



## **Scientific Program**

### **XIII Reunión Científica de Bioinorgánica BioGranada 2023**

Granada, 5-7 junio 2022



**UNIVERSIDAD  
DE GRANADA**

## SCIENTIFIC PROGRAM OVERVIEW

5 June		6 June		7 June			
		09:00-09:45	PL-02				
		09:45-10:15	INV-02	10:00-10:15	OC-16		
		10:15-10:30	OC-6	10:15-10:30	OC-17		
		10:30-10:45	OC-7	10:30-10:45	OC-18		
		10:45-11:00	OC-8	10:45-11:15	INV-05		
		11:00-11:15	OC-9				
		11:15-11:45	Coffee Break	11:15-12:00	PL-04		
		11:45-12:30	INV-03	12:00-12:30	Closing Ceremony		
11:00-14:00	Registration	12:30-12:45	OC-10				
		12:45-13:00	OC-11				
		13:00-13:15	OC-12				
		13:15-13:30	OC-13				
		13:30-13:45	OC-14				
		13:45-14:00	OC-15				
				14:00-16:00	Lunch		
16:00-17:00	Opening Ceremony	16:00-16:45	PL-03				
		16:45-17:15	INV-04				
17:00-17:45	PL-01	17:15-17:30	AW-01				
		17:30-17:45	AW-02				
17:45-18:15	INV-01	17:45-18:30	Poster Session				
18:15-18:30	OC-1						
18:30-18:45	OC-2	18:30-19:30	AEBIN Meeting				
18:45-19:00	OC-3						
19:00-19:15	OC-4						
19:15-19:30	OC-5						
19:30-20:30	Poster Session						
20:30	Welcome Reception			21:30	Gala Dinner		

# SCIENTIFIC PROGRAM

5 JUNE 2023

**11:00-14:00 Registration**

**16:30-17:00 Opening Ceremony**

*Mónica López Alonso*. Director of E.T.S. de Ingeniería de Caminos, Canales y Puertos, UGR

*Manuel Sánchez Polo*. Dean of Facultad de Farmacia, UGR

*Patrick Gámez*. President of AEBIN

*Josefa María González-Pérez*. Vicepresident of AEBIN and Chair of BioGranada23

*Alicia Domínguez-Martín*. Vicechair of BioGranada23

Chairperson: Patrick Gámez

**17:00-17:45 Opening Lecture: “Metal Complexes as Therapeutics”**

*Gilles Gasser*. Chimie ParisTech, PSL Univeristy, CNRS, Institute of Chemistry for Life and Health Sciences (France).

Chairperson: Blanca R. Manzano Manrique

**17:45-18:15 Invited Lecture: “Mimetics of defence enzymes against ROS: from aza-macrocyclic complexes to nano-structured systems”**

*Enrique García-España*. ICMol, University of València.

**18:15-19:30 Oral Communications:**

**OC-01:** “An Ir(III)-Phthalocyanine Conjugate as Advanced Photosensitiser for Photodynamic Therapy”

*José Ruiz*. Departamento de Química Inorgánica, Universidad de Murcia.

**OC-02:** “Exploring chirality in fighting-cancer metallodrugs”

*Eva Royo*. Departamento de Química Orgánica y Química Inorgánica, Instituto de Investigación Química Andrés M. del Río (IQAR), Universidad de Alcalá.

**OC-03:** “Breast Cancer Stem Cell Potent Copper(II) Coordination Complexes”

*Joshua Northcote-Smith*. School of Chemistry, University of Leicester (United Kingdom).

**OC-04:** “Highly Efficient Cleavage of DNA Replication Foci in Cell Nuclei by ATCUN-Functionalized Peptide Helicates”

*Miguel Vázquez-López*. Centro Singular de Investigación en Química Biolóxica e Materiais Moleculares (CiQUS), Universidade de Santiago de Compostela.

**OC-05:** “Metal-DNA Nanosystems with Programmable structures”

Carmen López-Chamorro. Departamento de Química Inorgánica. Universidad de Granada.

**19:30-20:30 Poster Session**

**20:30 Welcome Reception**

**6 JUNE 2023**

Chairperson: Ana I. Matesanz

**09:00-09:45 Plenary Lecture: “Expanding the Biocatalytic Toolbox with Salophen-Myoglobin Catalysts”**

Amanda G. Jarvis. School of Chemistry, University of Edinburgh (United Kingdom).

