

# Comunicaciones científicas Communications scientifiques

2018



Proyecto cofinanciado por el FEDER





**I EAIAMP**

**Euroindoamerican  
Natural Products Meeting**





# Welcome

Dear colleagues and friends,

The I Euroindoamerican Natural Products Meeting will be held in Madrid, Spain, in 2018 from May 29<sup>th</sup> to June 1<sup>st</sup>, 2018. It is the first time that our city hosts this Congress, sponsored by the Phytochemical Society of Europe, Grupo de Productos Naturales-RSEQ, CSIC and Amity University. The purpose of this meeting is to bring together scientists and academia, research institutions, industry and government to report on basic and applied aspects of research on natural products from plants and microbes. The emphasis of this conference will be placed on presentations and discussions of fundamental and applied research and implementation of research projects on the discovery, development, safety and quality control, raw material supply, proper use of natural products. All interested individuals are encouraged to attend and engage in the exchange of scientific data and information. Networking and discussing with national and international experts in the field will make for a very enriching experience.

The city of Madrid will welcome us on this occasion and waits to show us the best of its museums, theaters, exhibitions, gastronomy, monuments, streets, people and surroundings. The venue of the Congress CSIC Auditorium is a beautiful historical building, comfortable, functional and well connected and it will ensure a pleasant ambient for the Meeting.

We are sure that all this will contribute to make an unforgettable days and to strengthen ties of collaboration and friendship with other professionals.

We work for a pleasant and fruitful experience and wait for you in Madrid.

**Azucena González-Coloma**

**Maria Fe Andres**

**Carmen Elisa Diaz**

## IMPORTANT DATES

Deadline for abstracts submission: April 16th, 2018

Notification of acceptance: May

## EIAMNP2018

- › Registration (</index.php/registration-accommodation/registration>)
- › Accommodation (</index.php/registration-accommodation/accommodation?id=61>)

- › Abstracts (/index.php/abstracts?id=80)
- › Programme (/index.php/programmes/programme-at-a-glance)
- › Venue (/index.php/general-information/venue-consejo-superior-de-investigaciones-cientificas-csic)



## We started

---


## Technical Secretariat

---

(<http://www.pacifico-meetings.com>)  Pº Gral Mtnez Campos

9.2º | Madrid

 28010 Madrid-SPAIN

 +34 913 836 000

 [eamnp2018@pacifico-meetings.com](mailto:eamnp2018@pacifico-meetings.com)

(<mailto:eamnp2018@pacifico-meetings.com>)

Copyright © EIAMNP2018

(<http://www.joomshaper.com>)



# I EIAMNP

Euroindoamerican  
Natural Products Meeting

[www.eiamnp2018.com](http://www.eiamnp2018.com)



29<sup>th</sup> MAY / 1<sup>st</sup> JUNE 2018

## MADRID

Institute of Agricultural Sciences, CSIC, Madrid



Universidad  
Europea

LAUREATE INTERNATIONAL UNIVERSITIES

## ABSTRACTS BOOK





## NATURAL PRODUCTS, A FRAMEWORK TO SHARE RESEARCH AND SOCIAL INCLUSION

A. M. Mainar<sup>1,2</sup>, J. I. Pardo<sup>1,2</sup>, J. F. Martínez-López<sup>1,3</sup>, J. Navarro-Rocha<sup>1,4</sup>,  
E. Langa<sup>1,5</sup>, M. R. Pino-Otín<sup>1,5</sup>, J. S. Urieta<sup>1,2</sup>

<sup>1</sup>Grupo GATHERS, Universidad de Zaragoza, c/ Mariano Esquillor s/n, 50018-Zaragoza, Spain.

<sup>2</sup>I3A, Universidad de Zaragoza, c/ Mariano Esquillor s/n, 50018-Zaragoza, Spain. amainar@unizar.es

<sup>3</sup>Aragon Food Institute (IA2), Universidad de Zaragoza, F. Ciencias, 50009-Zaragoza, Spain.

<sup>4</sup>CITA, Unidad de Recursos Forestales, Avda. Montañana 930, 50059-Zaragoza, Spain.

<sup>5</sup>Universidad San Jorge, Campus Universitario Villanueva de Gállego, Zaragoza, Spain.

