

Participation from Spain. Reported by math-in



Academia – Industry interaction



Dissemination



115 European Study Group With Industry

/ Centre de Recerca Matemàtica (CRM),
MI-NET and **math-in**.

/ 01/25/2016 - 01/29/2016. **Barcelona**.

/ 4 Problems. **Fusion for Energy; Institut Català de Nanotecnologia i Nanociència; Mossos d'Esquadra**.

/ Dissemination: **Blog madrid + d** (10/29/2016); CRM Website; **La Vanguardia** (10/26/2016); math-in Website (12/29/2015, 1/29/2016 and 10/26/2016).



Dissemination



122 European Study Group With Industry

/ ITMATI, MI-NET and math-in.

/ 09/19/2016 - 09/23/2016. **Santiago de Compostela.**

/ 4 Problems. **ASTI; iAuditoria; TeknovaAS; ECOMT.**

/ Dissemination: ECMI (07/31/2016); European Mathematical Society (06/21/2016); **Galicia Confidencial** (09/19/2016); ITMATI Website (09/02/2016 and 09/29/2016); KoMSO; math-in Website; MI-NET (10/11/2016); RSME (06/27/2016 and 09/15/2016); SeMa (06/23/2016).



Dissemination



122 European Study Group With Industry

/ Dissemination: EU-MATHS-IN; **Galicia Ciencia** (07/26/2016); Maths in Industry; The Association of European Research Societies(08/24/2016); Universidad Complutense de Madrid (08/01/2016); Universidad de Granada; Universidad de La Laguna (06/29/2016).



Dissemination



131 European Study Group With Industry

- | **BCAM, MI-NET** and **math-in**.
- | 05/15/2017 - 05/19/2017. **Bilbao**.
- | 4 Problems. **CIE Automotive; Eroski Group; FON; Xpheres**.
- | Dissemination: BCAM; BCAM News (05/10/2017); BCAM Blog; ECMI (06/22/2017); math-in web (12/27/2016 03/04/2017, and 02/05/2017); RSME.
- | Proceedings of 131 ESGI:
https://wp.bcamath.org/esgi131/?page_id=13.



Dissemination



139 European Study Group With Industry

/ ITMATI, MI-NET and math-in.

/ 07/09/2018 - 07/13/2018. **Santiago de Compostela.**

/ 5 Problems. **Repsol(2); EcoMT; Biomasa Forestal; ArcelorMittal.**



/ Dissemination: EU-MATHS-IN(05/10/2018); SGAPEIO(05/07/2018); **EIPaís**(07/10/2018); **LaVozdeGalicia**(07/14/2018);

ECMI(07/17/2018); **sinc**(07/17/2018);

Codigocero(07/17/2018);

CESGA(07/18/2018); **laSexta**(07/19/2018);

USC web(07/19/2018); math-in web

(05/23/2018, 06/15/2018 and 07/23/2018).



Dissemination



147 European Study Group With Industry

/ ITMATI, MI-NET and math-in.

/ 04/08/2019 - 04/12/2019. **Santiago de Compostela.**

/ 3 Problems. **TSK ; Solute; Estaños SENRA.**

/ Dissemination: **El País** (04/11/2019); **Expansión** (04/10/2019); **La Voz de Galicia**(08/20/2018); **SCCB**(04/08/2019); **Capital** (04/08/2019); **Igape** (04/08/2019); **Xunta de Galicia** (08/04/2019); **EuropaPress** (04/08/2019); **Gailci@PRESS** (04/08/2019);



Dissemination



147 European Study Group With Industry

/ Dissemination: USC(04/08/2019);
ICIAM2019(12/20/2018, 02/04/2019);
ECMI(12/20/2018);SGAPEIO(04/05/2019);
math-in web (12/06/2018, 03/25/2019,
04/05/2019, and 04/08/2019); RSME
(04/2019).



TSK

solute

Dissemination



Universidade de Vigo



XI Industrial Mathematics Forum

/ ITMATI and MI-NET.

/ 02/12/2016. A Coruña.

/ Industrial Organizations: **AFI**; **Centro de Innovación Aeroespacial**; **CETUS Group**; **Clúster de la madera y del diseño de Galicia**; **EcoMT**; **Grupo PRISA**; **Soltec Ingenieros**.



Dissemination



Universidade de Vigo



XI Industrial Mathematics Forum

/ Dissemination: **ABC**; **AMTEGA**; **Clúster da Madeira e do Deseño de Galicia**; **Código Cero**; **Eldia.es**; Facultad de Informática UDC (02/10/2016); **Finanzas.com**; ITMATI (02/12/2016) and (02/16/2016); **La Vanguardia**; math-in (12/22/2015); **Igaciencia.eu** (02/11/2016); **Noticias Galicia** (02/11/2016); Matemática Blog (02/17/2016); MI-NET and blog (02/4/2016); SeMA (02/12/2016); CITIC (02/12/2016); University of A Coruña (02/11/2016); **Xunta de Galicia**.

