

# CURRICULUM VITAE

of  
Josué TONELLI-CUETO

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## CONTACT INFORMATION

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## AREAS OF MATHEMATICAL INTEREST

Numerical algorithms      Condition-based complexity  
Computational algebraic geometry      Random geometry

## POSITIONS

### FSMP Postdoctoral Fellow

Institution: OURAGAN team at Inria Paris and IMJ-PRG  
Fondation Sciences Mathématiques de Paris (FSMP)

Mentors: Fabrice Rouillier  
Elias Tsigaridas

Location: Paris, France

Duration: 10/2020-09/2022

### Postdoctoral researcher

Institution: OURAGAN team at Inria Paris and IMJ-PRG

Mentors: Fabrice Rouillier  
Elias Tsigaridas

Location: Paris, France

Duration: 02/2020-09/2020

## EDUCATION

### Dr. rer. nat. Mathematik

(*PhD in Mathematics in the framework of the Berlin Mathematical School*)

Doctoral thesis' title: *Condition and Homology in Semialgebraic Geometry*

Doctoral Supervisors: Peter Bürgisser  
Felipe Cucker

Grade: mit Auszeichnung bestanden (summa cum laude)

(Obtained only when both the thesis and presentation are given the highest grade)

Recognitions: 3rd Prize in the Tiburtius Prizes of the Berlin Universities  
MATH+ Dissertation Award 2020

Institution: Berlin Mathematical School (BMS)  
Technische Universität Berlin

Duration: 01/2017-11/2019

### M.Sc. Mathematik

(*M.Sc. Mathematics in the framework of the Berlin Mathematical School*)

Master's thesis' title: *On the Complexity of some Null-Cone Membership Problems*

Master's thesis' supervisor: Peter Bürgisser

Average grade: 1.0 (In the German system, 1.0 is the highest grade)

Institution: Technische Universität Berlin  
Berlin Mathematical School (BMS)

Duration: 10/2014-03/2017

## **Licenciatura en Matemáticas con Primer Premio Nacional Fin de Carrera**

*(B. Mathematics with First Prize in the End of Studies National Awards)*

Average grade: 9.86/10 (In the Spanish system, 10 is the highest grade)

Recognitions: Best Student Record

Extraordinary End of Degree Award

First Prize in the End of Studies Spanish National Awards

Institution: University of the Basque Country (UPV/EHU)

Duration: 10/2009-07/2014

## **GRANTS AND AWARDS**

### **Research Scholarships**

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#### **FSMP Postdoctoral Fellowship**

Hosting institution: OURAGAN team at Inria Paris and IMJ-PRG

Awarding Institution: Fondation Sciences Mathématiques de Paris (FSMP)

Duration: 01/10/2020-30/09/2022

#### **BMS Doctoral Fellowship** funded by the **Einstein Foundation Berlin**

Framework: Prof. Felipe Cucker's Einstein Visiting Fellowship

*Complexity and accuracy of numerical algorithms in algebra and geometry*

Awarding institution: Berlin Mathematical School (BMS)

Tecnische Universität Berlin

Funding Entity: Einstein Foundation Berlin

Duration: 01/01/2017-31/12/2019

#### **Beca de "la Caixa" para estudios de posgrado en universidades europeas. Convocatoria 2014**

*(Scholarship of "la Caixa" for graduate studies in Europe. 2014 Call)*

Purpose: Completion of the BMS Phase I

Awarding institution: "la Caixa" Foundation

Funding institution: "la Caixa" Foundation

German Academic Exchange Service (DAAD)

Duration: 01/10/2014-31/07/2016

#### **Beca de Colaboración, para el curso 2013-2014**

*(Collaboration Scholarship for the academic year 2013-2014)*

Purpose: Introduction to research with a researcher of the Basque University System

Topic: Pro- $p$  groups and  $p$ -adic analytic groups

Mentor: Gustavo Adolfo Fernández Alcober

Hosting institution: University of the Basque Country (UPV/EHU)

Awarding institution: Gobierno Vasco (Basque Government)

Duration: 01/11/2013-30/06/2014

#### **Beca de Introducción a la Investigación del Programa JAE**

*(Research Introduction Scholarship of the JAE Program)*

Purpose: Introduction to research with a researcher of CSIC

Topic: Class Field Theory

Mentor: Andrei Jaikin-Zapirain

Hosting institution: Instituto de Ciencias Matemáticas (ICMAT)

Awarding institution: Consejo Superior de Investigaciones Científicas (CSIC)

Duration: 01/07/2013-30/09/2013

**MATH+ Dissertation Award 2020**

Reason: Doctoral thesis

Awarding Institution: Berlin Mathematics Research Center MATH+  
Berlin Mathematical School (BMS)  
Einstein Foundation Berlin

Date: 12/2021

**3. Preis im Tiburtius Preis 2020 – Preis der Berliner Hochschulen**

(3rd Prize in the Tiburtius Prizes 2020 of the Berlin Universities)

Reason: Doctoral thesis

Awarding Institution: State Conference of Rectors and Presidents of Berlin Universities (LKRP)

Date: 10/2020

**SIAM Student Travel Award**

Description: To attend the SIAM Conference on Applied Algebraic Geometry 2019

Awarding Institution: SIAM

Date: 07/2019

**Special Award to Young Researchers presenting Posters at MEGA2019**

Description: Three special awards were given to young researchers presenting posters

Awarding Conference: MEGA 2019: Effective Methods in Algebraic Geometry

Date: 06/2019

**Primer Premio en los Premios Nacionales Fin de Carrera**

(First Prize in the End of Studies National Awards)

Reason: Academic achievements during the Licenciatura en Matemáticas

Awarding Institution: Spanish Government

Date: 07/2018

**Premio Extraordinario Fin de Carrera de la Licenciatura en Matemáticas**

(End of Degree Extraordinary Award of the Licenciatura en Matemáticas)

Reason: Academic achievements during the Licenciatura en Matemáticas

Awarding Institution: Faculty of Science and Technology (ZTF-FCT)  
of the University of the Basque Country (UPV/EHU)

Date: 06/2015

**Mención de Honor en la modalidad “Trabajos de Divulgación Científica. Medios de Comunicación”  
de la XIV Edición de Ciencia en Acción**

(Honor Mention in the modality “Popular Science work. Media”  
of the 14th Edition of Ciencia en Acción)

Co-awardee: Ricardo Grande

Reason: Editing the Mathematics Students’ Magazine Pikasle

Awarding Institution: Consejo Superior de Investigaciones Científicas (CSIC)  
Instituto de Ciencias Matemáticas (ICMAT)  
Real Sociedad Española de Física (RSEF)  
Sociedad Geológica de España  
Universidad Nacional de Educación a Distancia (UNED)

Date: 06/10/2013

### III Premios al alumnado que mejor ha difundido la imagen de la UPV/EHU

(III Awards to students who best spread the image of the UPV/EHU)

Won award: **1st prize in the category of science**

due to editing the magazine *Pikasle*  
together with Ricardo Grande.

**1st prize in the category of social sciences and legal studies**

due to winning the IV University Debate League of the G9 Group  
together with fellow teammates.

Awarding Institution: University of the Basque Country (UPV/EHU)

Date: 29/11/2012

### Winner in the IV Liga de Debate Universitario Grupo G9

(IV University Debate League of the G9 Group)

Description: Competition of debate between several universities in the G9 University Group

Team: Ion Baratas

Leire Caballero

Jesús Ángel Ibarreche

Juan Sandín

Josué Tonelli-Cueto

Hosting institution: University of Oviedo

Date: 29/02/2012-02/03/2012

### Accésit en el Concurso de trabajos sobre Sofía Kovalevskaya

(Special Mention in the contest of works about Sophia Kovalevskaya)

Awarding Institution: University of the Basque Country (UPV/EHU)

Date: 24/06/2011

## PUBLICATIONS

### On progress

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J. Tonelli-Cueto. (n.d.). A numerical algorithm for zero counting. IV: An adaptive speedup. On progress.  
Presented at MEGA2020.

J. Tonelli-Cueto & E. Tsigaridad. (n.d.). Condition-based bounds on the size of a polynomial zero set. On progress.

### Preprints

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M. Radons & J. Tonelli-Cueto. (2022b, June). Generalized Perron Roots and Solvability of the Absolute Value Equation. Journal version of (Radons & Tonelli-Cueto, 2022a). arXiv:1912.08157.

