

FoCM 2017

Foundations of Computational Mathematics

Barcelona, July 10th-19th, 2017

<http://www.ub.edu/focm2017>

Organized in partnership with

Workshops

- Approximation Theory
- Computational Algebraic Geometry
- Computational Dynamics
- Computational Harmonic Analysis and Compressive Sensing
- Computational Mathematical Biology with emphasis on the Genome
- Computational Number Theory
- Computational Geometry and Topology
- Continuous Optimization
- Foundations of Numerical PDEs
- Geometric Integration and Computational Mechanics
- Graph Theory and Combinatorics
- Information-Based Complexity
- Learning Theory
- Mathematical Foundations of Data Assimilation and Inverse Problems
- Multiresolution and Adaptivity in Numerical PDEs
- Numerical Linear Algebra
- Random Matrices
- Real-Number Complexity
- Special Functions and Orthogonal Polynomials
- Stochastic Computation
- Symbolic Analysis



Plenary Speakers

- Karim Adiprasito**
- Jean-David Benamou**
- Alexei Borodin**
- Mireille Bousquet-Mélou**
- Mark Braverman**
- Claudio Canuto**
- Martin Hairer**
- Pierre Lairez**
- Monique Laurent**
- Melvin Leok**
- Lek-Heng Lim**
- Gábor Lugosi**
- Bruno Salvy**
- Sylvia Serfaty**
- Steve Smale**
- Andrew Stuart**
- Joel Tropp**
- Shmuel Weinberger**

Sponsors



Presentation

The next **Foundations of Computational Mathematics** conference takes place in **Barcelona** between **July 10th–19th, 2017**.

The conference will follow a format tried and tested to a great effect in former FoCM conferences: plenary invited lectures in the mornings, theme-centred parallel workshops in the afternoons. Each workshop extends over three days and the conference will consist of three periods, comprising of different themes. Although some participants choose to attend just one or two periods, on past experience the greatest benefit follows from attending the conference for its full ten days: the entire idea of FoCM is that we strive to break out of narrow boundaries of our specific research areas and open our minds to the broad range of exciting developments in computational mathematics.

Each workshop will include a daily "semi-plenary" lecture, of interest to a more general audience, as well as (typically shorter) talks aimed at more technical audience. The choice of the speakers of a workshop is the responsibility of workshop organisers, and most of these workshop talks will be by invitation.

We have every intention to build upon previous FoCM conferences and to make FoCM 2017 into a unique meeting point of workers in computational mathematics and of theoreticians in mathematics and in computer science. While presenting plenary talks by foremost world authorities and maintaining the highest technical level in the workshops, the emphasis will be on multidisciplinary interaction across subjects and disciplines, in an informal and friendly atmosphere. We hope that it will be an opportunity to meet colleagues from different subject-areas and identify the wide-ranging (and often surprising) common denominator of our research.

Governance of FoCM

FoCM Executive Committee

Wolfgang Dahmen, RWTH Aachen, Germany (chair)

Angela Kunoth, University of Cologne, Germany (secretary)

Javier Peña, Carnegie Mellon University, USA (treasurer)

The governing body of FoCM is its **Board of Directors**, which in addition to the three members of the FoCM Executive Committee, includes:

Albert Cohen, Université Pierre et Marie Curie, Paris (JFoCM editor)

Felipe Cucker, City University of Hong Kong, China (JFoCM editor)

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Annalisa Buffa, IMATI - CNR, Italy

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Teresa Krick, University of Buenos Aires, Argentina

Committees

Local Organizing Committee

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Xavier Guitart, Universitat de Barcelona
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Wolfgang Dahmen, RWTH Aachen University, Germany
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Albert Cohen, University Pierre et Marie Curie, France
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Wolfgang Dahmen, Aachen University, Germany (chair)
Carlos D'Andrea, Universitat de Barcelona, Spain
Teresa Krick, Universidad de Buenos Aires, Argentina
Angela Kunoth, Universität zu Köln, Germany
Ricardo Nochetto, University of Maryland, USA
Michael Singer, North Carolina State University, USA

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Marta Sanz-Solé, Universitat de Barcelona, Spain
Ricardo Nochetto, University of Maryland, USA
Martín Sombra, ICREA & Universitat de Barcelona, Spain
Shmuel Weinberger, University of Chicago, USA

