FASLIGHT

Red de Investigación en **Fundamentos y Aplicaciones de la Luz Estructurada**

KICK-OFF MEETING

Salamanca, January 18-19, 2024

Idea: each node of the network will present in 30 minutes its team, its work and its proposals within FASLIGHT. Ideally 25 min presentation + 5 min questions/discussion.
Objective: to present the capabilities of the network nodes, and to identify and to establish possible connections/collaborations. We encourage students to present their work at a poster session.
Location: Classroom II of the Edificio Trilingüe – Facultad de Ciencias, Universidad de Salamanca (Plaza de la Merced s/n).

THURSDAY, JANUARY 18 TH

Lunch (13:30 h – 15:00 h) – Claustro primer piso Edificio Trilingüe

15:00 h // Presentation of the Thematic Network – Luis Plaja
15:15 h // UV – Universitat de València. Estructuras fotónicas no lineales – Albert Ferrando
15:45 h // UVigo – Universidad de Vigo. Engineering physics group – Humberto Michinel
16:15 h // UAM – Universidad Autónoma de Madrid. Attosecond and ultrafast x-ray optics – Antonio Picón

Coffee break and poster session (16:45 h)

17:30 h // UPV/EHU – Universidad del País Vasco. Grupo de Fotónica Aplicada – David Novoa
18:00 h // UJI – Universitat Jaume I. Grupo de Investigación de Óptica – Enrique Tajahuerce
18:30 h // Universidad de Zaragoza. Grupo de investigación en luz estructurada de la Universidad de Zaragoza – Julia Marin
19:00 h // CFM – Material Physics Center. Quantum Nanophotonics Laboratory – Gabriel Molina Terriza

Dinner (21:00 h) – Colegio Fonseca (C/Fonseca 4)

FRIDAY, JANUARY 19 TH

8.30 h // UMH – Universidad Miguel Hernández de Elche. Grupo de Tecnología Óptica y Optoelectrónica – Ignacio Moreno Soriano
9:00 h // UCM – Universidad Complutense de Madrid. Grupo de Luz Estructurada UCM – Óscar Martínez-Matos
9.30 h // UMU – Universidad de Murcia. Laboratorio de Óptica – Juan Manuel Bueno
10:00 h // USC – Universidade de Santiago de Compostela. Photonics4Life – María Teresa Flores Arias

Coffee break and poster session (10:30 h)

11:15 h // UPV – Universitat Politècnica de València – Theory for Quantum Technologies Group – Miguel Ángel García March
11.45 h // UPM – Universidad Politécnica de Madrid. Grupo de Sistemas Complejos – Miguel Ángel Porras
12.15 h // UAB – Universitat Autònoma de Barcelona. Quantum Atom Optics group – Verònica Ahufinger
12.45 h // USAL – Universidad de Salamanca. Grupo de Investigación en Aplicaciones del Láser y Fotónica – Carlos Hernández García

13:15 h Final Discussion

Lunch (13:30 h) – Claustro primer piso Edificio Trilingüe

POSTER SESSION

1. Singular beams measured in the spatiotemporal domain. Benjamín Alonso, Miguel López-Ripa, Cristian Barbero, Ignacio López-Quintás, and Íñigo Sola (USAL)

2. Design and fabrication of surface waveguides in Nd:YAG crystal with femtosecond laser pulses for sensing applications. Víctor Arroyo Heras, Carolina Romero Vázquez and Javier Rodríguez Vázquez de Aldana (USAL)

3. Amplitude swing measurement of ultrashort vector pulses and pulses across different spectral regions. Cristian Barbero, Miguel-López-Ripa, Benjamín Alonso, and Íñigo J. Sola (USAL)

4. Structuring light through a few-mode fiber. Ángel Cifuentes, Gabriel Molina-Terriza (Quantum Nanophotonics Laboratory)

5. Generation of attosecond vortex pulse trains. Alba de las Heras, David Schmidt, Javier Serrano, Julio San Román, Luis Plaja, Charles G. Durfee and Carlos Hernández-García (USAL)

6. Full finite element 3D modeling of photonic open microcavities with 2D perovskites. S. de Maria-Garcia, L. Sanchis, A. Ferrando, M.A. Garcia-March, G. Muñoz-Matutano (UPV)

7. Robust isolated attosecond pulse generation driven by self-compressed sub-cycle waveforms. Marina Fernández Galán, Javier Serrano, Enrique Conejero Jarque, Carlos Hernández-García, and Julio San Roman (USAL)

8. Fast computation method to characterize the propagation dynamics of Ultrashort Laser Pulse. Enar Franco, José A. Rodrigo, Óscar Martínez-Matos (UCM)

9. Quadrature squeezed light source for measurements of the rotational velocity of levitated particles. María García Alonso, Ángel Cifuentes , Jason Tarunesh Francis , Gabriel Molina Terriza (Quantum Nanophotonics Laboratory)

10. Exploding beams and vortex beams generated by all-dielectric metasurfaces. Nilo Mata-Cervera, Marcos García-Barriopedro, Miguel A. Porras (UPM)