J. G. Suchen & J. Tonelli-Cueto. (2022, June). Ultrametric Smale's  $\alpha$ -theory. arXiv:2206.08392.

J. Tonelli-Cueto. (2022b, March). A  $p$ -adic Descartes solver: the Strassman solver. arXiv:2203.07016.

Kh. Kozhasov & J. Tonelli-Cueto. (2022, January). Probabilistic bounds on best rank-one approximation ratio. arXiv:2201.02191.

F. Cucker, A. A. Ergür, & J. Tonelli-Cueto. (2021, February). Functional norms, condition numbers and numerical algorithms in algebraic geometry. Accepted to *Forum of Mathematics, Sigma*. arXiv: 2102.11727.

## Journal papers

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- J. Tonelli-Cueto & E. Tsigaridas. (2023, March). Condition Numbers for the Cube. I: Univariate Polynomials and Hypersurfaces. *Journal of Symbolic Computation*, 115, 142–173. doi:<https://doi.org/10.1016/j.jsc.2022.08.013>. In the Special Issue of ISSAC '20. Journal version of (Tonelli-Cueto & Tsigaridas, 2020). arXiv:2006.04423.
- J. Tonelli-Cueto. (2022a, September). A Geometric Summation of the Geometric Series. *The American Mathematical Monthly*. doi:10.1080/00029890.2022.2115825. hal-03779492.
- F. Cucker, A. A. Ergür, & J. Tonelli-Cueto. (2022, August). On the Complexity of the Plantinga-Vegter Algorithm. *Discrete & Computational Geometry*, 68(3), 664–708. doi:10.1007/s00454-022-00403-x. Journal version of (Cucker, Ergür, & Tonelli-Cueto, 2019). arXiv:2004.06879.
- P. Bürgisser, F. Cucker, & J. Tonelli-Cueto. (2021, October). Computing the Homology of Semialgebraic Sets. II: General formulas. *Foundations of Computational Mathematics*, 21(5), 1279–1316. On-line from January of 2021. doi:10.1007/s10208-020-09483-8. arXiv:1903.10710.
- P. Bürgisser, F. Cucker, & J. Tonelli-Cueto. (2020, February). Computing the Homology of Semialgebraic Sets. I: Lax Formulas. *Foundations of Computational Mathematics*, 20(1), 71–118. On-line from May of 2019. doi:10.1007/s10208-019-09418-y. arXiv:1807.06435.
- P. Bürgisser, A. A. Ergür, & J. Tonelli-Cueto. (2019, December). On the Number of Real Zeros of Random Fewnomials. *SIAM J. Appl. Algebra Geom.* 3(4), 721–732. doi:10.1137/18M1228682. arXiv:1811.09425.

## Conference papers

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- A. Chalkis, Ch. Katsamaki, & J. Tonelli-Cueto. (2022, July). On the Error of Random Sampling: Uniformly Distributed Random Points on Parametric Curves. In *Proceedings of the 2022 international symposium on symbolic and algebraic computation* (pp. 273–282). ISSAC '22. Villeneuve-d'Ascq, France. ACM. doi:10.1145/3476446.3536190. arXiv:2203.02832..
- A. A. Ergür, J. Tonelli-Cueto, & E. Tsigaridas. (2022, July). Beyond Worst-Case Analysis for Root Isolation Algorithms. In *Proceedings of the 2022 international symposium on symbolic and algebraic computation* (pp. 139–148). ISSAC '22. Villeneuve-d'Ascq, France. ACM. doi:10.1145/3476446.3535475. arXiv:2202.06428..
- M. Radons & J. Tonelli-Cueto. (2022a, July). Generalized Perron roots and solvability of the absolute value equation. In L. F. Tabera Alonso (Ed.), *Discrete mathematics days 2022* (pp. 237–242). Santander, Spain. Editorial Universidad de Cantabria. doi:10.22429/Euc2022.016
- J. Tonelli-Cueto & E. Tsigaridas. (2020, July). Condition Numbers for the Cube. I: Univariate Polynomials and Hypersurfaces. In *Proceedings of the 2020 on International Symposium on Symbolic and Algebraic Computation* (pp. 434–441). ISSAC '20. Kalamata, Greece. ACM. doi:10.1145/3373207.3404054. arXiv:2006.04423v1.
- F. Cucker, A. A. Ergür, & J. Tonelli-Cueto. (2019, July). Plantinga-Vegter Algorithm Takes Average Polynomial Time. In *Proceedings of the 2019 on International Symposium on Symbolic and Algebraic Computation* (pp. 114–121). ISSAC '19. Beijing, China. ACM. doi:10.1145/3326229.3326252. arXiv:1901.09234.

J. Tonelli-Cueto. (2019, December). *Condition and Homology in Semialgebraic Geometry* (Doctoral thesis, Technische Universität Berlin). doi:10.14279/depositonce-9453

## TALKS AND OTHER PRESENTATIONS

### Conference presentations

**XXI Lluís Santaló School: Random and Deterministic Point Configurations** (2022)

Given talk: The Grid Method in Numerical Real Algebraic Geometry

**47th International Symposium on Symbolic and Algebraic Computations** (2022)

Given talk: Beyond Worst-Case Analysis for Root Isolation Algorithms

**MEGA 2022: Effective Methods in Algebraic Geometry** (2022)

Given talk: Probabilistic bounds on best rank-one approximation ratio

**Congreso Biental de la Real Sociedad Matemática Española 2022** (2022)

Given talk: New bounds for the number of real zeros of a random polynomial system

**Jornada SIEF y Asamblea General 2021** (2021)

Given talk: Reacciones químicas, polinomios y sus ceros reales

**Workshop “Real Polynomials: Counting and Stability”** (2021) [On-line due to the COVID-19]

Given talk: Metric restrictions on the number of real zeros

**SIAM Conference on Applied Algebraic Geometry 2021** (2021) [On-line due to the COVID-19]

Given talk: Breaking the Curse of Infinite Average Run-Time  
in Numerical Real Algebraic Geometry, can the Adaptive Grid Method do the Job?

Note: Contributed talk, submitted as poster

**SIAM Conference on Applied Algebraic Geometry 2021** (2021) [On-line due to the COVID-19]

Given talk: What’s new in Computational Real Algebraic Geometry? (Introductory Talk)

Co-speaker: C. Riener

**Mathematical Congress of the Americas 2021** (2021) [On-line due to the COVID-19]

Given talk: What’s new in Computational Real Algebraic Geometry? (Introductory Talk)

Co-speaker: M. Bender

**MEGA 2021: Effective Methods in Algebraic Geometry** (2021) [On-line due to the COVID-19]

Given talk: A numerical algorithm for zero counting. IV: An adaptive speedup

**MEGA 2021: Effective Methods in Algebraic Geometry** (2021) [On-line due to the COVID-19]

Given talk: Functional norms, condition numbers and numerical algorithms in algebraic geometry

Co-speaker: F. Cucker & A. A. Ergür

**45th International Symposium on Symbolic and Algebraic Computations** (2020) [On-line talk due to the COVID-19 pandemic]

Given talk: Condition Numbers for the Cube. I: Univariate Polynomials and Hypersurfaces

**Milestones Conference of the Thematic Einstein Semester on Algebraic Geometry** (2020)

Given talk: Beyond Gaussians in the probabilistic analysis of condition numbers in algebraic geometry

**V Congreso de Jóvenes Investigadores la RSME** (2020)

Given talks: Real zeros of random fewnomials

Computing the homology of semialgebraic sets in weak single exponential time

**Research Workshop on Random Real Algebraic Geometry** (2019)

Given talk: On zeros of random fewnomials (2 talks)

**Opening Conference of the Thematic Einstein Semester on Algebraic Geometry** (2019)

Given talk: What is the probabilistic analysis of a condition number?

**Complexity of Numerical Computation: A conference in honor of Felipe Cucker** (2019)

Given talk: Average minus Weak Complexity equals Adaptive algorithms Sets

**44th International Symposium on Symbolic and Algebraic Computations** (2019)

Given talk: Plantinga-Vegter algorithm takes average polynomial time

**SIAM Conference on Applied Algebraic Geometry 2019 (2019)**

Given talk: Farewell to Weyl: Condition-based analysis  
with a Banach norm in numerical algebraic geometry

**Workshop MEGAR 2019: Effective Methods in Real Algebraic Geometry (2019)**

Given talk: Numerical Computation of Homology Groups of Closed Semialgebraic Sets

**2nd BYMAT Conference (2018)**

Given talk: How many zeros does a random fewnomial system have?