Chairperson: María Jesús Fernández-Trujillo-Rey

**09:45-10:15 Invited Lecture: “Complejos de bases Schiff con Re(I)/Tc(I) y Ga(III) en el Diseño de Radiofármacos”**

Ezequiel M. Vázquez-López. Departamento de Química Inorgánica - Instituto de Investigación Sanitaria Galicia Sur, Facultad de Química Universidade de Vigo.

**10:15-11:15 Oral Communications:**

**OC-06:** “Complejos Dinucleares de Pd(II)/Ditiobiurea con Potencial Actividad frente a Cáncer Gástrico”.

Ana I. Matesanz. Departamento de Química Inorgánica, Facultad de Ciencias, Universidad Autónoma de Madrid.

**OC-07:** “Novel Ru-Coumarin Photosensitizers for Combating Hypoxic tumors with PDT”.

Vicente Marchán. University of Barcelona, Faculty of Chemistry, Department of Inorganic and Organic Chemistry, Section of Organic Chemistry, IBUB.

**OC-08:** “Platinum Complexes for Combined Chemotherapy and Immunotherapy”.

Joshua Karges. Faculty of Chemistry and Biochemistry, Ruhr-University Bochum (Germany).

**OC-09:** “Controlled Release of Single-Stranded DNA from Protein-Coated Gold Nanoparticles”.

Ana B. Caballero. Departament de Química Inorgànica i Orgànica, Facultat de Química, Universitat de Barcelona. Institut de Nanociència i Nanotecnologia de la Universitat de Barcelona (IN2UB).

**11:15-11:45 Coffee Break**

Chairperson: José Ruiz

**11:45-12:30 Invited Lecture: “Potent Tethered Osmium(II) Half-Sandwich Anticancer Agents Bearing Phenylpyridine”**

Ana M. Pizarro. IMDEA Nanociencia; Unidad Asociada de Nanobiotecnología CNB-CSIC-IMDEA.

**12:30-14:00 Oral Communications:**

**OC-10:** “Synthesis and biological evaluation of novel Re(I) complexes against cancer cells and *Caenorhabditis elegans*”.

Pezhman Ashoo. Departamento de Química Inorgánica, Universidad de Murcia; Institute for Bio-Health Research of Murcia (IMIB-Arrixaca).

**OC-11:** “Platinum Iodido complexes affect mitochondrial function and induce ROS and senescence in gastrointestinal cancer cells”.

Jorge M. Herrero. UAM & Instituto de Investigaciones Biomédicas Alberto Sols (IIBM-CSIC-UAM); Inst. Ramón y Cajal de Investigación Sanitaria (IRYCIS).

**OC-12:** “Silver-based Terpyridine Complexes as Antitumor Agents”.

María Gil-Moles. Instituto de Síntesis Química y Catálisis Homogénea (ISQCH), CSIC-Universidad de Zaragoza; Departamento de Química, Universidad de La Rioja. Centro de investigación de Síntesis Química (CISQ).

**OC-13:** “New  $\beta$ -Carboline-based Ir(III) and Ru(II) photosensitizers with mitochondria-targeted anticancer activity”.

Juan Sanz-Villafruela. Departamento de Química, Universidad de Burgos.

**OC-14:** “Biscyclometalated Ir(III) Complexes with  $\pi$ -extended C<sup>N</sup> ligands as Potent Anticancer PDT Agents”.

Carlos Gonzalo-Navarro. Departamento de Química Inorgánica, Orgánica y Bioquímica-IRICA, Universidad de Castilla-La Mancha.

**OC-15:** “Nucleobases as cofomers in pharmaceutical multicomponent solids involving diclofenac”.

F. Javier Acebedo-Martínez. Laboratorio de Estudios Cristalográficos, IACT, CSIC-Universidad de Granada.

**14:00-16:00 Lunch Break**

Chairperson: Javier García Tojal

**16:00-16:45 Plenary Lecture: “Anti-cancer stem cell metal complexes”**

Kogularamanan Suntharalingam. School of Chemistry, University of Leicester (United Kingdom).

**16:45-17:15 Invited Lecture: “Biopolymer-Metal-based Hydrogels for Biomedical applications”**

Natividad Gálvez. Departamento de Química Inorgánica, Universidad de Granada.

Chairperson: Vanesa Fernández Moreira

**17:15-17:45 AEBIN Awards:**

**AW-01:** “Potent Anticancer Activity of an Iridium Metallodrug via Oncosis”.

Enrique Ortega-Forte. Departamento de Química Inorgánica, Universidad de Murcia.

**AW-02:** “Probiotic Bacteria as Carrier of Metallic Nanoparticles for Magneto-optical Hyperthermia”.

Víctor Garcés. Departamento de Química Inorgánica; Instituto de Biotecnología, Universidad de Granada.