**Keywords:** *Natural Products, Supercritical Fluid Technologies, Cosmetics, Social Exclusion Risk*

The **SPAGYRIA Project** (1,8M€ EU Project) arises from the idea of taking advantage of all the fractions from natural product extracts obtained through green technologies. This idea was one of the main objectives of the TECHNOBIOCROP Project, led by A. M. Mainar under the coordination of A. González-Coloma.

But Project SPAGYRIA goes further than a research project:

- It is a project for cooperation, solidarity and innovation that aims to create a new line of plant extracts for the production of ecological cosmetics.
- It is a solidarity project that involves groups at risk of social exclusion (people with disabilities and marginalized people), and that will contribute to improve both their employability and so their quality of life.
- The project intends a capitalization of experience and the economic development of partners from each side of the Spanish-French border, both at the level of culture and aromatic plant conditioning and at the level of green fractionation process, manufacturing and testing.

In this work, we will present the structure of Project SPAGYRIA and some previous results concerning of supercritical concentration of active ingredients obtained from aromatic and medicinal plants and other vegetal species [1].

### References

- [1] C. Grosso, A. C. Figueiredo, J. Burillo, A. M. Mainar, J. S. Urieta, J. G. Barroso, J. A. Coelho, A. M. F. Palavra, *J. Sep. Sci.*, 2008, Vol. 33 (14), 2211-2218.


*The project has been 65% cofinanced by the European Regional Development Fund (ERDF) through the Interreg V-A Spain-France-Andorra programme (POCTEFA 2014-2020). POCTEFA aims to reinforce the economic and social integration of the French-Spanish-Andorran border. Its support is focused on developing economic, social and environmental cross-border activities through joint strategies favouring sustainable territorial development.*

*El proyecto ha sido cofinanciado al 65% por el Fondo Europeo de Desarrollo Regional (FEDER) a través del Programa Interreg V-A España-Francia-Andorra (POCTEFA 2014-2020). El objetivo del POCTEFA es reforzar la integración económica y social de la zona fronteriza España-Francia-Andorra. Su ayuda se concentra en el desarrollo de actividades económicas, sociales y medioambientales transfronterizas a través de estrategias conjuntas a favor del desarrollo territorial sostenible.*

(217) Correo Unizar... x EIAMNP2018 - Committe... x Folleto\_EIAMNP\_v4.indd x

Es seguro | <https://www.eiamnp2018.com/index.php/committees>

Aplicaciones | Documentación técnica | Propiedades termof... | Inicio | Universidad | MICINN - Sede Ele... | POCTEFA - Informa... | Portal de servicios | Login POCTEFA | Otros marcadores

**EIAMNP** 

HOME WELCOME **COMMITTEES** PLENARY SPEAKERS ABSTRACTS PROGRAMES REGISTRATION ACCOMMODATION

GENERAL INFORMATION POSTER PRESENTATIONS SPONSORS

### Scientific Committee

|  |
|--|
| Prof. Pinarosa Avato (PSE)                               |
| Prof. Isabel L. Bazzocchi. Univ. La Laguna, Spain        |
| Prof. Cedric Bertrand. Univ. Perpignan, France           |
| Prof. Alejandro Fernandez Barrero. Univ. Granada, Spain  |
| Dra Marcela Gamboa. CICY, Mexico.                        |
| Dra Kirsten Leiss. Univ. Wageningen, Netherlands         |
| <b>Prof. Ana Mainar. Univ. Zaragoza, Spain</b>           |
| Prof. Rafael Martínez. Univ. Alónoma Madrid, Spain       |
| Dr Fernando Reyes Benitez Fundación MEDINA, Spain        |
| Prof. Marvin J. Nuñez. Univ. de El Salvador, El Salvador |
| Prof. María Bailén. Univ. Europea Madrid, Spain          |
| Prof Eduardo Delacassa. Univ. Republica. Uruguay         |

Folleto\_EIAMNP\_v4.pdf 5c5bdf6a-30b8-43...JPG

Mostrar todo x

Escribe aquí para buscar

12:17 28/07/2018 ESP

Dear colleagues and friends,

The **I Euroindoamerican Natural Products Meeting** will be held in Madrid, Spain, in 2018 from May 29<sup>th</sup> to June 1<sup>st</sup>, 2018. It is the first time that our city hosts this Congress, sponsored by the Phytochemical Society of Europe, Grupo de Productos Naturales-RSEQ, CSIC and Amity University. The purpose of this meeting is to bring together scientists and academia, research institutions, industry and government to report on basic and applied aspects of research on natural products from plants and microbes. The emphasis of this conference will be placed on presentations and discussions of fundamental and applied research and implementation of research projects on the discovery, development, safety and quality control, raw material supply, proper use of natural products. All interested individuals are encouraged to attend and engage in the exchange of scientific data and information. Networking and discussing with national and international experts in the field will make for a very enriching experience.