**7th BMS Student Conference (2019)**

Given talk: How many zeros does a random fewnomial system have?

**Random Real Algebraic Geometry Workshop (2019)**

Given talk: On Zeros of Random Fewnomials (5 talks series)

**1st BYMAT Conference (2018)**

Given talk: Computing the Homology of Closed Semialgebraic Sets

**6th BMS Student Conference (2018)**

Given talk: The Niyogi-Smale-Weinberger Approximation Theorem

**Workshop “Algebra meets Numerics: Condition and Complexity” (2017)**

Given talk: Computing the Homology of General Semialgebraic Sets

**Workshop “Reading Group on Real Algebraic Geometry” (2017)**

Given talk: Random real Schubert Calculus and lines on surfaces

**5th BMS Student Conference (2017)**

Given talk: The shadow of the hidden combinatorics of completely positive operators  
on Polynomial Identity Testing

Invited seminar talks

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**MINDS & CIS Seminar Series**

Given talk: Condition Numbers and Probability  
for Explaining Algorithms in Computational Geometry

Institution: MINDS at John Hopkins University

CIS at John Hopkins University

Location: Baltimore, USA

Date: 06/09/2022

**Séminaire Calcul Formel at XLIM**

*Seminar of Symbolic Computation at XLIM*

Given talk: A  $p$ -adic Descartes solver: the Strassman solver

Institution: Institut de Recherche XLIM

Location: Limoges, France

Date: 16/06/2022

**Seminar on Geometry, Probability, and Computing**

Given talk: On the complexity of sampling from parametric curves

Institution: The University of Texas at San Antonio

Texas A&M University

University of Missouri

Location: On-line

Date: 05/05/2022

**Seminar of the LFANT project-team at Institut de Mathématiques de Bordeaux**

Given talk: A  $p$ -adic Descartes solver: the Strassman solver

Institution: Institut de Mathématiques de Bordeaux

Location: Bordeaux, France

Date: 12/04/2022

### **Kolloquium des Fachgebiets Algorithmische Algebra der TU Berlin**

*(Seminar of the Algorithmic Algebra Group of TU Berlin)*

Given talk: What does the condition number of a real polynomial system tell us?  
Unexpected answers in the real world

Institution: Technische Universität Berlin

Location: Berlin, Germany

Date: 08/12/2021

### **Applied Algebra and Analysis Online Seminar**

Given talk: New condition-based bounds for the number of real zeros

Institution: Technische Universität Braunschweig  
Universität Osnabrück

Location: Braunschweig and Osnabrück, Germany [On-line]

Date: 02/12/2021

### **Algebra Seminar of the UiT The Arctic University of Norway**

Given talk: A sequel for a famous trilogy: accelerating the grid method by adaptive grids

Institution: UiT The Arctic University of Norway

Location: Tromsø, Norway

Date: 28/10/2021

### **Coloquio de Matemática Aplicada del Insituto de Matemática**

*(Seminar of Applied Mathematics of the Institute of Mathematics)*

Given talk: Finding real zeros a lot faster through an adaptive grid,

Institution: Universidade Federal do Rio de Janeiro

Location: Rio de Janeiro, Brasil [On-line]

Date: 09/07/2021

### **Seminar of the OURAGAN team of Inria Paris**

Given talk: A numerical algorithm for zero counting. IV: An adaptive speedup

Institution: Inria Paris and IMJ-PRG

Location: Paris, France [On-line]

Date: 06/05/2021

### **Kolloquium des Fachgebiets Algorithmische Algebra der TU Berlin**

*(Seminar of the Algorithmic Algebra Group of TU Berlin)*

Given talk: Towards Finite Expectation  
in the Numerical Computation of the Homology of Semialgebraic Sets

Institution: Technische Universität Berlin

Location: Berlin, Germany [On-line]

Date: 10/02/2021

### **Seminar of the OURAGAN team of Inria Paris**

Given talk: Condition Numbers for the Cube. I: Univariate Polynomials and Hypersurfaces

Institution: Inria Paris and IMJ-PRG

Location: Paris, France [On-line]

Date: 30/06/2020

### **Algebra Seminar of the “Groups, Topology and Applications” Research Group of the UPV/EHU**

Given talk: Computing the Homology of Semialgebraic Sets in Weak Exponential Time

Institution: University of the Basque Country (UPV/EHU)

Location: Leioa, Spain

Date: 02/05/2019

### **Colloquium of the Graduiertekolleg “Facets of Complexity” (GRK 2434)**

Given talk: Condition meets Computational Geometry: The Plantinga-Vegter algorithm case

Institution: Freie Universität Berlin

Location: Berlin, Germany

Date: 11/04/2019



## **Oberseminar des Institut für Algebra und Geometrie der OvGU**

*(Seminar of the Faculty of Algebra and Geometry of the OvGU)*

Given talk: Computing the Homology of Semialgebraic Sets

Institution: Otto von Guericke Universität Magdeburg (OvGU)

Location: Magdeburg, Germany

Date: 16/01/2018

## **Seminario del Departamento de Matemáticas de la UPV/EHU**

*(Seminar of the Department of Mathematics of the UPV/EHU)*

Given talk: Sobre la complejidad de algunos problemas de pertenencia al cono nulo

Institution: University of the Basque Country (UPV/EHU)

Location: Leioa, Spain

Date: 09/01/2017

## Posters

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### **47th International Symposium on Symbolic and Algebraic Computations (2022)**

Poster: Ultrametric Smale's  $\alpha$ -theory

### **Topological Data Analysis Workshop (2021)**

Poster: Computing the Homology of Semialgebraic Sets via TDA

### **MEGA 2019: Effective Methods in Algebraic Geometry (2019)**

Poster: Computing the Homology Groups of Closed Semialgebraic Sets in Weak Exponential Time

### **2nd Graduate Student Meeting on Applied Algebra and Combinatorics (2019)**

Poster: Computing the Homology Groups of Semialgebraic Sets

### **Congreso Bienal de la Real Sociedad Matemática Española 2019 (2019)**

Poster: Computing the Homology Groups of Semialgebraic Sets in Weak Exponential Time

### **Summer School on Numerical Computing in Algebraic Geometry (2018)**

Poster: Computing the Homology Groups of Semialgebraic Sets

### **QMath Masterclass on “Tensors: Geometry and Quantum Information” (2018)**

Poster: Polynomial Identity Testing and the Combinatorics of Completely Positive Operators

### **Symposium “Bridging European Science II” (2018)**

Poster: Computing the “Shape” of Semialgebraic Sets

## Other

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### **Tutorial-a-thon of the Applied Algebraic Topology Network (2021)**

Given talk: The Niyogi-Smale-Weinberger Theorem & its relatives

### **“What is...?” Seminar (2018)**

Given talk: What is the best voting system?

### **“What is...?” Seminar (2018)**

Given talk: What are semialgebraic sets in context?

### **“What is...?” Seminar (2017)**

Given talk: What are BPP, RP and the other probabilistic complexity classes?

### **“What is...?” Seminar (2017)**

Given talk: What is the length of a potato?

### **“What is...?” Seminar (2016)**

Given talk: What is an Origami Constructible Number?