Dissemination



Industrial Applications of Computational Algebra, AICA 2016



| (Red-EACA), MI-NET and math-in.
06/21/2016. **Logroño.**

| Industrial Organizations. **AERTIC; CTC;**
Deimos; Quantitas Energy.

| Dissemination: Universidad de La Rioja; math-in
Website (02/01/2016 and 04/21/2016).



Dissemination



Workshop on mathematical solutions for Industry: Success stories and perspectives

- / ICMAT, MI-NET and math-in.
- / 10/27/2016 and 10/28/2016. Madrid.
- / Industrial Organizations. **AESA; AFI; BCAM; BSCH; CICEnergigUNE; CNES; Consortium Madrid-MIT M+Visión; Fundiciones Rey; GKN Driveline; IGME; ITMATI; IS3D Engineering.**
- / Dissemination: **Europa Press** (10/26/2016), ICMAT; math-in webpage (08/24/2016) and (10/10/2016).



Universitat de les Illes Balears



UNIVERSITAT DE CANTÀRIA



UNIVERSITAT POLITÈCNICA DE VALÈNCIA



Universidade de Vigo

Dissemination



III Iberian Modelling Week

/ Universidade do Porto, PT-MATHS-IN,
MI-NET and **math-in**.

/ 04/11/2017 - 04/15/2017. **Porto**.

/ 4 Problems.

/ Dissemination: ECMI (04/07/2016); ITMATI
(03/11/2016); math-in web (03/31/2016,
05/02/2016, 08/26/2016 and 03/07/2017);
University of Porto.



Success Case Studies

Energy and Environment

- / Solidification and mechanical coupling in the propagation of microcracks, **Repsol**, ICMAT (Institute for Mathematics), CSIC, **139 ESGI**.
- / Simplified Modelling of Brazing Furnaces, **EcoMT**, ITMATI/University of Vigo, **139 ESGI**.



Logistics and Transport

- / Fleet planning of AGVs, **ASTI Technologies Group**, ITMATI and University of Santiago de Compostela, **122 ESGI**.
- / Management of the call center of a distribution company, **Eroski S. Coop.**, The University of the Basque Country UPV/EHU, **131 ESGI**.



Success Case Studies Materials



- / Parametric Design by Computational Fluid Dynamics Simulation, **CIE Automotive**, BCAM and UPM, **131 ESGI**.
- / Equivalent thermo-mechanical model for ceramic cups, **ArcelorMittal**, ITMATI and University of Santiago de Compostela, **139 ESGI**.

Sports Analytics Industry



- / Big Data in Sports: Predictive Models for Basketball Players Performance, **Xpheres Basketball Management**, Basque Center for Applied Mathematics (BCAM), **131 ESGI**.

Quantitative Indicators



Indicator	ESGI	InD	MW	Forum	Total
Events	5	2	1	1	9
Industrial problems	20	0	1	0	21
Problems faced	20	0	4	0	24
Participant companies	18	16	0	7	41
Academia	22	22	7	3	54
STSMs	Foreing Researchers in Spanish Institutions		Spanish Researchers in Foreing Institutions		Total
2016	3		0		3
2017	1		2		3
2018	0		2		2



Collaborations*	ESGI	InD	MW	Forum	Total
Thesis Project	1	0	0	0	1
Master Dissertation	1	0	0	0	1
Jobs	1	0	0	1	2
Contracts	4	0	1	2	7
Other	7	0	0	3	10

*Some data is being collected at this moment

Quantitative Indicators



Media Impact	ESGI	InD	MW	Forum	Total
External Press	18	1	5	10	34
Academic Press	46	6	7	9	68
Subtotal	64	7	12	19	102



MI-Net activities in Spain



| Events

- | **5 European Study Groups with Industry:**
115, 122, 131, 139, 147
- | **3 Industry Days**
- | **1 Modeling Week**
- | **8 STSMs**

| Dissemination

- | **8 Case studies**
- | **54 Academic institutions**
- | **41 Companies**
- | **10 Derived collaborations**
- | **102 Impact in media**
- | **5 ESGIs proceedings**



MI-Net activities in Spain

| Experience



- | It has facilitated to activate and consolidate communication channels Academy – Industry.
- | It reinforced the training of young researchers in areas of interest for industry.

| Future



- | Incorporate ESGIs to the training of PhDs in industrial mathematics
- | Improve the STSMs concept promoting mobility Academy - Industry