The city of Madrid will welcome us on this occasion and waits to show us the best of its museums, theaters, exhibitions, gastronomy, monuments, streets, people and surroundings. The venue of the Congress CSIC Auditorium is a beautiful historical building, comfortable, functional and well connected and it will ensure a pleasant ambient for the Meeting.

We are sure that all this will contribute to make an unforgettable days and to strengthen ties of collaboration and friendship with other professionals.

We work for a pleasant and fruitful experience and wait for you in Madrid.

Azucena González-Coloma

Maria Fe Andres

Carmen Elisa Diaz

#### VENUE

Main Campus of the Spanish Research Council | (Consejo Superior de  
Investigaciones Científicas, CSIC)  
Calle Serrano 117. Madrid  
Teléfono: 954 46 22 22

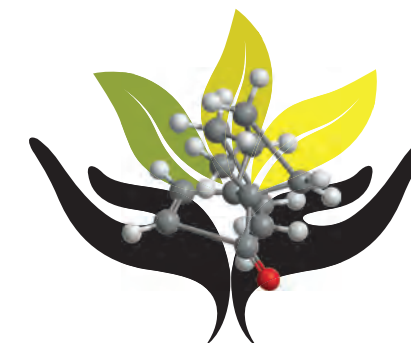
SECRETARÍA TÉCNICA  
Pº Gral. Martínez Campos 9, 2º  
28010, Madrid  
+34 913 836 000  
[eamnp2018@pacifico-meetings.com](mailto:eamnp2018@pacifico-meetings.com)  
[www.eiamnp2018.com](http://www.eiamnp2018.com)



# I EIAMNP

## Euroindoamerican Natural Products Meeting

[www.eiamnp2018.com](http://www.eiamnp2018.com)



29<sup>th</sup> MAY / 1<sup>st</sup> JUNE 2018

# MADRID

Institute of Agricultural Sciences, CSIC, Madrid



## Precongress Workshop Metabolomics and Natural Products

May, Sunday 27 / Monday 28  
Institute of Agricultural Sciences, CSIC, Madrid



| 29th MAY  |                  | Tuesday         |                 |
|---|------------------|-----------------|-----------------|
| 08:30-10:00   | Registration     | CSIC-ICA        |                 |
| 9:30-10:00  | Cofee break      | CSIC-Central    |                 |
| 10:00-10:30   | Opening ceremony | CSIC-Central    |                 |
| 10:30-11:15   | Plenary 1        | CSIC-Central    |                 |
| Dr. Isidro Gonzalez Collado. <i>Metabolomic and genomic studies applied to the selective control of the phytopathogen botrytis cinerea.</i>   |                  |                 |                 |
| 11:15-12:30   | Poster session   | CSIC-ICA        |                 |
| 12:45-13:45   | Lunch            | CSIC-cafeterías |                 |
| 14:00-14:45   | Plenary 2        | A. CSIC-ICA     | B. CSIC-Central |
| A. Dr. Murray Isman. <i>Commercial development of plant essential oils and their constituents as active ingredients in bioinsecticides.</i><br>B. Dr. Carlos Jimenez. <i>New treatments against aquaculture fish infection diseases based on the microbial iron uptake mechanism mediated by the siderophore piscibactin.</i> |                  |                 |                 |
| 14:45-15:00   | Oral 1           | A. CSIC-ICA     | B. CSIC-Central |
| 15:00-15:15   | Oral 2           | A. CSIC-ICA     | B. CSIC-Central |
| 15:15-15:45   | Coffee break     | CSIC-Central    |                 |
| 15:45-16:00   | Oral 3           | A. CSIC-ICA     | B. CSIC-Central |
| 16:00-16:15   | Oral 4           | A. CSIC-ICA     | B. CSIC-Central |
| 16:15-17:00   | Plenary 3        | A. CSIC-ICA     | B. CSIC-Central |
| A. Dr. Cedric Bertrand. <i>A holistic approach for botanicals development within European context PPP regulation</i><br>B. Dra. Virginia Lanzotti. <i>NMR spectroscopy and mass spectrometry in metabolomics analysis of plants.</i>  |                  |                 |                 |
| 18:00-20:00   | Welcome Cocktel  | CSIC-Central    |                 |