**17:45-18:30 Poster Session**

**18:30-19:30 AEBIN Meeting**

**21:30 Gala Dinner “La Chumbera” Restaurant**

*Address: Camino del Sacromonte 107, 18010 Granada*

**7 JUNE 2023**

Chairperson: Juan Niclós-Gutiérrez

**10:00-10:45 Oral Communications:**

**OC-16:** “Gold Compounds as cys-targeting Inhibitors: Mechanisms and New Directions”.

Raphael de Paiva. Donostia International Physics Center - DIPC.

**OC-17:** “Copper proionophores for the selective targeting of cancer cells”.

Valentina Oliveri. Dipartimento di Scienze Chimiche, University of Catania (Italy).

**OC-18:** “Structural and Thermodynamic Study of the B12 Riboswitch from *Klebsiella Pneumoniae*”.

Miquel Barceló-Oliver. Department of Chemistry, University of the Balearic Islands.

**10:45-11:15 Invited Lecture: “Theranostic Systems based on Multifunctional Nanostructured Materials loaded with Metallodrugs”**

Santiago Gómez-Ruiz. COMET-NANO Group, Departamento de Biología y Geología, Física y Química Inorgánica, ESCET, Universidad Rey Juan Carlos.

Chairperson: Luca Salassa

**11:15-12:00 Closing Lecture: “Studying Metal Complexes in Biological Environments: Inorganic Chemical Biology”**

Clotilde Policar. Laboratoire des BioMolécules, LBM, Département de chimie, École normale supérieure, PSL University, ENS-PSL (France).

**12:00-12:30 Closing Ceremony**

## POSTER COMMUNICATIONS

- P-01** Celulosa Bacteriana como filtro UV para protección de la piel.
- P-02** Nuevos complejos ciclometalados heterolépticos de Ir(III) como agentes fototerapéuticos.
- P-03** Bimetallic photosensitizers based on Ir(III)-Au(I) carbenes.
- P-04** Materiales fotoelectrocromicos como sensores de biomoléculas en suelos.
- P-05** Sensores de biomoléculas con interés en salud basados en polioxometalatos electrocromicos.
- P-06** Photo-controlled delivery of cisplatin catalyzed by riboflavin.
- P-07** New NanoPS based on Ir complexes encapsulated into nanogels with PDT behaviour for cancer treatment.
- P-08** Photodynamic therapy with mitochondria-targeted biscyclometallated Ir(III) complexes. Multi-action mechanism and strong influence of the C<sup>N</sup> ligand.
- P-09** A novel near-IR absorbing ruthenium(II) complex and its cetuximab bioconjugates as targeted photosensitizers for photodynamic therapy.
- P-10** Ligand photoejection and cytotoxic behaviour of 2,2'-dipyridylamine-containing ruthenium(II) polypyridyl complexes as photosensitizers in photoactivated chemotherapy (PACT).
- P-11** Photoredox Catalysis For The Bioorthogonal Activation Of Pt(IV) Anticancer Complexes.
- P-12** Phosphonium gold(I) complexes as antitumor agents targeting mitochondria.
- P-13** The anti-breast cancer stem cell properties of cobalt(III)-non-steroidal anti-inflammatory drug complexes.
- P-14** Complejos de Ir(III) con actividad antimetastásica y antiproliferativa frente al cancer de mama triple negativo.
- P-15** Emissive cyclometallated Ir(III) drugs with potential as anticancer agents: synthesis and biological activity in lung cancer.
- P-16** Preliminary in vitro antiproliferative assays over human tumor cells of a new silver(I) complex with 6-(trifluoromethyl)uracil.
- P-17** Complejos fluorados de Ir(III) derivados de benzimidazol como potenciales agentes oncóticos.
- P-18** Exploring the cytotoxicity and photocytotoxicity of cyclometallated Ir(III) complexes for cancer treatment and bioimaging.