## ORGANIZED ACTIVITIES

### **AMS Special Session on *Data Science at the Crossroads of Analysis, Geometry, and Topology*** (a Mathematics Research Communities session) [Co-organizer]

at the **Joint Mathematics Meetings 2023**

Organizer: Hitesh Gakhar

Harlin Lee

Josué Tonelli-Cueto

Location: Boston, Massachusetts, USA

Date: 4/01/2023-7/01/2023

### **Sesión Especial *Computación y Aplicaciones en Geometría Algebraica*** [Co-organizer] at the **II Encuentro RSME-UMA**

(Special Session *Computation and Applications in Algebraic Geometry*)

Organizer: Alicia Dickenstein

Gabriela Jerónimo

Beatriz Pascual Escudero

Josué Tonelli-Cueto

Location: Ronda, Spain

Date: 12/12/2022-16/12/2022

### **Mini-Symposium *Applications and Computation in Algebraic Geometry*** [Co-organizer] at the **5th Annual Meeting of the SIAM Texas-Louisiana Section**

Organizer: Jordy Lopez Garcia

Josué Tonelli-Cueto

Thomas Yahl

Location: Houston, USA

Date: 04/11/2022-06/11/2022

### **Sesión Especial *Geometría Algebraica: la Aplicada, la Computacional y la Numérica*** [Co-organizer] at the **Congreso Bienal de la Real Sociedad Matemática Española 2022**

(Special Session *Algebraic Geometry: the Applied, the Computational and the Numerical*)

Organizer: Laura Brustenga i Moncusí

Roser Homs

Josué Tonelli-Cueto

Location: Ciudad Real, Spain (Hybrid)

Date: 17/01/2022-21/01/2022

### **Minisymposium *Computational Real Algebraic Geometry*** [Co-organizer] at the **SIAM Conference on Applied Algebraic Geometry 2021**

Organizer: Cordian Riener

Josué Tonelli-Cueto

Location: College Station, Texas, USA (On-line)

Date: 16/08/2021-20/08/2021

### **Special Session *Symbolic and Numerical Computation with Polynomials*** [Co-organizer] at the **Mathematical Congress of the Americas 2021**

Organizer: Diego Armentano

Matías Bender

Alperen A. Ergür

Josué Tonelli-Cueto

Location: Buenos Aires, Argentina (On-line)

Date: 19/07/2021-24/07/2021

### **3rd BYMAT Conference** [Member of the Scientific Committee and of the Poster Committee]

Location: Valencia, Spain (On-line)

Date: 01/12/2020-03/12/2020

### **“What is...?” Seminar [Co-organizer]**

Description: Student organized seminar where  
a new concept, idea or object is introduced in each session  
Role: Co-organizer, web design and video management  
Institution: Berlin Mathematical School (BMS)  
Location: Berlin, Germany  
Date: 05/2016-12/2019

### **Research Workshop on Random Real Algebraic Geometry [Co-organizer]**

Location: Güzelyurt, Northern Cyprus  
Date: 21/10/2019-26/10/2019

### **Minisymposium *Numerical methods for structured polynomial system solving* [Co-organizer] at the SIAM Conference on Applied Algebraic Geometry 2019**

Organizer: Alperen A. Ergür  
Pierre Lairez  
Gregorio Malajovich  
Josué Tonelli-Cueto  
Location: Bern, Switzerland  
Date: 09/07/2019-12/07/2019

### **6th BMS Student Conference [Co-organizer]**

Location: Berlin, Germany  
Date: 21/02/2018-23/02/2018

## TEACHING EXPERIENCE

### **3rd year Bachelor Research Project**

#### **“Topological Data Analysis in Computational Real Algebraic Geometry”**

Role: Supervisor (together with Elias Tsigaridas)  
Supervised Student: Aurèle Bohbot  
Institution: École polytechnique  
Date: 10/2021-12/2021

### ***Effective Algebraic Geometry Seminar***

Role: Organizer (together with Peter Bürgisser and Alperen Ali Ergür)  
Teaching load: 12 hours  
Organizing group: Fachgebiet Algorithmische Algebra  
Institution: Technische Universität Berlin  
Date: 18/04/2018-19/07/2018

### **Private Remedial Teacher**

Description: Private lessons to groups of undergraduate students  
Courses: 1st year Linear Algebra for mathematicians  
2nd year Linear Algebra for mathematicians  
1st year Mathematics for non-mathematicians  
Teaching load: Approx. 156 hours  
Institution: Centro de Estudios INTEC  
Date: 10/2013-05/2014

### **“Group of units in complete discrete valuation rings” Course**

Role: Lecturer  
Teaching load: 4 hours  
Organizing group: GRECA Research Group  
Institution: Faculty of Science and Technology (ZTF-FCT)  
of the University of the Basque Country (UPV/EHU)  
Date: 11/02/2014-14/02/2014

## “P vs. NP and related topics” Seminar

Description: Seminar covering some concepts in complexity theory  
Role: Co-organizer (together with Luis Martínez) and main lecturer  
Teaching load: 30 hours  
Organizing entity: Asociación de Estudiantes de Matemáticas Epsilon-Delta Matematika Ikasleen Elkartea  
Institution: Faculty of Science and Technology (ZTF-FCT)  
of the University of the Basque Country (UPV/EHU)  
Date: 11/2012-05/2013

## COMMUNICATION/POPULARIZATION OF MATHEMATICS AND SCIENCE

### Projects and organized activities

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#### Fête de la Science 2022

(Science Week 2022)

Description: Week with daily activities in English, French or Spanish for the the general public  
Organizer: Colegio de España  
Comité de Residentes del Colegio de España  
Sociedad de Investigadores Españoles en Francia (SIEF)  
Role: Co-organizer representing SIEF  
Hosting Institution: Colegio de España of the Cité Internationale Universitaire de Paris  
Date: 02-07/05/2022

#### Revista $\pi$ kasle Aldizkaria

(Mathematics Students' Magazine  $\pi$ kasle)

ISSN: 2174-9027 (digital edition)  
2255-5714 (printed edition)

Founders: Ricardo Grande  
Josué Tonelli-Cueto

Role: Member of the Editorial Committee  
Cover designer and desktop publisher (from the 1st to the 9th issue)  
Social media manager

Recognitions: First prize in the  
*III Premios al alumnado que mejor ha difundido la imagen de la UPV/EHU*  
Honor Mention in the 14th Edition of *Ciencia en Acción*

Hosting Institution: Faculty of Science and Technology (ZTF-FCT)  
of the University of the Basque Country (UPV/EHU)

Date: 09/2011-07/2014

#### $\pi$ kasle's Mathematics, Magic and Mystery Workshop

Description: Workshop (in Spanish) covering topics related to magic and mathematics

Organizing entity: Revista  $\pi$ kasle Aldizkaria

Organizer: Ricardo Grande Izquierdo  
Josué Tonelli-Cueto

Speakers: Pedro Alegría Ezquerro  
Juan Carlos Ruiz de Arcaute

Hosting Institution: Faculty of Science and Technology (ZTF-FCT)  
of the University of the Basque Country (UPV/EHU)

Location: Leioa, Spain

Dates: 09/05/2014 and 30/05/2014

### *$\pi$ kasle's Martin Gardner Celebration of Mind*

Description: Day of activities (in Spanish) in commemoration of Martin Gardner  
Organizing entity: Revista  *$\pi$ kasle* Aldizkaria  
Organizer: Josué Tonelli-Cueto  
Hosting Institution: Faculty of Science and Technology (ZTF-FCT)  
of the University of the Basque Country (UPV/EHU)  
Location: Leioa, Spain  
Dates: 23/10/2013

### Activities

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#### **Radio Interview “Sistemas de ecuaciones, ¿cómo resolverlas?” (in Spanish)**

Interviewer: Antonio G. Armas  
Program: “Investigadores por el Mundo” (number 159)  
Medium: Radio Libertad FM  
Date: 08/05/2022  
Link: [go.ivoox.com/rf/86768659](https://go.ivoox.com/rf/86768659)

#### **Magic & Mathematics Stand (in English and Spanish) at Fête de la Science 2022**

Description: Stand open to the general public  
in which I performed and explained magic tricks based on mathematics  
Organizing entity: Colegio de España  
Comité de Residentes del Colegio de España  
Sociedad de Investigadores Españoles en Francia (SIEF)  
Hosting Institution: Colegio de España of the Cité Internationale Universitaire de Paris  
Date: 07/05/2022

#### **Divulgative video (in Spanish)**

##### **“Semi... ¿qué? Las múltiples formas de lo semialgebraico y cómo determinarlas”**

Description: Divulgative video about my research in Spanish  
Hosting event: Congreso Online Divulga NextGen (1ª edición)  
Date: 05/2021  
Link: [www.youtube.com/watch?v=ME3BuPjSa-4](https://www.youtube.com/watch?v=ME3BuPjSa-4)

#### **Tour Guide (in Spanish) at the Astronomía Emakume/Con ‘A’ de Astrónomas Exhibition**

Description: Exhibition about female astronomers and astronomy  
Curator: Eulalia Pérez Sedeño  
Josefina Ling  
Organizer: Marta Macho  
Raúl Ibañez  
Pedro Alegría  
Hosting institution: University of the Basque Country (UPV/EHU)  
Location: Bilbao, Spain  
Dates: 06/10/2011-11/11/2011  
Web page: [www.ehu.es/astronomasbilbao/](http://www.ehu.es/astronomasbilbao/)

