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## **XIV MEETING OF THE SPANISH RESEARCH GROUP ON FREE RADICALS (GEIRLI)**

**17-19 DE JULIO DE 2024. OVIEDO**

<https://www.geirli2024oviedo.es/>

### **MEMORANDUM**

The Spanish Research Group on Free Radicals (GEIRLI) held its XIV meeting at the Historic Building of the University of Oviedo, with the participation of 69 attendees from July 17 to 19, 2024. The organizing committee was composed of members from the Redox Biology and Cancer Metabolism Group of the University of Oviedo: Rosa M. Sainz (Professor and chair of the organizing committee, Member of SFRR), Juan Carlos Mayo (Professor and Member of SFRR), David Hevia (Associated Professor and Member of SFRR), Isabel Quiros-Gonzalez (Associated Professor I3), and Pedro Gonzalez Menendez (Ramón y Cajal Researcher). The scientific committee included the organizing committee as well as members of GEIRLI's board of directors (Jordi Muntane Relat - Chairman, Institute of Biomedicine of Seville-, Teresa Carbonel -Secretary, University of Barcelona-, Víctor M. Víctor -Treasurer, University of Valencia-) and Juan Sastre (President of the European Society for Free Radical Research, SFRR-E, University of Valencia). The opening ceremony was attended by Irene Diaz Rodriguez, Vice-Chancellor for Research of the University of Oviedo, and Ivan Aitor Lucas, Director General for Innovation, Research, and Digital Transformation of the Government of Asturias.





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## SCIENTIFIC PROGRAM

The event's scientific program featured 3 plenary lectures by Prof. Giovanni E. Mann (Scientific Advisor of SFRR and Professor of Vascular Physiology, Kings College, London), by Dr. Pedro Friedmann Angeli (Rudolf Virchow Center, University of Würzburg) and, by Dr. Isabel Frabregat (Bellvitge Biomedical Research Institute, IDIBELL) )

The program involved 14 talks, 8 oral communications selected among young investigators, 2 commercial communications (Agilent and A4cell), and 19 posters. The full program is available on the congress website (<https://www.geirli2024oviedo.es/>), and attached to this memorandum. The book of abstracts was also available and it is attached. In addition to the scientific program, attendees enjoyed a welcome cocktail, a guided tour of Oviedo's historic quarter, and a traditional Asturian dinner.





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## MEDIA AND SOCIAL MEDIA COVERAGE

The organizing committee actively promoted the congress on social media platforms such as X (@bioxgroup) and LinkedIn. The event was also shared via GEIRLI's X account (@GEIRLI2), on the websites of SFRR-E, SEBBM, and the University of Oviedo, and through some collaborating companies (Bioquochem, Agilent Technologies). During the congress, both GEIRLI and participating research groups used social media for coverage. The opening ceremony was broadcast by the local TV "Radio Televisión Española (RTVE) Asturias" and radio "Radio Televisión del Principado de Asturias (RTPA)W". Additionally, the communication agency of the University of Oviedo Foundation, the event's technical secretariat, was present on the final day. Coverage highlights include the "Panorama Regional" program on July 18 (Panorama Regional 2 - 18/07/24 (rtve.es), from minute 13:50).





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## FUNDING

The meeting was funded by scientific societies as well as various biomedical and biotechnology companies. In addition to SFRR-E, the Spanish Society of Biochemistry and Molecular Biology (SEBBM) supported the event with €1,200. The Spanish Society for Cell Biology (SEBC) sponsored Dr. Fabregat and the best poster communication award expenses. Additional funding was provided by the University of Oviedo and Oviedo City Council through its annual funding call.

Corporate support included contributions from *A4cell nanodevices*, *Agilent Technologies*, *Bioquochem*, *DISMED*, *bioNova científica*, *Izasa Scientific*, *LICOR-bio*, *MedChemExpress*, and *Palex*.

Commercial/Technologic communications were delivered by Julio Martín from *A4cell*, who presented SPACHip technology, and Miriam Contreras from *Agilent*, who showcased the company's latest equipment. Agilent and LICOR-bio maintained booths throughout the three-day congress, while *DISMED*, *MedChemExpress*, and *bioNova científica* provided promotional materials. *Bioquochem* supplied attendees with welcome materials (bags, notebooks, pens, etc.), and *DISMED* sponsored the award for the best oral communication.



