SIGMA Research

The ultimate solution for the whole research lifecycle
Who are we?

We are a non-for-profit organisation made up of 10 well-known universities in Spain. We aim to boost excellency in the research and academic management.
Our mission is:

✅ To support higher education and research institutions

✅ To optimise their academic and research management processes using the best IT solutions

✅ To become the functional and technological model in Europe in order to boost excellency in research and higher education
5 distinguishing characteristics

1. Non-for-profit organisation
   Our only objective is to help you optimise your management whilst minimising costs.

2. Specialisation
   We are committed to providing the best solutions to optimise the research and academic management.

3. Excellency
   Not only do we build software, but we also help our clients carry out the best practices.

4. Leaders in the field
   We aim to be the leaders in the field in a national and European scale.

5. Cloud
   No licensing costs. All our solutions are 100% cloud so you can minimise and optimise your IT investment.
Benefits

1. Adaptability
   Our partners take part in the product’s roadmap definition.

2. Costs
   The collaborative model between partner universities, implies costs reductions in the software development.

3. Best practices
   We work together with experts in the field to guarantee a ‘State-of-the-art’ implementation.

4. Quick installation and integration
   Installation experienced, our products can be integrated with all kinds of internal and external systems.
Our model

We work in a collaborative model which is recognised by all our partner universities. This unique model allows us to define the best solution for the minimum cost.

SIGMA Comittees
- Roadmap definition
- Reporting and follow up of joined projects
- Decision-making body

Working Groups
- Requirements definition and project plan
- Follow up of joined projects (sponsors)
- Testing

Customized Projects
- Requirements definition and project plan
- Follow up of joined projects
- Testing
Focus on Corporate Social Responsibility

With our Learning Center we contribute to the education and employability of students.

- **391 Students**
- **+ 130,000 Training Hours**
- **+ 28% Scholarships**
- **+ 15% Part of Our Team**
- **8.8 Satisfaction Rating**

→ Internship of software programming
Recognised in the field

SIGMA has been included among the best Academic Management solutions in Spain in the Universo Penteo

Recognition of our SaaS solution as well as our mobile communication Apps PIZARRA. Our Learning Center has been shown as a great example of CSR
Our international projection

We actively collaborate with European higher education institutions to improve their interoperability, share best practices, and align processes following international regulations and standards.

- We ease the cooperation between European universities and IT managers of research centers in order to facilitate the development of high quality information systems. SIGMA is a board member of EUNIS, euroCRIS, and EAIE.
- We boost the management and knowledge dissemination of European institutions’ scientific production using standards such as the CERIF model.
- We support the experience exchange among institutions worldwide to encourage their internationalisation.
Our service model

SIGMA offers you a differential maintenance service; it offers proximity, quality and constant improvement.

ISO/IEC 20000-1 Certification
Management system for SIGMA Academic’s service

Portal. Reference and project management

Maintenance, SLA, reporting, and follow up

Coordination. Quarter reports

Functional support

“Bag of hours”. Own developments

Implementation services on demand

Customer satisfaction surveys
Technological trends

SIGMA's solutions are flexible, agile, and adapted to new digital demands.

Social
We ease collaboration among student communities as well as teaching and research staff

Mobile
Access to applications and services addressed to students and teaching communities through the App Mobile

Analytics
Advanced analytics tools to ease the information visualisation and help the decision process

Cloud
Available as a service (SaaS), no licence or infrastructure investments needed
More than a product

Experience

Proximity

CSR

Open innovation

Data analytics

Service orientation

Client
Our solutions

Two solutions: one for academic management and the other for research management

SIGMA Academic
We support the optimisation of your academic management with best practices aligned with European standards

SIGMA Research
We support the optimisation of your research lifecycle; from the funding process to the results share based on European standards
The solution for research

SIGMA Research. A 100% cloud solution supporting the whole research lifecycle.

