) Nanoparticles at High Excitation Power Densities and Comparison to Ensemble Studies Florian Frenzel
P16	Size control of monodisperse upconverting nanocrystals by fine-tuning of the nucleation and growth Francesco Gagliazzo
P17	Comparison of up-converting NaYF ₄ :Yb ³⁺ ,Er ³⁺ @NaYF ₄ nanoparticles obtained using different synthesis route Natalia Jurga
P18	Searching for photon avalanche in Nd ³⁺ doped NaGdF ₄ core-passive shell nanoparticles Zuzanna Korczak
P19	Microlens array enhanced upconversion luminescence at low excitation irradiance Uliana Kostiv
P20	Highly efficient Förster Resonance Energy Transfer (FRET) between nanocrystals co-doped with Yb ³⁺ and Er ³⁺ ions and Rose Bengal acceptor Agata Kotulska

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POSTERS	
Number	Abstract title and presenting author
P21	Effect of UCNP surface chemistry on plasma-associated immunoassay background Saara Kuusinen
P22	Up-conversion luminophore with high quantum yield and brightness based on BaF ₂ :Yb ³⁺ ,Er ³⁺ single crystals Sergey V. Kuznetsov
P23	Highly activator doped nanoparticles for upconversion cross-correlation spectroscopy Satu Lahtinen
P24	Surface Engineering of Small and Bright Water-Protected Upconversion Nanoparticles Susanne Märkl
P25	Multi-level rate equations for Tm core UCNPs with experimental validation: a critical step towards accurate quantification of quantum yield for biological applications Jean S. Matias
P26	Oligonucleotide sensor based on magnetic capture and photoligation of upconverting nanoparticles in solid surfaces Sonia Melle
P27	UV-triggered biofunctionalization of up-converting nanocrystals for utilization in protein assays Małgorzata Misiak
P28	Upconversion Nanoparticles Coated with Mesoporous Silica Layer Encapsulating Near-Infrared Absorbing Dye Michał Olk
P29	Light-to-heat conversion efficiency of different nanomaterials obtained with a droplet-base experimental setup Agnieszka Paściak
P30	Ce ³⁺ co-doping – active impurities as a tool to modulate the luminescent properties of lanthanide doped β-NaYF ₄ Aleksandra Pilch-Wróbel
P31	Elucidating the quenching mechanism in NaYF ₄ : Yb ³⁺ , Er ³⁺ upconverting nanocrystals Federico Pini
P32	Size Dependent Energy Transfer from Surface Organic Dyes to Upconversion Nanoparticles Katarzyna Prorok
P33	Studies of X-ray coherent scattering domain size impact on upconversion luminescence of β-NaGdF ₄ : Yb: Er nanoparticles energy yields Vera Yu. Proydakova
P34	Time-dependent luminescence loss of individual upconversion nanoparticles upon dilution in aqueous solutions Frédéric Przybilla
P35	Physicochemical properties of luminescent nanocolloids based on SrF ₂ :Yb ³⁺ , Tm ³⁺ Dominika Przybylska
P36	Enhanced upconversion efficiency in LiYF ₄ :Yb ³⁺ ,Tm ³⁺ nanocrystals by using anhydrous molecular precursors Bhagyesh Purohit
P37	Super-sensitive photon upconversion-based immunoassay for the detection of cardiac troponin I in human plasma Kirsti Raiko
P38	Pericardium-specific installation and monitoring of upconverting nanoparticles Clément Roux
P39	Temperature-dependent near-infrared up-conversion luminescence in strontium fluoride nanoparticles doped with erbium ions upon 1532 nm excitation Sylwia Ryszczyńska

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POSTERS	
Number	Abstract title and presenting author
P40	Low threshold lasing emissions from a single upconversion nanocrystal Yunfei Shang
P41	Cooperative Luminescence of a nonanuclear Yb complex in solution Lohona K. Soro
P42	UCNP/chitosan/TiO ₂ composite coatings and their interaction with dye molecules Borbála Tegze
P43	Highly sensitive luminescence-based aptasensor for multiplex sensing of foodborne bacterial targets Milad Torabfam
P44	Effect of dopant concentration and excitation power density on the upconversion and downconversion emission of β -NaYF ₄ :Yb ³⁺ ,Er ³⁺ nanoparticles Vivian Torres Vera
P45	Deciphering the role of non-lanthanide ion doping in the UC emission enhancement of β -NaYF ₄ through in-depth Synchrotron probing Preeti Verma
P46	Growth, size control and cubic-to-hexagonal phase transition of Na _{1.5-y/2} Gd _{1.5-y/2} Sr _y F ₆ nanocrystals (0 < y < 1) Jannis Wehmeier
P47	Preparation of Upconverting Nanoparticles for the Detection of Uranyl(VI) Hannah Wilson
P48	Metasurface enhanced photon upconversion: opening the door for efficient low power applications Christian Würth
P49	Efficient N95 Mask Disinfection Method with Upconverting Nanoparticles Emma Z. Xu
P50	Cytological assay of the upconversion nanoparticle application on the FLEH-104 and Hep-2 Cell Lines in vitro Irina Yu. Yanina
P51	Multifunctional Upconversion Nanoparticles as Sensors of Hipoxia in Biological Environments Jingke Yao
P52	Following the nanoscale message: up-conversion nanoparticles as a novel tool for future nanomedicine Karolina Zajdel
P53	Reproducible synthesis of lanthanide-doped nanoparticles employing automated control Xianlin Zheng
P54	A versatile synthesis strategy of ultra-small RE ₂ O ₂ S nanoparticles Qilin Zou