| 30th MAY    |  | Wednesday   |                 |
|-------------|--|-------------|-----------------|
| 08:30-09:15 | Plenary 4  | A. CSIC-ICA | B. CSIC-Central |
|             | <p>A. Dr. Pierluigi Caboni. <i>Chemical synthesis of potent nematocides – a lesson from nature.</i></p> <p>B. Dr. Pedro Joseph-Nathan. <i>Results from recent nmr and vcd studies of iberoamerican natural products.</i></p> |             |                 |
| 09:15-09:30 | Oral 5   | A. CSIC-ICA | B. CSIC-Central |

|             |  |                 |                 |
|-------------|--|-----------------|-----------------|
| 09:30-09:45 | Oral 6   | A. CSIC-ICA     | B. CSIC-Central |
| 09:45-10:15 | Coffee break   | CSIC-Central    |                 |
| 10:15-10:30 | Oral 7   | A. CSIC-ICA     | B. CSIC-Central |
| 10:30-10:45 | Oral 8   | A. CSIC-ICA     | B. CSIC-Central |
| 10:45-12:30 | Poster session   | CSIC-ICA        |                 |
| 12:45-13:45 | Lunch  | CSIC-cafeterías |                 |
| 14:00-14:45 | Plenary 5  | A. CSIC-ICA     | B. CSIC-Central |
|             | <p>A. Dr. John Pickett. <i>The Development of Natural Products Chemistry using Biotechnology for Sustainable Food Production: from Ecosystem Management to GM.</i></p> <p>B. Dr. Jose Quilez del Moral. <i>Mirroing nature: “Magic” Chemistry.</i></p> |                 |                 |
| 14:45-15:00 | Oral 9   | A. CSIC-ICA     | B. CSIC-Central |
| 15:00-15:15 | Oral 10  | A. CSIC-ICA     | B. CSIC-Central |
| 15:15-15:30 | Oral 11  | A. CSIC-ICA     | B. CSIC-Central |
| 15:30-16:00 | Coffee break   | CSIC-Central    |                 |
| 16:00-16:45 | Plenary 6  | A. CSIC-ICA     | B. CSIC-Central |
|             | <p>A. Dr. Carlos Céspedes. <i>Cholinesterase and tyrosinase inhibitors from Chilean plants.</i></p> <p>B. Dr.Ram Vishwakarma. <i>Isoform Selective Kinase Inhibitors from Natural Products.</i></p>  |                 |                 |

| 31th MAY    |   | Thursday        |              |
|-------------|---|-----------------|--------------|
| 08:30-09:15 | Plenary 7   | A. CSIC-ICA     | B. CSIC-IQFR |
|             | <p>A. Dr. Robert Verpoorte. <i>Synergy. Easier to say than to prove.</i></p> <p>B. Dra. Mercedes Amat. <i>Synthesis of natural products from chiral lactams as common multipurpose scaffolds.</i></p>                                       |                 |              |
| 09:15-09:30 | Oral 12   | A. CSIC-ICA     | B. CSIC-IQFR |
| 09:30-09:45 | Oral 13   | A. CSIC-ICA     | B. CSIC-IQFR |
| 09:45-10:15 | Coffee break  | CSIC-ICA        |              |
| 10:15-10:45 | Awards  | A. CSIC-ICA     |              |
| 10:45-12:30 | Poster session  | A. CSIC-ICA     |              |
| 12:45-13:45 | Lunch   | CSIC-cafeterías |              |
| 14:00-14:45 | Plenary 8   | A. CSIC-ICA     | B. CSIC-IQFR |
|             | <p>A. Dr. Gustavo Zuñiga. <i>Metabolomic analysis of antactic plants.</i></p> <p>B. Dra. RuAngelie Edrada-Ebel. <i>Using Concatenated Analytical Data for Metabolomic Guided Production and Isolation of Bioactive Natural Product.</i></p> |                 |              |
| 14:45-15:00 | Oral 14   | A. CSIC-ICA     | B. CSIC-IQFR |
| 15:00-15:15 | Oral 15   | A. CSIC-ICA     | B. CSIC-IQFR |