- P-19** Exploring the potential of coinage complexes with nucleobase ligands for anticancer applications.
- P-20** Carbohydrate-modified metal complexes effect on metastasis-related processes.
- P-21** New cyclometalated osmium(II) complexes inhibit the proliferation of cancer cells.
- P-22** A silver(I) complex with probenecid: in vitro antitumoral activities, and development of a cellulose-based device for the sustained release of the complex.
- P-23** Enhancing colon cancer treatment: the potential of NSAIDS and gold(I) complexes working in tandem.
- P-24** Potencial actividad citotóxica de complejos de rutenio(II) con ligandos tiosemicarbazona.
- P-25** Estudio de complejos mono y polinucleares de Fe (II) bioinspirados con ligandos tipo salen.
- P-26** Encapsulation and delivery of an immunogenic copper(II) complex using polymeric micelles.
- P-27** Ferrozoles: ferrocenyl derivatives of letrozole with dual effect as potent aromatase inhibitors and cytostatic activity.
- P-28** Gold complexes with nhc ligands: tuning luminescent and biological properties.
- P-29** Complejos ciclometalados de Ru(II).
- P-30** Organic/Inorganic biomaterial composed of hydroxyapatite and collagen, glynicic or sodium formate.
- P-31** Multifunctional nanomaterials towards efficient and sustainable crop production.
- P-32** Multifunctional nanomaterials against microorganisms based on silver doped silica nanoparticles.
- P-33** Optical and magnetic properties of aerogels/hydrogels with biomedical applications.
- P-34** Intestinal crossing of metal-organic frameworks.
- P-35** Zeolitic imidazolate frameworks as nerve agent antidotes.
- P-36** RS69N@MOF-808: un nuevo antídoto para tratar la intoxicación por agentes fosforados.
- P-37** Synthesis and characterization of half-sandwich rhodium and iridium antimicrobials.
- P-38** NHC-gold-alkynyl complexes derived from 3-hydroxyflavones as potential bactericide agents.
- P-39** Two Zn-MOFs based on a tricarboxylate linker that promote antibacterial activity.

- P-40** Bisphenols adsorption on activated carbon clothes improved by the presence of bacteria.
- P-41** Recognition of analytes of environmental interest and antioxidant activity of a pyridoxal-polyamine.
- P-42** 1H-pyrazole azamacrocyclic compounds as an antioxidant mimetics.
- P-43** Biomimetic nanoelicitors: a new strategy towards more efficient and sustainable viticulture.
- P-44** Desulfurization reactions of thiosemicarbazone-copper(II) complexes in acid and basic media.
- P-45** New desulfurization process with biological significance: transformation of thiocarbohydrazone in azine.
- P-46** Érase una vez el hierro. EL COMIC.
- P-48** Photocatalytic Detoxification of Fenamiphos by hybrid salts based on Metalorganic polyhedra and Phosphopolyoxometalates.
- P-49** Exploring the Metal-Coordination-triggered Carbamate Self Immolative Hydrolysis Process.
- P-50** Development of bis-phenantroline metal complexes for targeting G-Quadruplex DNA.
- P-51** Synthesis and biological activity of glycoconjugated Pd(II) and Pt(II) complexes based on extended planar aromatic ligands.
- P-52** Cathecol Oxidase Activity of Dinuclear Copper(II) Complexes derived from Bisthiosemicarbazones.
- P-53** Platinum and Palladium complexes of tetraazapyridinacyclophanes and their interaction with mono and polynucleotides.
- P-54** Synthesis, DNA interaction and cytotoxic activity of Pt(II) complexes based on 3,5,6,8-tetraphenyl-1,10-phenanthroline.
- P-55** Complejos de Fe(II) con ligandos Tiosemicarbazonas con Piridinas sustituidas como transportadores de oxígeno para oxidaciones con peróxido de hidrógeno.
- P-56** Síntesis y caracterización de Complejos de Galio(III) con Ligados tipo Hidrazona y Tiosemicarbazona.
- P-58** Molecular Recognition between the copper(II)-oxydiacetate chelate and N9-(2-hydroxyethyl)adenine.
- P-59** Molecular Recognition between the copper(II)-(pyridine-2,6-dicarboxylate) chelate and the Bio-ligand Creatinine.

**P-62** Interligand interactions in two copper(I) complexes having flexible N-(alkyl-phenyl)-iminodiacetate chelators and creatinine.

**P-63** The copper(II) complex with N-(1-naphthyl)methyl-iminodiacetate and purine coligands. Molecular and supra-molecular recognition.

**P-64** C-H...F, F... $\pi$ , N-H...O and O-H...O interligand interactions in the crystal of (p-F<sub>3</sub>C-benzyl-iminodiacetate)(purine)(aqua)copper(II), [Cu(p-F<sub>3</sub>C-BzIDA)(H(N9)pur)(H<sub>2</sub>O)]

**P-65** Enhanced photocatalytic degradation of ciprofloxacin via Silver doped zinc oxide (Ag-ZnO) under solar irradiation.

**P-66** Novel Photosensitizers based on Ru-Coumarin Complexes for combating Hypoxic Tumors.



You can find the Book of Abstract here:



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