#### **Tour Guide (in Spanish) at the RSME-IMAGINARY BILBAO Exhibition**

Description: Spanish tour of the exhibition *IMAGINARY* about algebraic surfaces  
Organizing entity: Real Sociedad Matemática Española (RSME)  
Organizer: Marta Macho  
Raúl Ibañez  
Pedro Alegría  
Hosting institution: University of the Basque Country (UPV/EHU)  
Location: Bilbao, Spain  
Dates: 05/05/2011-26/05/2011  
Web page: [www.ehu.es/imaginary/](http://www.ehu.es/imaginary/)

## Articles

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- J. Tonelli-Cueto. (2021, May). Semi...¿qué? Las múltiples formas de lo semialgebraico y cómo determinarlas [Spanish] (Semi... what? The multiple shapes of the semialgebraic and how to determine them). In *Libro de Resúmenes de Divulga NextGen I* (26, 27 y 28 de mayo de 2021) (pp. 42–43). Zenodo. doi:10.5281/zenodo.4718329
- J. Tonelli-Cueto. (2015, October). Emmy Noether, un retrato alfabético [Spanish] (Emmy Noether, an alphabetic portrait). *Blog “mujeres con ciencia”*. 2015-10-05.

## Formative activities and courses

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### IMSI's MathComms Bootcamp

**1: Storytelling and Narrative**

**2: How to Write for a General Audience**

**3: Job Talks & Stage Presence**

Organizer: Institute for Mathematical and Statistical Innovation

Speaker: Sadie Witkowski

Location: On-line

Dates: 03/02/2022, 11/03/2022, 04/05/2022

### SERVICE

### Referee/Reviewer (*Current and past reviews in alphabetical order*)

Journal: Annals of Mathematics and Artificial Intelligence

Forum of Mathematics, Sigma

Foundations of Computational Mathematics

Journal of Complexity

Mathematics of Computation

SIAM Journal on Applied Algebra and Geometry (SIAGA)

Conference: ISSAC 2020

MEGA2019

Other: MathSciNet

### Vocal Estudiante del Comité de Evaluación de Titulaciones de UNIBASQ en el Area de Ciencias

(Student Vocal of the Committee of Evaluation of Degrees of UNIBASQ in the Area of Science)

Description: Elaboration of evaluation reports of science degrees  
taught in the Basque University System

Institution: Agency for Quality of the Basque University System (UNIBASQ)

Date: 04/2015-03/2018

### BMS Student Representative

Institution: Berlin Mathematical School (BMS)

Dates: 01/2017-12/2017

### Asociación de Estudiantes de Matemáticas Epsilon-Delta Matematika Ikasleen Elkarte

(An association of mathematics students in the University of the Basque Country)

Labour: Secretary

Dates: 09/2012-05/2013

### Research Stays

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**Research Visit to Cordian Riener in Norway**

Goal: Discussion for future projects  
 Institution: UiT The Arctic University of Norway  
 Location: Tromsø, Norway  
 Dates: 25/10/2021-02/11/2021

**Research Visit to Elias Tsigaridas in France**

Goal: Discussion for future projects  
 Institution: IMJ-PRG  
 Location: Paris, France  
 Dates: 19/01/2020-25/01/2020

**Research Visit to Elias Tsigaridas in France**

Goal: Discussion for future projects  
 Institution: IMJ-PRG  
 Location: Paris, France  
 Dates: 8/12/2019-12/12/2019

**Research Visit to Elias Tsigaridas in France**

Goal: Discussion for future projects  
 Institution: LIP6 (Laboratoire d'Informatique de Paris 6)  
 Location: Paris, France  
 Dates: 12/05/2019-17/05/2019

**Research Stay with Felipe Cucker in Hong Kong**

Goal: Working with one of the PhD advisors  
 Institution: CityU Hong Kong  
 Location: Hong Kong, China  
 Dates: 15/03/2019-01/04/2019

**Research Visit to Nicolai Vorobjov in England**

Goal: Discussion of a theorem of Gabrielov and Vorobjov related to the PhD work  
 Institution: University of Bath  
 Location: Bath, England  
 Dates: 27/10/2018-03/11/2018

**Research Stay with Felipe Cucker in France**

Goal: Working with one of the PhD advisors  
 Location: Tuleries d'Affiac, France  
 Dates: 01/10/2018-15/10/2018

**Research Stay with Felipe Cucker in Hong Kong**

Goal: Working with one of the PhD advisors  
 Institution: CityU Hong Kong  
 Location: Hong Kong, China  
 Dates: 10/04/2018-28/04/2018

**Research Stay with Felipe Cucker in Hong Kong**

Goal: Working with one of the PhD advisors  
 Institution: CityU Hong Kong  
 Location: Hong Kong, China  
 Dates: 21/11/2017-08/12/2017

## **Research Stay with Felipe Cucker in Hong Kong**

Goal: Working with one of the PhD advisors  
Institution: CityU Hong Kong  
Location: Hong Kong, China  
Dates: 13/01/2017-26/01/2017

## Attended conferences

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### **Joint Mathematics Meetings 2023**

*(Encuentros Matemáticos Conjuntos 2023)*

Organizer: American Institute of Mathematics (AIM)  
American Mathematical Society (AMS)  
American Statistical Association (ASA)  
Association for Symbolic Logic (ASL)  
Association for Women in Mathematics (AWM)  
Consortium for Mathematics and its Applications (COMAP)  
International Linear Algebra Society (ILAS)  
Julia Robinson Mathematics Festival (JRMF)  
Mathematical Sciences Research Institute (MSRI)  
National Association of Mathematicians (NAM)  
Pi Mu Epsilon (PME)  
Pro Mathematica Arte (PMA)  
Society for Industrial and Applied Mathematics (SIAM)  
Association for LGBT Mathematicians (Spectra)  
Transforming Post-Secondary Education in Mathematics (TPSE)  
Location: Boston, Massachusetts, USA  
Date: 4/01/2023-7/01/2023

### **II Encuentro RSME-UMA**

Organizer: Real Sociedad Matemática Española (RSME)  
Unión Matemática Argentina (UMA)  
Hosting Institution: Universidad de Málaga  
Location: Ronda, Spain  
Date: 12/12/2022-16/12/2022

### **4th BYMAT Conference**

Organizer: Elena López Navarro  
Carlos Andreu Villaroig  
Vicente José Bevia Escrig  
Sorina Madalina Sferle  
Ana Navarro Quiles  
Cristina Pérez Diukina  
Hosting Institution: Universitat de València  
Universitat Politècnica de València  
Location: Valencia, Spain (On-line)  
Date: 09/11/2022-11/11/2022

### **5th Annual Meeting of the SIAM Texas-Louisiana Section**

Organizer: Society for Industrial and Applied Mathematics (SIAM)  
Hosting Institution: Houston University  
Location: Houston, USA  
Date: 4/11/2022-6/11/2022



### **8th Iberian Mathematical Meeting**

Organizer: Real Sociedad Matemática Española (RSME)  
Sociedade Portuguesa de Matemática (SPM)

Hosting Institution: Universidad de Sevilla

Location: Sevilla, Spain

Date: 5/10/2022-7/10/2022

### **2022 Texas Algebraic Geometry Symposium**

Organizer: Rice University  
Texas A&M University  
University of Texas at Austin

Hosting Institution: Texas A&M University

Location: College Station, USA

Date: 30/09/2022-02/10/2022

### **XXI Lluís Santaló School: *Random and Deterministic Point Configurations***

Organizer: Carlos Beltrán  
Jordi Marzo

Hosting Institution: Real Sociedad Matemática Española (RSME)  
Universidad Internacional Menéndez Pelayo (UIMP)

Location: Santander, Spain

Date: 11/07/2022-15/07/2022

### **47th International Symposium on Symbolic and Algebraic Computations (ISSAC 2022)**

Organizer: ACM SIGSAM

Hosting Institution: Université de Lille

Location: Lille, France

Date: 4/07/2020-7/07/2020

### **MEGA 2022: Effective Methods in Algebraic Geometry**

Organizer: MEGA Executive Committee  
MEGA Organizing Committee

Hosting Institution: Pedagogical University of Krakow

Location: Kraków, Poland

Date: 20/06/2021-24/06/2021

### **2022 Mathematrical Research Communities Conference**

#### ***Data Science at the Crossroads of Analysis, Geometry, and Topology***

Organizer: Marina Meila  
Facundo Mémoli  
Jose Perea  
Nicolás García Trillos  
Soledad Villar