# XIV REUNIÓN DEL GEIRLI



Grupo Español de Investigación  
en Radicales Libres



**PARANINFO UNIVERSIDAD DE OVIEDO**



**17- 19 JULIO 2024**

**INSCRIPCIONES: [WWW.GEIRLI2024OVIEDO.ES/](http://WWW.GEIRLI2024OVIEDO.ES/)**

**CONTACTO: [GEIRLIOVIEDO@UNIOVI.ES](mailto:GEIRLIOVIEDO@UNIOVI.ES)**

Fecha límite de envío de comunicaciones 17 de junio

**ORGANIZAN:**



Universidad de Oviedo



**COLABORAN:**



**Agilent Technologies**



## CONFERENCIAS PLENARIAS

**Giovanni Mann Professor**  
(Vascular Physiology, Kings  
College, London)

**Pedro Friedmann Angeli**  
(Rudolf Virchow Center  
University of Würzburg)

**Isabel Fabregat Romero**  
(IDIBELL, Barcelona)



## SESIONES

- Estrés oxidativo y patofisiología
- Nuevas metodología y ciencias omicas en la investigación en biología redox
- Control redox de la señalización celular
- Mitocondria, estrés oxidativo y muerte celular
- Organismos modelo en el estudio de la biología redox

## ORGANIZA

GRUPO BIOLOGÍA REDOX  
UNIVERSIDAD DE OVIEDO  
[@bioxgroup](https://twitter.com/bioxgroup)



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# XIV GEIRLI Congress

Oviedo, 17-19<sup>th</sup> July 2024 (Historic Building University of Oviedo)

## Wednesday 17<sup>th</sup> July

|       |                                                                                                                                                                                                                                                                                                 |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15:30 | Registration and documentation pick up                                                                                                                                                                                                                                                          |
| 16:00 | Groups meeting                                                                                                                                                                                                                                                                                  |
| 17:00 | Welcome from Organizing Committee                                                                                                                                                                                                                                                               |
| 17:30 | Coffee break                                                                                                                                                                                                                                                                                    |
| 18:00 | Plenary lecture: <b>Giovanni E. Mann</b> "Roadblocks for clinical translation: Importance of physiological O <sub>2</sub> for high throughput screening in live cell models" (Professor of Vascular Physiology, Kings College, London). Presented by <b>Juan Sastre</b> (President SFRR-Europe) |
| 19:30 | Cocktail (Vino español)                                                                                                                                                                                                                                                                         |

## Thursday 18<sup>th</sup> July

### Session 1

### Oxidative stress and Pathophysiology of Disease

Moderators: Juan C. Mayo & Teresa Carbonell Camos

|      |                                                                                                                                                                       |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8:30 | <b>Federico V. Pallardó</b> "Innovative approaches in Friedrich' Ataxia: The substantial impact of calcium and oxidative stress" (INCLIVA, Universidad de Valencia)   |
| 9:00 | <b>Dolores Pérez-Sala</b> "The connections of type III intermediate filaments with oxidative stress: a role in neurodegeneration" (CIB Margarita Salas, CSIC, Madrid) |
| 9:30 | <b>Ana I. Rodríguez-Perez</b> "Renin Angiotensin System and Oxidative stress" (IDIS, Universidad de Santiago de Compostela)                                           |

### *Selected Oral Communications*

|       |                                                                                                                                                                                                 |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10:00 | <b>Diego Moneo Corcuera</b> "Oxidative stress induces vimentin remodeling into assemblies compatible with biomolecular condensates" (CIB Margarita Salas, CSIC, Madrid)                         |
| 10:15 | <b>Norma Alva Bocanegra</b> "Previous hypothermic perfusion attenuates warm ischemia-reperfusion damage in isolated liver: early attempts to decipher the mechanism" (Universidad de Barcelona) |
| 10:30 | Poster session                                                                                                                                                                                  |
| 11:00 | Coffee break                                                                                                                                                                                    |



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## Session 2

# Technical Approaches and omic-sciences in the Investigation of Redox Biology

Moderators: David Hevia Sánchez & Isabel Quirós González

- 11:30** **Jesús Vázquez** "Novel proteomics approaches for high-throughput analysis of oxidative post-translational protein modifications" (CNIC, Madrid)
- 12:00** **Luis Valledor González** "Metabolomics: A powerful tool for investigating redox responses to abiotic stress in *Chlamydomonas reinhardtii*" (Universidad de Oviedo)
- 12:30** **Vanesa Cepas López** "Patient-derived organoids and genetically-encoded redox biosensors, a step forward to study single cell redox dynamics" (Candiolo Cancer Institute, Turín)