|             |                             |                               |  |
|-------------|-----------------------------|-------------------------------|--|
| 15:15-15:45 | Coffee break                | CSIC-ICA                      |  |
| 15:45-16:00 | KIMITEC                     | Stakeholders Session CSIC-ICA |  |
| 16:00-16:15 | ALEOVITRO                   |                               |  |
| 16:15-16:30 | PHARMAMAR                   |                               |  |
| 16:30-16:45 | IDEN BIOTECHNOLOGY          |                               |  |
| 17:00-17:45 | Pitch Presentations         |                               |  |
| 18:00-18:30 | Society meeting (GPN)       | CSIC-ICA                      |  |
| 20:00-22:30 | Social Gathering and Dinner | Residencia-CSIC               |  |

| 1st June    |   | Friday          |                 |
|-------------|---|-----------------|-----------------|
| 08:30-09:15 | Plenary 9   | A. CSIC-ICA     | B. CSIC-Central |
|             | Dr. Phil Stevenson. <i>Sex, drugs and ecosystem services: the ecological functions and potential applications of nectar toxins.</i><br>Dra. Nuria Cabedo. <i>Synthesis of nature-inspired bioactive isoquinolines and its analogues.</i>                    |                 |                 |
| 09:15-09:30 | Oral 16   | A. CSIC-ICA     | B. CSIC-Central |
| 09:30-09:45 | Oral 17   | A. CSIC-ICA     | B. CSIC-Central |
| 09:45-10:15 | Coffee break  | CSIC-Central    |                 |
| 10:15-11:00 | Plenary 10  | A. CSIC-ICA     | B. CSIC-Central |
|             | A. Dra. Carmen Rossini. <i>Basic and applied studies on plant kairomones that mediate herbivore-plant interactions.</i><br>B. Dra. Barbara Moreno. <i>Advances in research of lycopodiaceae family and other plants from the andean region of colombia.</i> |                 |                 |
| 10:45-12:30 | Poster session  | CSIC-ICA        |                 |
| 12:45-13:45 | Lunch   | CSIC-cafeterías |                 |
| 14:00-14:15 | Oral 18   | A. CSIC-ICA     | B. CSIC-Central |
| 14:15-14:30 | Oral 19   | A. CSIC-ICA     | B. CSIC-Central |
| 15:00-15:30 | Plenary11   | CSIC-Central    |                 |
|             | Dr. Fco. Antonio Macías. <i>Honeypot strategy to control parasitic weeds. An allelopathic case.</i>   |                 |                 |
| 15:30-16:00 | Closing Ceremony  |                 |                 |



PÓSTER



... Cultivate our differences, take advantage of our resources,  
to create wealth ...

# Spagyria

EFA188/16

## INTRODUCTION AND OBJECTIVES

The SPAGYRIA Project (1,8M€ EU Project) arises from the idea of taking advantage of all the fractions from natural product extracts obtained through green technologies. This idea was one of the main objectives of the TECHNOBIOCROP Project, led by A. M. Mainar under the coordination of A. González-Coloma.

But Project SPAGYRIA goes further than a research project:

It is a project for cooperation, solidarity and innovation that aims to create a new line of extracts from plants for the production of ecological cosmetics.

It is a solidarity project that involves groups at risk of social exclusion (people with disabilities and marginalized people), and that will contribute to improve their employability and so their quality of life.

The project intends a capitalization of research and technological experience both at the level of aromatic plant conditioning and culture and at the level of green fractionation process, manufacturing and testing in order to promote the economic development of partners from each side of the Spanish-French border.

In this work, we will present the structure of Project SPAGYRIA and several previous results concerning the supercritical concentration of active ingredients obtained from aromatic and medicinal plants and other vegetal species [1].

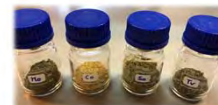
[1] C. Grosso, A. C. Figueiredo, J. Burillo, A. M. Mainar, J. S. Urieta, J. G. Barroso, J. A. Coelho, A. M. F. Palavra, *J. Sep. Sci.*, 2008, Vol. 33 (14), 2211-2218.