Hosting Institution: American Mathematical Society (AMS)

Location: Beaver Hollow Conference Center, Java Center, New York, USA

Date: 29/05/2022-4/06/2022

### **Congreso Bienal de la Real Sociedad Matemática Española 2022**

#### ***(Biennial Congress of the Spanish Royal Mathematical Society)***

Organizer: Real Sociedad Matemática Española (RSME)

Hosting Institution: Universidad Castilla-La Mancha (UCLM)

Location: Ciudad Real, Spain

Date: 17/01/2022-21/01/2022

**Workshop “Real Polynomials: Counting and Stability”**

Organizer: Frédéric Bihan  
Timo de Wolff  
Alicia Dickenstein  
Thorsten Theobald

Hosting Institution: Banff International Research Station for Mathematical Innovation and Discovery  
Location: Casa Matemática Oaxaca, Oaxaca, Mexico (On-line)  
Date: 18-22/10/2021

**SIAM Conference on Applied Algebraic Geometry 2021**

Organizer: SIAM Activity Group on Algebraic Geometry  
Hosting Institution: Texas A&M University  
Location: College Station, Texas, USA (On-line)  
Date: 16/08/2021-20/08/2021

**Mathematical Congress of the Americas 2021**

Organizer: Mathematical Council of the Americas (MCofA)  
Hosting Institution: Universidad de Buenos Aires  
Location: Buenos Aires, Argentina (On-line)  
Date: 07/06/2021-11/06/2021

**MEGA 2021: Effective Methods in Algebraic Geometry**

Organizer: MEGA Executive Committee  
MEGA Organizing Committee  
Hosting Institution: UiT The Arctic University of Norway  
Location: Tromsø, Norway (On-line)  
Date: 17/06/2021-21/06/2021

**Congreso Online Divulga NextGen (1<sup>a</sup> edición)**

*(Online Conference Divulga NextGen (1st edition))*

Organizer: Lucía Olmo García  
Enrique Javier Carrasco Correa  
Gloria Domínguez Rodríguez  
Elena Sánchez López  
Rafael Carlos Estévez Toledano  
Beatriz María Fresco Cala

Location: On-line  
Date: 26/05/2021-28/05/2021

**Topological Data Analysis Workshop**

Organizer: Brittany Fasy  
Kathryn Hess  
Matthew Kahle  
Sayan Mukherjee  
Jose Perea  
Hosting Institution: Institute for Mathematical and Statistical Innovation  
Location: Chicago, Illinois, USA (On-line)  
Date: 26/04/2021-30/04/2021

### **3rd BYMAT Conference**

Organizer: Ana Navarro Quiles  
Eva Primo Tárraga  
Clara Burgos Simón  
David Martínez Rodríguez  
Elena López Navarro  
Alberto Espuny Díaz  
Miguel Reula Martín  
José Alberto Conejero Casares  
Patricio Almirón Cuadros

Hosting Institution: Universitat de València  
Universitat Politècnica de València

Location: Valencia, Spain (On-line)

Date: 01/12/2020-03/12/2020

### **CO@Work 2020**

Organizer: Timo Berthold  
Thorsten Koch

Hosting Institution: Technische Universität Berlin  
Zuse Institut Berlin

Location: Berlin, Germany (On-line)

Date: 14/09/2020-25/09/2020

### **45th International Symposium on Symbolic and Algebraic Computations (ISSAC 2020)**

Organizer: ACM SIGSAM

Location: Kalamata, Greece (On-line)

Date: 20/07/2020-23/07/2020

### **Milestones Conference of the Thematic Einstein Semester on Algebraic Geometry**

Organizer: Matías Bender  
Peter Bürgisser

Hosting Institution: Zuse Institut Berlin

Location: Berlin, Germany

Date: 27/02/2020-28/02/2020

### **V Congreso de Jóvenes Investigadores la RSME**

(V Conference of Young Researchers of the RSME)

Organizer: Real Sociedad Matemática Española (RSME)

Hosting Institution: Universitat Jaume I

Location: Berlin, Spain

Date: 27/01/2020-31/01/2020

### **Research Workshop on Random Real Algebraic Geometry**

Organizer: Alp Bassa  
Turgay Bayraktar  
Özgür Kiisel  
Ferit Öztürk  
Josué Tonelli-Cueto

Hosting Institution: Middle East Technical University - Northern Cyprus Campus

Location: Güzeyurt, Northern Cyprus

Date: 21/10/2019-26/10/2019

### **Opening Conference of the Thematic Einstein Semester on Algebraic Geometry**

Organizer: Mario Kummer  
Angela Ortega  
Andrea Petracchi  
Karin Schaller

Hosting Institution: Freie Universität Berlin  
Location: Berlin, Germany  
Date: 07/10/2019-11/10/2019

### **Complexity of Numerical Computation: A conference in honor of Felipe Cucker**

Organizer: Peter Bürgisser  
Teresa Krick  
Javier Peña  
Stephen Smale

Hosting Institution: Berlin-Brandenburgische Akademie der Wissenschaften  
Location: Berlin, Germany  
Date: 03/06/2019-05/06/2019

### **44th International Symposium on Symbolic and Algebraic Computations (ISSAC 2019)**

Organizer: ACM SIGSAM

Hosting Institution: Beihang University  
Location: Beijing, China  
Date: 15/07/2019-18/07/2019

### **SIAM Conference on Applied Algebraic Geometry 2019**

Organizer: SIAM Activity Group on Algebraic Geometry

Hosting Institution: Universität Bern  
Location: Bern, Switzerland  
Date: 09/07/2019-13/07/2019

### **Workshop MEGAR 2019: Effective Methods in Real Algebraic Geometry**

Organizer: Mariemi Alonso  
Carlos Andradas  
Antonio Díaz-Cano  
M. Jesús de la Puente  
M. Pilar Vélez  
M. Ángeles Zurro

Hosting Institution: Universidad Complutense de Madrid  
Location: Madrid, Spain  
Date: 21/06/2019-22/06/2019

### **MEGA 2019: Effective Methods in Algebraic Geometry**

Organizer: MEGA Executive Committee  
MEGA Organizing Committee

Hosting Institution: Universidad Complutense de Madrid  
Location: Madrid, Spain  
Date: 17/06/2019-21/06/2019

### **Noether Konferenz 2019: Wie kommt das Neue in die Welt?**

(Noether Conference 2019: How does the New come in the World?)

Organizer: Berlin Mathematics Research Center MATH+  
Zentrale Frauenbeauftragte der Freien Universität Berlin  
Max-Planck-Institut für Wissenschaftesgeschichte

Location: Berlin, Germany  
Date: 03/06/2019-05/06/2019

## **2nd BYMAT Conference**

Organizer: Alberto Redondo Hernández  
Ángela Capel  
Blanca Fernández Besoy  
Jesús Ocáriz  
Makrina Agaoglou  
Patricia Conteras-Tejada  
Roi Naveiro  
Teresa Luque

Hosting Institution: Instituto de Ciencias Matemáticas (ICMAT)

Location: Madrid, Spain

Date: 20/05/2019-24/05/2019

## **7th BMS Student Conference**

Organizer: Simona Boyadzhyska  
Candan Güdücü  
Michael Rothgang  
Massimo Secci  
Nicola Vassena

Hosting Institution: Berlin Mathematical School (BMS)

Location: Berlin, Germany

Date: 20/02/2019-22/02/2019

## **2nd Graduate Student Meeting on Applied Algebra and Combinatorics**

Organizer: Tim Seynnaeve  
Rodica Dinu  
Giulia Codenotti  
Frank Röttger

Hosting Institution: Max-Planck-Institut für Mathematik in der Naturwissenschaften

Location: Leipzig, Germany

Date: 18/02/2019-20/02/2019

## **Congreso Biental de la Real Sociedad Matemática Española 2019**

(Biennial Congress of the Spanish Royal Mathematical Society)

Organizer: Real Sociedad Matemática Española (RSME)