## *Commercial communications*

- 13:00** **Miriam Contreras Mostazo** "Illuminating Oxidative Stress: Cutting-Edge ROS Measurement with Seahorse, Cytation, Novocyte, and Synergy Technologies". (Agilent Technologies, Spain)
- 13:15** **Julio Martin** "Real-time intracellular monitoring of ROS induction in live cells with SPACHip technology" (Arrays for Cell Nanodevices\_A4cell, Madrid, Spain)
- 13:30** Poster session
- 13:30** Lunch break

## Session 3

# Redox control of Cell Signaling

Moderator: Jordi Muntané

- 15:30** **Juan C. Mayo** "The Interplay Between Redox Signaling and Circadian Clock Genes" (IUOPA, Universidad de Oviedo)
- 16:00** **Maria Luisa Sandalio** "Subcellular and light/dark-dependent redox dynamic changes in stress and signaling in plants" (Estación Experimental del Zaidín, Granada)
- 16:30** **Susana Cadenas** "Cardioprotective role of uncoupling protein UCP3 in ischemia-reperfusion injury" (CBM Severo Ochoa, CSIC, Madrid)

## *Selected Oral Communications*

- 17:00** **Eva Martín Prieto** "RONS facilitate AMPK and AKT phosphorylation which drive GLUT4 translocation to plasma membrane in skeletal muscle cells (C2C12 myotubes)" (Universidad de Salamanca)
- 17:10** **Clara Luna Marco** "Disruption of circadian rhythm markers and oxidative stress in leukocytes of type 2 diabetes" (INCLIVA, Universidad de Valencia)
- 17:20** **Clara García Calvo** "NOX2 correlation with lipid metabolism, prognosis and survival in acute myeloid leukaemia" (Universidad de Salamanca)



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|       |                                                                                                                                                                                    |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 17:30 | Coffee break                                                                                                                                                                       |
| 18:00 | Plenary Lecture: <b>Pedro Friedmann Angeli</b> "Selenocysteine metabolism and ferroptosis resistance, the (un)expected connection" (Rudolf Virchow Center, University of Würzburg) |
| 19:00 | GEIRLI members meeting                                                                                                                                                             |
| 20:00 | Visit to the historic downtown and dinner                                                                                                                                          |

## Friday 19th July

### Session 4

## Mitochondria, Oxidative Stress and Cell Death

Moderators: Victor M. Victor & Pedro González Menéndez

|       |                                                                                                                                                                                                                  |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:00  | <b>Antonio Martínez Ruiz</b> "What does sodium and calcium transport in mitochondria have to do with redox signaling in hypoxia and inflammation?" (Instituto de Investigación Sanitaria Princesa, CSIC, Madrid) |
| 9:30  | <b>Javier Traba</b> "Regulation of innate and adaptive immune cells by mitochondrial reactive oxygen species" (CBM Severo Ochoa, Madrid)                                                                         |
| 10:00 | <b>Laura Doblado Bueno</b> "Mitochondrial oxidative stress as a key determinant for cardiovascular disease in type 2 diabetes" (IIBM, CSIC, UAM, Madrid)                                                         |

### *Selected Oral Communications*

|       |                                                                                                                                                                           |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10:30 | <b>Julia Cacace</b> "Poor glycaemic control in type 2 diabetes promotes mitochondrial dysfunction" (FISABIO, Valencia)                                                    |
| 10:40 | <b>Belén García Soler</b> "Effects of SOD2 dysregulation on spermatogenesis and early embryo development" (IUOPA, Universidad de Oviedo)                                  |
| 10:50 | <b>Manuela Hidalgo López</b> "Loss of mitochondrial plasticity negatively impacts hepatocellular carcinoma development in the context of MAFLD" (IIBM, CSIC, UAM, Madrid) |
| 11:00 | Poster Session-Coffee Break                                                                                                                                               |

### Session 5

## Redox Homeostasis in Model Organisms

Moderator: Rosa M. Sainz

|       |                                                                                                                                                |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------|
| 11:30 | <b>Francisco J. Corpas</b> "Pepper fruit ripening: A colorful and edible nitro-oxidative cocktail" (Estación Experimental del Zaidin, Granada) |
| 12:00 | <b>Nuria Paricio</b> "Oxidative stress in Drosophila and human cell models of Parkinson's disease" (Universidad de Valencia)                   |



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- 12:30 Round table: The future of Redox Biology in the IA era  
Juan Sastre, Jordi Muntané, Teresa Carbonell y Rosa M Sainz
- 13:00 Plenary Lecture Ana Navarro: **Isabel Fabregat** "Lights and shadows about the role of NADPH oxidases in liver fibrosis and cancer" (IDIBELL, Barcelona)
- 14:30 Awards and Closing Ceremony



**LIBRO DE  
RESÚMENES**

**ABSTRACTS  
BOOK**