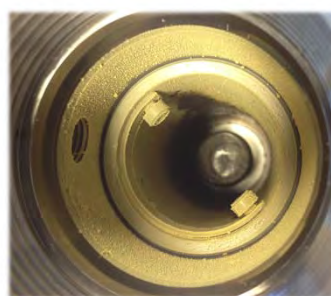
Start of the Spagyria Project. MEDES - Institute for Space Medicine and Physiology (Toulouse-France). March 2018



Supercritical Extraction Device (left), Extractor and Cyclone Vessels (right).



1st Experiments: Aromatic Plants of Asteraceae and Lamiaceae Families



Solid particles micronized from the ethanolic extract of the Algerian *Opuntia ficus-indica* by-products. Vessel (left) and injector (right)



Visit to the Special Center ATADES-H.



Artemisia absinthium crop (2 Ha). Luesia - Zaragoza (BIOCROP Project)

## ACKNOWLEDGMENTS

The project has been 65% co-financed by the European Regional Development Fund (ERDF) through the Interreg V-A Spain-France-Andorra programme (POCTEFA 2014-2020). POCTEFA aims to reinforce the economic and social integration of the French-Spanish-Andorran border. Its support is focused on developing economic, social and environmental cross-border activities through joint strategies favouring sustainable territorial development.

El proyecto ha sido cofinanciado al 65% por el Fondo Europeo de Desarrollo Regional (FEDER) a través del Programa Interreg V-A España-Francia-Andorra (POCTEFA 2014-2020). El objetivo del POCTEFA es reforzar la integración económica y social de la zona fronteriza España-Francia-Andorra. Su ayuda se concentra en el desarrollo de actividades económicas, sociales y medioambientales transfronterizas a través de estrategias conjuntas a favor del desarrollo territorial sostenible.



## **PITCH PRESENTATION GRUPO GATHERS**





Universidad  
Zaragoza

universidad  
**SANJORGE**  
GRUPO SANVALERO



**IEIAMNP**  
Euroindoamerican  
Natural Products Meeting



29<sup>th</sup> MAY / 1<sup>st</sup> JUNE 2018

**MADRID**



## ABOUT US

*Taking Care of our Environment*

The activity of the GATHERS Group aims to **promote sustainable development** through **scientific contributions** and **knowledge transfer** from the fields of **Engineering, Chemistry, Biology and Pharmacy** to the fields of **agronomy, food, health** and the **preservation of environment**.