Hosting Institution: Universidad de Cantabria (UC)

Location: Santander, Spain

Date: 04/02/2019-08/02/2019

## **Random Real Algebraic Geometry Workshop**

Organizer: Ali Ula Özgür Kiisel

Hosting Institution: Nesin Matematik Köyü (Nesin Mathematical Village)

Location: Nesin Matematik Köyü, Turkey

Date: 21/01/2019-27/01/2019

## **6th Heidelberg Laureate Forum**

Organizer: Heidelberg Laureate Forum Foundation (HLFF)

Hosting Institution: Heidelberg University

Location: Heidelberg, Germany

Date: 23/09/2018-28/09/2018

### **Summer School on Numerical Computing in Algebraic Geometry**

Organizer: Mario Kummer  
Paul Breiding  
Yue Ren  
Emre Sertöz

Hosting Institution: Max-Planck-Institut für Mathematik in der Naturwissenschaften  
Location: Leipzig, Germany  
Date: 13/08/2018-17/08/2018

### **QMath Masterclass on “Tensors: Geometry and Quantum Information”**

Organizer: Centre for the Mathematics of Quantum Theory (QMATH)  
Niels Bohr International Academy (NBIA)

Hosting Institution: University of Copenhagen  
Location: Copenhagen, Denmark  
Date: 18/06/2018-22/06/2018

### **Workshop “Optimization, Complexity and Invariant Theory”**

Organizer: Avi Wigderson

Hosting Institution: Institute for Advanced Studies (IAS)  
Location: Princeton, USA  
Date: 04/06/2018-08/06/2018

### **Symposium “Bridging European Science II”**

Organizer: Sociedad de Científicos Españoles en la República Federal de Alemania (CERFA)  
Comunidad de Científicos Españoles en Dinamarca (CED)  
Asociación de Científicos Españoles en Suecia (CED)

Hosting Institution: Spanish Embassy in Berlin  
Location: Berlin, Germany  
Date: 02/06/2018

### **1st BYMAT Conference**

Organizer: David Alfaya  
Ángela Capel  
Patricia Conteras-Tejada  
Roi Naveiro  
Jesús Ocáriz

Hosting Institution: Instituto de Ciencias Matemáticas (ICMAT)  
Location: Madrid, Spain  
Date: 07/05/2018-09/05/2018

### **6th BMS Student Conference**

Organizer: Héctor Andrade Loarca  
Qiao Luo  
Brent Moran  
Yuya Tokuta  
Josué Tonelli-Cueto

Hosting Institution: Berlin Mathematical School (BMS)  
Location: Berlin, Germany  
Date: 21/02/2018-23/02/2018

### **Workshop “Algebra meets Numerics: Condition and Complexity”**

Organizer: Peter Bürgisser  
Felipe Cucker

Hosting Institution: Technische Universität Berlin  
Location: Berlin, Germany  
Date: 06/11/2017-07/11/2017

**FoCM 2017 Conference (Blocks B and C)**

Organizer: FoCM Society

Hosting Institution: Universitat de Barcelona

Location: Barcelona, Spain

Date: 13/07/2017-19/07/2017

**Workshop “Reading Group on Real Algebraic Geometry”**

Organizer: Kristin Shaw

Rainer Sinn

Mario Kummer

Hosting Institution: Max-Planck-Institut für Mathematik in der Naturwissenschaften

Location: Leipzig, Germany

Date: 03/07/2017-07/07/2017

**Workshop “Polynomials and Polytopes”**

Organizer: Bernd Sturmfels

Timo de Wolff

Hosting Institution: Technische Universität Berlin

Location: Berlin, Germany

Date: 10/06/2017

**Chow Lectures 2017**

Organizer: Karim Adiprasito

Christian Lehn

Mateusz Michalek

Matthias Schwarz

Hosting Institution: Max-Planck-Institut für Mathematik in der Naturwissenschaften

Location: Leipzig, Germany

Date: 22/05/2017-24/05/2017

**BCAM Course “Quantum Information Theory”**

Organizer: Anna Vershynina

Hosting Institution: Basque Center for Applied Mathematics (BCAM)

Location: Bilbao, Spain

Date: 13/03/2017-17/03/2017

**5th BMS Student Conference**

Organizer: Qianheng Chen

Jan Hackfeld

Lauri Loiskekoski

Alexandra Munteanu

András Tóbiás

Hosting Institution: Berlin Mathematical School (BMS)

Location: Berlin, Germany

Date: 22/02/2017-24/02/2017

**Workshop “Tensors: Algebra meets Numerics”**

Organizer: Wolfgang Hackbusch

Bernd Sturmfels

André Uschmajew

Hosting Institution: Max-Planck-Institut für Mathematik in der Naturwissenschaften

Location: Leipzig, Germany

Date: 12/12/2016-14/12/2016

### **7th European Congress of Mathematics**

Organizer: Deutsche Mathematiker-Vereinigung (DMV)  
Gesellschaft für Angewandte Mathematik und Mechanik (GAMM)  
MATHEON  
ECMath  
Berlin Mathematical School (BMS)

Hosting Institution: Technische Universität Berlin

Location: Berlin, Germany

Date: 18/07/2016-22/07/2016

### **4th BMS Student Conference**

Organizer: Daniele Agostini  
Mark Curran  
Efsthia Katsigianni  
Eva Martínez Romero  
Nevena Pali

Hosting Institution: Berlin Mathematical School (BMS)

Location: Berlin, Germany

Date: 17/02/2016-19/02/2016

### **Hilbert Bernays Summer School on Logic and Computation**

Organizer: Georg-August-Universität Göttingen

Hosting Institution: Georg-August-Universität Göttingen

Location: Göttingen, Germany

Date: 26/07/2015-01/08/2015

### **2015 Santaló Summer School on “Number theory and arithmetic geometry”**

Organizer: Antonio Rojas  
José M. Tornero

Hosting Institution: Real Sociedad Matemática Española (RSME)  
Universidad Internacional Menéndez Pelayo (UIMP)

Location: Santander, Spain

Date: 13/07/2015-17/07/2015

### **BMS Summer School 2015 on “Convex geometry – discrete and computational”**

Organizer: Martin Henk  
Raman Sanyal

Hosting Institution: Berlin Mathematical School (BMS)

Location: Berlin, Germany

Date: 29/06/2015-10/07/2015

### **Homological Algebra Workshop**

Organizer: Andrei Jaikin  
Jon González

Hosting Institution: Instituto de Ciencias Matemáticas (ICMAT)

Location: Madrid, Spain

Date: 02/03/2015-06/03/2015

### **3rd BMS Student Conference**

Organizer: Irena Bojarovska  
Gregor Bruns  
Juan Orduz  
Emre Sertöz

Hosting Institution: Berlin Mathematical School (BMS)

Location: Berlin, Germany

Date: 18/02/2015-20/02/2015



### **10th AIMS Conference on Dynamical Systems, Differential Equations and Applications**

Organizers: American Institute of Mathematical Sciences (AIMS)  
Instituto de Ciencias Matemáticas (ICMAT)  
Universidad Autónoma de Madrid (UAM)  
University of North Carolina at Wilmington

Location: Madrid, Spain

Date: 07/07/2014-11/07/2014

Note: Attended as student volunteer

### **First Joint International Meeting of the Italian and Spanish Mathematical Societies**

Societies: RSME (Royal Spanish Mathematical Society)  
SCM (Catalan Mathematical Society)  
SEMA (Spanish Society for Applied Mathematics)  
SIMAI (Italian Society for Applied and Industrial Mathematics)  
UMI (Italian Mathematical Union)

Institution: University of the Basque Country (UPV/EHU)

Location: Bilbao and Leioa, Spain

Date: 30/06/2014-04/07/2014

Note: Attended as student volunteer

### **2nd BMS Student Conference**

Organizer: BMS Student Representatives

Hosting Institution: Berlin Mathematical School (BMS)

Location: Berlin, Germany

Date: 19/02/2014-21/02/2014

### **VI Edición de la Escuela JAE de Matemáticas**

(6th Edition of the JAE School of Mathematics)

Organizer: Instituto de Ciencias Matemáticas (ICMAT)

Hosting Institution: ICMAT

Location: Madrid, Spain

Date: 01/07/2013-26/07/2013

### **XIII Encuentro Nacional de Estudiantes de Matemáticas**

*(XIII (Spanish) National Meeting of Mathematics Students)*

Organizer: Asociación Nacional de Estudiantes de Matemáticas (ANEM)  
*((Spanish) National Association of Students of Mathematics)*