Knowledge Dissemination
Research information publishing, and share (research portals and expert guides)

Impact Management
Bibliometrics and research information analysis

International standards

Demand
Ideas and opportunities → lines of research and policies

Funding
Public funding management (calls, grants, sponsorships…) and private funding management (contracts)

Interoperability

Scientific Production
Reference, project, and CVs management, (researchers, groups, departments…)

SIGMA Research

1

3

4

5
An integral **solution**

Our solution incorporates all the needed functionalities in a state-of-the-art platform.

- **A sole database**
- **Commercial databases automatic import**
- **Connectivity with IR (Open Access)**
- **CERIF, ORCID, and CASRAI**

- **Scientific production management**
- **Researcher’s CVs management**
- **Funding calls and processes**
- **Management of projects, agreements, and contracts**

- **Bibliometrics, data analysis, and altmetrics**
- **Evaluation and reports**
- **Scientific production portals**
- **Expert directories**

**Strategize**
An integral solution

It is not only about software implementation, it is about accompanying the institution throughout the whole process.

- Institutional research main procedures analysis
- Analysis of preexisting data
- Information load and data depuration
- Co-designing pilot process
SIGMA Research

Scientific production
• Research activities management
• Automatic uploads, repository integration
• Project management
• Bibliometrics
• Portals and expert directories
• Reporting, and data analysis
• Visualisation

Management
• Public and private funding
• Project management
• Evaluation
• Reporting y data analysis
SIGMA Research

Scientific production
Network medicine analysis of COPD multimorbidities

Solene Grosdidier1, Antoni Ferrer2, Rosa Faner2, Janet Pinero1, Josep Roca3, Borja Cesic2, Alvar Agusti4, Joaquim Gea1, Ferran Sanz1 and Laura I. Furlong1

Abstract

Background: Patients with chronic obstructive pulmonary disease (COPD) often suffer concomitant disorders that worsen significantly their health status and vital prognosis. The pathogenic mechanisms underlying COPD multimorbidities are not completely understood, thus the exploration of potential molecular and biological linkages between COPD and their associated diseases is of great interest.

Methods: We developed a novel, unbiased, integrative network medicine approach for the analysis of the diseaseome, interactome, the biological pathways and tobacco smoke exposure, which has been applied to the study of 16 prevalent COPD multimorbidities identified by clinical experts.

Results: Our analyses indicate that all COPD multimorbidities studied here are related at the molecular and biological level, sharing genes, proteins and biological pathways. By inspecting the connections of COPD with their associated diseases in more detail, we identified known biological pathways involved in COPD, such as inflammation, endothelial dysfunction or apoptosis, serving as a proof of concept of the methodology. More interestingly, we found previously overlooked biological pathways that might contribute to explain COPD multimorbidities, such as hemostasis in COPD multimorbidities other than cardiovascular disorders, and cell cycle pathway in the association of COPD with depression. Moreover, we also observed similarities between COPD multimorbidities at the pathway level, suggesting common biological mechanisms for different COPD multimorbidities. Finally, chemicals contained in the tobacco smoke target an average of 69% of the identified proteins participating in COPD multimorbidities.

Conclusions: The network medicine approach presented here allowed the identification of plausible molecular links between COPD and comorbid diseases, and showed that many of them are targets of the tobacco exposure, proposing new areas of research for understanding the molecular underpinnings of COPD multimorbidities.

Keywords: Diseaseome, Systems biology, Network medicine, Comorbidity, Multimorbidity, COPD, Tobacco chemicals
SIGMA Research scientific production
Also the institution can bring this information closer to the Media through the Experts directory…
SIGMA Research reports and analytics

Publications & Bibliometrics

**Year**

**Num. of Articles**

5,5k

**Num. of Authors**

1,49k

**Num. of Journals**

2,28k

**Scopus Citations**

61,76k

**WOS Citations**

57,11k

Top Journals by Articles

<table>
<thead>
<tr>
<th>Magazine</th>
<th>Articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLoS ONE (1932-6783)</td>
<td>183</td>
</tr>
<tr>
<td>Gaceta sanitaria (B213-9111)</td>
<td>57</td>
</tr>
<tr>
<td>La Vanguardia (46)</td>
<td>46</td>
</tr>
<tr>
<td>Revista mexicana de antropologia (11)</td>
<td>37</td>
</tr>
<tr>
<td>Proceedings of the National Academy of sciences (20)</td>
<td>33</td>
</tr>
</tbody>
</table>