*Reference Group E39\_17R*

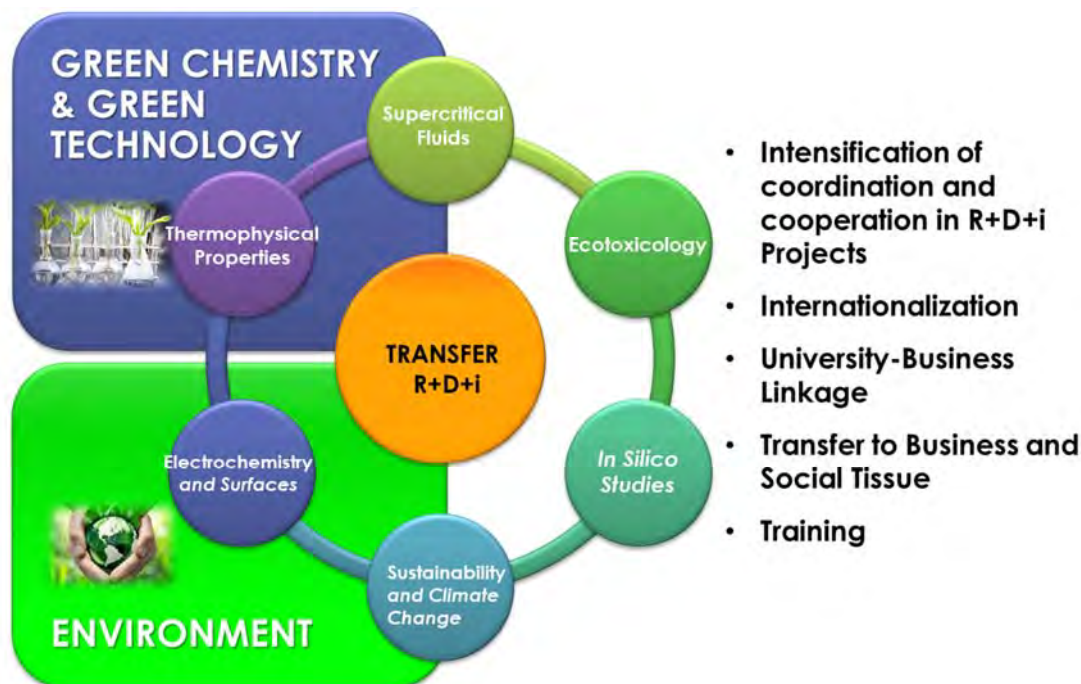






## ABOUT US

*Research Lines, Operation Scheme and Specific Objectives*



3 / 12

IEIAMNP  
Euro-Andean  
Natural Products Meeting

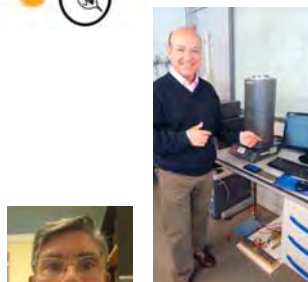


10th EAMNP  
MADRID  
2019



## THE TEAM

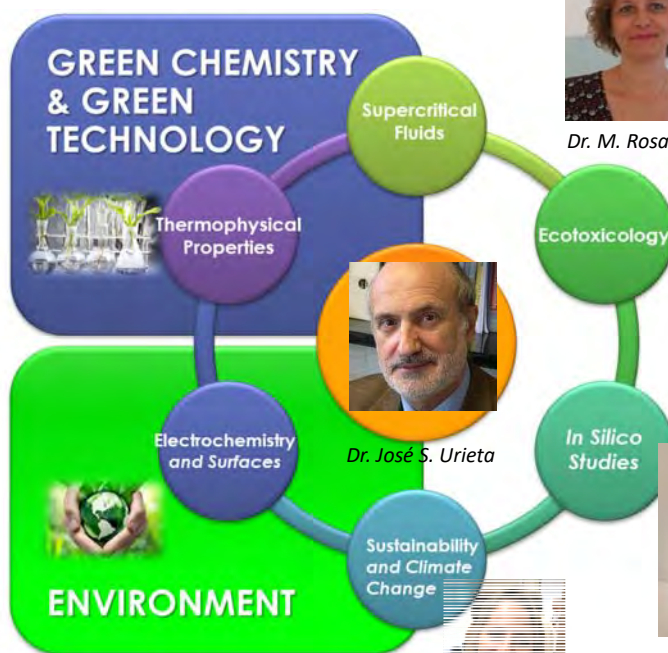
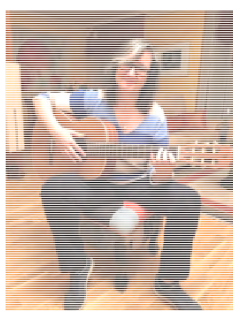
*Our Value, the People behind the idea*



Dr. José F. López



Dr. Juan I. Pardo



Dr. M. Rosa Pino



Dr. Jonatan Val



Dr. Diego Ballester



Dr. Eva Terrado, Dr. Elisa Langa



Dr. Juliana Navarro

4 / 12

IEIAMNP  
Euro-Andean  
Natural Products Meeting



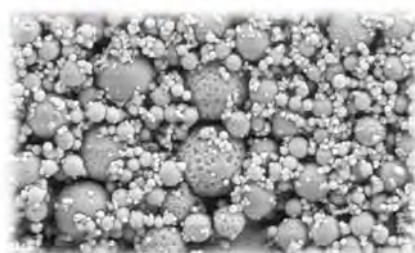
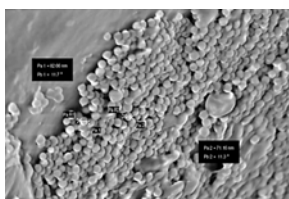
10th EAMNP  
MADRID  
2019



## ACTIVITIES

### Green Chemistry and Green Technology

- Advanced separation techniques. Extraction, fractionation and microencapsulation of bioactive substances by means of supercritical fluids ( $\text{CO}_2$  + cosolvents)
- Preformulation of cosmetic, phytosanitary and phytotherapeutic products
- Thermophysical characterization of fluids for industrial application
- Computational screening of working solvents
- Antioxidant activity *in vitro*



5 / 12

IEIAMNP  
EuroAmericana  
Natural Products Meeting



MADRID  
2010



## ACTIVITIES

### Environment

- Selection, adaptation and cultivation of aromatic and medicinal plants, that contain valuable bioactive substances. Revaluation of agricultural by-products
- Ecotoxicological characterization, in waters and soils, of natural products through suitable bioindicators
- Predictions "in silico"
- Analysis of the life cycle of the complete processes related to the cultivation, extraction, characterization and possible commercialization as well as its end of life stage.