11. Polarization singularities in ultracold atom systems.S. de Maria-Garcia, M.A.Garcia-March (UPV)

12. On-axis optical trapping with vortex beams: optical forces through multipolar decomposition. Iker Gómez-Viloria, Alvaro Nodar, Martin Molezuelas-Ferreras, Jorge Olmos-Trigo,Angel Cifuentes, Miriam Martinez, Miguel Varga and Gabriel Molina-Terriza (Quantum Nanophotonics Laboratory)

13. Optical system for time-resolved spectroscopy in the femtosecond and picosecond range. Mario Guerras Rodríguez, Ignacio López Quintás e Íñigo Juan Sola Larrañaga (USAL)

14. Adaptive single-pixel imaging through turbid media. Erick Ipus, Armin J. M. Lenz, Jesús Lancis, Alba M. Paniagua-Diaz, Pablo Artal, Enrique Tajahuerce (UJI)

15. 2D and 4D periodic skyrmionic textures in light. David Marco, Israel Herrera, Sophie Brasselet and Miguel A. Alonso (UMH)

16. Intense and isolated polarization-controled magnetic fields with non-paraxial structured laser beams. Sergio Martín Domene, Carlos Hernández García, Luis Sánchez-Tejerina San José and Rodrigo Martín Hernández (USAL)

17. Generation of extreme-ultraviolet spatiotemporal optical vortices. Rodrigo Martín-Hernández, Miguel Ángel Porras (UPM), Luis Plaja and Carlos Hernández-García (USAL)

18. Pump-probe experimental possibilities at CLPU. C. Méndez, E. García, I. Hernández, M. Olivar, J.D. Pisonero, O. Varela, F. Galán, P. Zapatero, A. Vaquero, J. Pisonero, J.M Pérez Hernández and MD Rodríguez Frías (CLPU)

19. Characterizing the backscattered spectrum of Mie spheres. Martín Molezuelas Ferreras, Álvaro Nodar, María Barra Burillo, Jorge Olmos Trigo, Jon Lasa Alonso, Iker Gómez Viloria, J. J. Miguel Varga, Elena Posada, Rubén Esteban, Javier Aizpurua, Luis Hueso, Cefe López y Gabriel Molina Terriza. (Quantum Nanophotonics Laboratory)

20. Spatio-temporal characterization of ultrashort light pulses with structured illumination and compressing sensing. Mitzi Ordóñez-Pérez, Luis Ordóñez, Erick Ipus, Armin J. M. Lenz, Pedro J. Clemente-Pesudo, Gladys Mínguez-Vega, Enrique Tajahuerce (UJI)

21. High harmonic generation driven by Hermite-Gaussian beams. José Miguel Pablos-Marín, David D. Schmidt, Alba de las Heras, Nathaniel Westlake, Javier Serrano, Yuhao Lei, Peter Kazansky, Daniel Adams, Charles Durfee and Carlos Hernández-García (USAL)

22. Femtosecond laser ablation of 3D-printed scaffolds as an approach to improve bone tissue regeneration techniques. Yago Radziunas-Salinas, Bastián Carnero, María Pita-Vilar, Lucía Aboal-Castro, Luis Antonio Díaz-Gómez, María Teresa Flores-Arias (USC)

23. Quantum enhanced gyroscopes with optically levitated microparticles. Shah Jee Rahman, Quimey Pears Stefano, and Gabriel Molina-Terriza (Quantum Nanophotonics Laboratory).

24. All-bulk multipass post-compression scheme for short and clean pulse generation. Víctor Wilfried Segundo Staels, Enrique Conejero Jarque and Julio San Román (USAL)

25. Fast simulations of high harmonic generation using deep neural networks. Javier Serrano, José Miguel Pablos-Marín and Carlos Hernández-García (USAL)

26. Second Harmonic Generation Microscopy of Femtosecond Micro-Structured Crystals. Nuria Sevilla-Sierra, Javier R. Vázquez de Aldana, Carolina Romero e Ignacio Lopez-Quintas (USAL)

27. Analyzing the backscattered spectrum of dielectrical microspheres. I. Tribaldo Ramírez, M. Molezuelas Ferreras, A. Cifuentes, M. Varga, G. Molina Terriza (Quantum Nanophotonics Laboratory).

28. n-Root of the Su-Schrieffer-Heeger Model on a Photonic Ring Resonator Lattice. David Viedma, Anselmo M. Marques, Ricardo G. Dias, Verònica Ahufinger (UAB)

29. Nonlinear optics with partially coherent structured light beams. M. Gil de Oliveira (Universidade Federal Fluminense – Brazil), A. L. S. Santos Junior (Universidade Federal Fluminense – Brazil), A. C. Barbosa (Universidade Federal Fluminense – Brazil), B. Pinheiro da Silva (Universidade Federal Fluminense – Brazil), G. H. dos Santos (Universidade Federal de Santa Catarina – Brazil), G. Cañas (Universidad de Concepción – Chile), P. H. Souto Ribeiro (Universidade Federal de Santa Catarina – Brazil), S. P. Walborn (Universidad de Concepción – Chile), and A. Z. Khoury (Universidade Federal Fluminense – Brazil)

The list of posters is not definitive. It will be updated to include all collaborations.

FASLIGTH Network (RED2022-134391-T) is funded by the Ministry of Science and Innovation and the State Innovation Agency MCIN/AEI / 10.13039/501100011033