Location: Murcia, Spain

Date: 23/07/2012-29/07/2012

### **Undergraduate Summer School Program of the**

#### **2012 PCMI Summer Session “Geometric Group Theory”**

Organizer: Aaron Bertram

Hosting Institution: IAS/Park City Mathematics Institute (PCMI)

Location: Park City, USA

Date: 01/07/2012-21/07/2012

### **Undergraduate Summer School Program of the**

#### **2011 PCMI Summer Session “Moduli Spaces of Riemann Surfaces”**

Organizer: Andrew Bernoff

Aaron Bertram

Hosting Institution: IAS/Park City Mathematics Institute (PCMI)

Location: Park City, USA

Date: 03/07/2011-23/07/2011

### **Coloquio RSME 2011: Las dos ideas de Sofia Kovalevskaya**

(Colloquia RSME 2011: The Two Ideas of Sofia Kovalevskaya)

Organizer: RSME (Royal Spanish Mathematical Society)

Hosting Institution: University of the Basque Country (UPV/EHU)

Speaker: Michèle Audin

Location: Bilbao, Spain

Date: 24/06/2011

### **Jornadas RSME 2011: Los Problemas del Milenio**

(Conferences RSME 2011: The Millennium Prize Problems)

Organizer: RSME (Royal Spanish Mathematical Society)

Hosting Institution: Universitat de Barcelona (UB)

Location: Barcelona, Spain

Date: 01/06/2011-03/06/2011

Other

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### **10th Annual San Antonio Postdoctoral Research Forum**

Organizer: Naval Medical Research Unit San Antonio

Texas Biomedical Research Institute

United States Army Institute of Surgical Research

UT Health San Antonio

University of Texas at San Antonio

Hosting Institution: UT Health San Antonio

Location: San Antonio, USA

Date: 20/09/2022

### **dramaTOURgia: un viaje teatral a través de España**

(*dramaTOURgia: a theatrical voyage throughout Spain*)

Description: End-of-course representation showcasing scenes worked during the course *Teatro Español à Paris*

Director: Luzía Eviza

Venue: Comédie Oberkampf

Location: Paris, France

Dates: 30/06/2022

### **Teatro Español à Paris**

(*Spanish Theater in Paris*)

Description: Once-a-week theater classes in Spanish

Instructor: Luzía Eviza

Location: Paris, France

Dates: 10/2020-06/2022

### **Arctic MSCA Symposium**

Organizer: Theresa Mikalsen

Kata Bohus

Hosting Institution: UiT The Arctic University of Norway

Location: Tromsø, Norway

Dates: 8/06/2022-10/06/2022

### **Taller “Baterías: Presente y Futuro”**

(*Workshop “Batteries: Present and Future”*)

Organizer: EHUalumni

Speaker: Jon Serrano-Sevillano

Location: On-line

Dates: 11/05/2022

### **Jornada SIEF y Asamblea General 2021**

*(2021 SIEF Conference and General Assembly)*

Organizer: Sociedad de Investigadores Españoles en Francia (SIEF)

Hosting Institution: Colegio de España en París

Location: Paris, France

Dates: 27/11/2021

### **Jornada y Asamblea Anual 2020 de la SIEF**

*(2020 Conference and Annual Assembly of the SIEF)*

Organizer: Sociedad de Investigadores Españoles en Francia (SIEF)

Location: France (On-line)

Dates: 28/11/2020

### **Science+ 2017, ERA Career Day Bilbao**

Description: Career days where  
talks and information about professional possibilities for scientists were given

Organizer: Chair of Scientific Culture of the University of the Basque Country

Bizkaia Talent

Spanish Foundation for Science and Technology (FECYT)

Institution: University of the Basque Country (UPV/EHU)

Location: Bilbao, Spain

Dates: 18/09/2017-20/09/2017

### **Participant at *Slam the library #2 - Poetry Slam***

Description: Poetry slam organized as part of the Lange Nacht der Wissenschaften in Berlin  
Participation under the pseudonym *Iasafro Maesman* obtaining the 2nd place

Institution: University Library of the TU Berlin and UdK

Place: Berlin, Germany

Date: 06/06/2016

### ***Reflejo de Palabras (Reflection of words)***

at the **Exhibition *Reflejos. Proyecto experimental entre artistas y escritores.***

Creator: María Jesús Cueto Puente

Josué Tonelli-Cueto

Curator: Marina Gurruchaga

Rosario de Gorostegui

Institution: Biblioteca Central de Cantabria

Place: Santander, Spain

Date: 10/10/2014-04/11/2014

### **Curso H.1 ¿Qué hay que enseñar hoy en la escuela?**

*(Course H.1 What should be taught in school today?)*

*XXXIII Cursos de Verano de la UPV/EHU (XXXIII Summer Courses of the UPV/EHU)*

Organizer: University of the Basque Country(UPV/EHU)

Directors: Paulí Dávila Balsera

Jaume Carbonell Sebarroja

Location: Donostia-San Sebastián, Spain

Dates: 25/06/2014-27/06/2014

### **Workshop 6.1 “Once upon a time...” Techniques for Storytelling in English**

*XXXIII Cursos de Verano de la UPV/EHU (XXXIII Summer Courses of the UPV/EHU)*

Organizer: University of the Basque Country(UPV/EHU)

Director: Diana Lindsay

Location: Donostia-San Sebastián, Spain

Dates: 23/06/2014-24/06/2014

### **Curso “Cognición comparada entre chimpancés y humanos”**

(“Compared cognition between chimpanzees and humans” Course)

Organizers: “Bionatur” Biology Students’ Association

Official Professional Association of Biologists of the Basque Country

Psychology Official Professional Association of Biscay

Faculty of Science and Technology of the UPV/EHU

Speaker: Miquel Llorente Espino

Location: Bilbao, Spain

Dates: 09/05/2014

### **Talentia Programme 2013-14 of Bizkaia Talent**

Description: Activities and talks for career development of students

Organizer: Bizkaia Talent

Location: Province of Biscay, Spain

Dates: 01/2014-06/2014

### **II. Simposio UNIBASQ. La Calidad del Sistema Universitario Vasco: La Perspectiva de los Usuarios**

(2nd UNIBASQ Symposium. The Quality of the Basque University System: The perspective of the User)

Organizing institution: Agency for Quality of the Basque University System (UNIBASQ)

Location: Bilbao, Spain

Dates: 16/10/2013

### **Poetry Recital at the opening of the exhibition *Proyecto Trait D’Union***

Curator: Matteo Acarrino

Carmela Claps

María Jesús Cueto Puente

Institution: Observatorio del Arte

Place: Arnauero, Spain

Date: 31/08/2012

### **Curso de Teoría de Grafos aplicando el método de Moore**

(Graph Theory Course applying Moore’s Method)

Organizer: Luis Martínez Fernández

Hosting Institution: Faculty of Science and Technology (ZTF-FCT)  
of the University of the Basque Country (UPV/EHU)

Location: Leioa, Spain

Date: 09/2011-12/2011

### **Scientific Olympiads**

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#### **Gold Medal in the XIV Olimpiada Iberoamericana de Física**

(XIV Iberoamerican Physics Olympiad)

Hosting institution: Sociedad Chilena de Física

Date: 03/10/2009

#### **Silver Medal and Special McGraw-Hill award to the best resolution of the theoretical part in the XX Olimpiada Española de Física**

(XX Spanish Physics Olympiad)

Hosting institution: Public University of Navarra

Date: 27/04/2009

#### **Bronze Medal in the XLV Olimpiada Matemática Española**

(XLV Spanish Mathematical Olympiad)

Hosting institution: University of Girona (UdG)  
Universitat Politècnica de Catalunya (UPC)

Date: 28/03/2009

## LANGUAGES

Spanish	Native
English	C1
Euskera (Basque)	A2-B1
Deutsch (German)	A2
Français (French)	A2

The levels given follow the Common European Framework of Reference for Languages. In this framework, the levels are, from lowest to highest, A1, A2, B1, B2, C1 and C2. The B1 level indicates *Vantage Independent Use*, the C1 level *Effective Operational Proficiency* of the language and the C2 level *Mastery* of it.

## REFERENCES

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