6 / 12

IEIAMNP  
EuroAmericana  
Natural Products Meeting



MADRID  
2010





New Challenges  
New Solutions

# BIOCROP

CTQ2015-64049-C3-1-R; CTQ2015-64049-C3-2-R y CTQ2015-64049-C3-3-R

Biopesticide Development by Chemical and Biotechnological Tools

Financial Support: 493.680,00 €



Co-financed by the  
European Regional  
Development Fund



MINISTERIO  
DE ECONOMÍA  
Y COMPETITIVIDAD



MINECO FEDER PROJECT

2016-19

*Biopesticide Development by Chemical and Biotechnological Tools*

- **BIOCROP** -

## SUBPROJECT 1

*Biopesticides Development: Obtención, Producción Biotecnológica y Optimización*

IP1: Azucena González Coloma. IP2: Carmen Elisa Díaz Hernández.



## SUBPROJECT 2

*Supercritical Technologies and Biopesticides Development: Formulation, Diversification and Environmental Impact*

IP1: Ana M. Mainar Fernández. IP2: José S. Urieta Navarro.



## SUBPROJECT 3

*Biopesticides Development: Synthesis and Structure-Activity Relationships*

IP1: Alejandro Fernández Barrero. IP2: José F. Quílez del Moral.





## Results

*Biopesticides: wormwood, a dream come true*



*Artemisia absinthium*

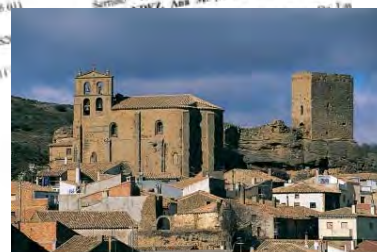
9 / 12



Universidad  
Zaragoza



Luesia (Zaragoza)



... Cultivate our differences, take advantage of our resources, to create wealth ...



Spagyria  
EFA188/16

A project for solidarity cooperation: improve the quality of life through the development of ecological and sustainable cosmetic products

FEDER Fund: 1.209.065,00 €



Ayuntamiento  
de Huesca



Universidad  
Zaragoza



Ayuntamiento de  
Pamplona



elkarkide

Co-financed by the  
European Regional  
Development Fund

Interreg  
POCTEFA







## Partnership

*Another Dimension of Research*



11 / 12



## CONTACT DETAILS

*How to reach us quickly*



Dr. Ana M. Mainar  
 Email: [gathers@unizar.es](mailto:gathers@unizar.es)  
 I3A-Edificio IDi  
 c/. Mariano Esquillor s/n  
 50018-Zaragoza (Spain)  
 Tel: +34 976761195  
<https://i3a.unizar.es/es/grupos-de-investigacion/gathers>



12 / 12





I EIAMNP  
Euroindoamerican  
Natural Products Meeting



29<sup>th</sup> MAY / 1<sup>st</sup> JUNE 2018

MADRID



# CERTIFICATE OF ATTENDANCE

Ana María Mainar

Has participated in the **I Euroindoamerican Natural Products Meeting (I EIAMNP)**,  
held in Madrid (Spain), from May 29th to June 1st, 2018.

Madrid, June 1st, 2018.

Dra. Azucena González-Coloma

Dra. María Fe Andrés Yeves

Dra. Carmen Elisa Díaz



# CERTIFICATE OF PRESENTATION

This is to certify that

Ana M. Mainar

Has contributed with a Poster titled:

## **3 NATURAL PRODUCTS, A FRAMEWORK TO SHARE RESEARCH AND SOCIAL INCLUSION**

Authors:

Ana M. Mainar, Juan I. Pardo, José F. Martínez-López, Juliana Navarro-Rocha, Elisa Langa, M. Rosa Pino, José S. Urieta

in the **I Euroindoamerican Natural Products Meeting (I EIAMNP)**,

in Madrid, Spain,

29<sup>th</sup> May-1<sup>st</sup> June, 2018.