Top Citations Articles

1. "If you are good, I get better". The role of social hierarchy in perceptual decision-making
   - Total Scopus Citations: 15
   - Total WOS Citations: 10

2. "I was/We Decide Us. If They Win! National Socialist Treatment of the Spanish 'Volunteer' Workers"
   - Total Scopus Citations: 1
   - Total WOS Citations: 2

3. "3219C7: A variant mutation of prothrombin gene mutation in a patient with recurrent pregnancy loss"
   - Total Scopus Citations: 0
   - Total WOS Citations: 0

4. "A Casual Denial" (Mary Stuart Bond)
   - Total Scopus Citations: 0
   - Total WOS Citations: 0

Top H-Index Authors

<table>
<thead>
<tr>
<th>Authors</th>
<th>Max H-Index Scopus</th>
<th>Max H-Index WOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serra Guigo, Rodéric</td>
<td>65</td>
<td>49</td>
</tr>
<tr>
<td>Martínez Comas, David</td>
<td>43</td>
<td>46</td>
</tr>
<tr>
<td>Deu Sunyer, Jordi</td>
<td>72</td>
<td>45</td>
</tr>
<tr>
<td>López Malonado, Rafael</td>
<td>53</td>
<td>44</td>
</tr>
<tr>
<td>Boqué Anto, Jose Maria</td>
<td>2</td>
<td>43</td>
</tr>
<tr>
<td>Busquets Bertranpetit, Jaume</td>
<td>52</td>
<td>40</td>
</tr>
<tr>
<td>Majó Calafell, Francesc D'Assis</td>
<td>48</td>
<td>39</td>
</tr>
</tbody>
</table>
**Nombre acto:** XVI Conference of the Society for Chemoreception  

**Fecha inicio:** 01/07/2015

### Participaciones

<table>
<thead>
<tr>
<th>Tipo actividad</th>
<th>Título actividad</th>
<th>Autores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poster</td>
<td>Comparative gene expression profile of mouse carotid body and adrenal medulla under physiological hypoxia</td>
<td>Sánchez Romero, D.; Gutiérrez Pozo, G.; López López, J.</td>
</tr>
</tbody>
</table>

#### Añadir Participación

**Tipo actividad**

- Poster

**Título actividad**

- Comparative gene expression profile of mouse carotid body and adrenal medulla under physiological hypoxia

**Autores**

- Sánchez Romero, D.; Gutiérrez Pozo, G.; López López, J.

**Autores CVN**

- Sánchez Romero D.; Gutiérrez Pozo G.; López López J.

### Autor

<table>
<thead>
<tr>
<th>Autor</th>
<th>Identificador</th>
</tr>
</thead>
<tbody>
<tr>
<td>12348</td>
<td>Sánchez Romero, Diego</td>
</tr>
<tr>
<td>1031539</td>
<td>Gutiérrez Pozo, Gabriel</td>
</tr>
<tr>
<td>24956</td>
<td>López López, José Ramón</td>
</tr>
</tbody>
</table>

* Campo obligatorio
SIGMA Research

SIGMA Research Management
SIGMA Research management

Programs → Calls → Applications

- Transfer to scientific production
  - Project
  - Grants
  - Agreement
  - Congresses
  - Overnight stay

- Concession and project activation

- Report and justification

- Refusal and close of file
SIGMA Research management

- Previous negotiation of contract
- Signature
- State management
- Refusal and close of file
- Report and justification
- Transfer to scientific production
- Agreements
- Contract/agreement activation
Concession and project activation
We work to boost the research!
Thank you for your attention.
Anna Guillaumet
Anna.guillaumet@sigmaaie.org