Workshops

Period 1: July 10th–12th, 2017

A1 – Approximation Theory

Organizers Albert Cohen, Université de Paris 6, France
Ron Devore, Texas A&M University, USA
Peter Binev, University of South Carolina, USA

A2 – Computational Algebraic Geometry

Organizers Marta Casanellas, Universitat Politècnica de Catalunya, Spain
Agnes Szanto, North Carolina State University, USA
Thorsten Theobald, Universität Frankfurt, Germany

A3 – Computational Number Theory

Organizers Christophe Ritzenthaler, Université de Rennes 1, France
Enric Nart, Universitat Autònoma de Barcelona, Spain
Tanja Lange, Technische Universiteit Eindhoven, Netherlands

A4 – Computational Geometry and Topology

Organizers Joel Hass, University of California at Davis, USA
Herbert Edelsbrunner, Institute of Science and Technology, Austria
Gunnar Carlsson, Stanford University, USA

A5 – Geometric Integration and Computational Mechanics

Organizers Fernando Casas, Universitat Jaume I, Spain
Elena Celledoni, Norwegian University of Science and Technology, Norway
David Martin de Diego, Instituto de Ciencias Matemáticas, Spain

A6 – Mathematical Foundations of Data Assimilation and Inverse Problems

Organizers Jean-Frédéric Gerbeau, INRIA, France
Sebastian Reich, Universität Potsdam, Germany
Karen Willcox, Massachusetts Institute of Technology, USA

A7 – Stochastic Computation

Organizers Tony Lelièvre, École Nationale des Ponts et Chaussées, France
Arnulf Jentzen, ETH Zürich, Switzerland

Workshops

Period 2: July 13th–15th, 2017

B1 – Computational Dynamics

Organizers Àngel Jorba, Universitat de Barcelona, Spain
Hiroshi Kokubu, Kyoto University, Japan
Warwick Tucker, Uppsala University, Sweden

B2 – Graph Theory and Combinatorics

Organizers Marc Noy, Universitat Politècnica de Catalunya, Spain
Jaroslav Nesetril, Charles University, Czech Republic
Angelika Steger, ETH Zürich, Switzerland

B3 – Symbolic Analysis

Organizers Bruno Salvy, INRIA & École Normale Supérieure de Lyon, France
Jacques-Arthur Weil, Université de Limoges, France
Irina Kogan, North Carolina State University, USA

B4 – Learning Theory

Organizers Sébastien Bubeck, Microsoft Research, USA
Lorenzo Rosasco, Massachusetts Institute of Technology, USA
Alexandre Tsybakov, Université de Paris 6, France

B5 – Random Matrices

Organizers Joel Tropp, California Institute of Technology, USA
Michel Ledoux, Université de Toulouse 3, France
Sheehan Olver, University of Sydney, Australia

B6 – Multiresolution and Adaptivity in Numerical PDEs

Organizers Pedro Morin, Universidad Nacional del Litoral, Argentina
Rob Stevenson, University of Amsterdam, Netherlands
Christian Kreuzer, Universität Bochum, Germany

B7 – Numerical Linear Algebra

Organizers Froilan Dopico, Universidad Carlos III de Madrid, Spain
Alex Townsend, Cornell University, USA
Volker Mehrmann, Technische Universität Berlin, Germany

Workshops

Period 3: July 17th–19th, 2017

C1 – Computational Harmonic Analysis and Compressive Sensing

Organizers Holger Rauhut, RWTH Aachen University, Germany
Karlheinz Gröchenig, Universität Wien, Austria
Thomas Strohmer, University of California at Davis, USA

C2 – Computational Mathematical Biology with emphasis on the Genome

Organizers Steve Smale City University of Hong Kong, China & University of California at Berkeley, USA
Mike Shub, City University of New York, USA
Indika Rajapakse, University of Michigan, USA

C3 – Continuous Optimization

Organizers Javier Peña, Carnegie Mellon University, USA
Coralia Cartis, University of Oxford, UK
Etienne de Klerk, Tilburg University, Netherlands

C4 – Foundations of Numerical PDEs

Organizers Ricardo Nochetto, University of Maryland, USA
Annalisa Buffa, IMATI, Italy
Endre Suli, University of Oxford, UK

C5 – Information-Based Complexity

Organizers Tino Ullrich, Universität Bonn, Germany
Frances Kuo, University of New South Wales, Australia
Erich Novak, Universität Jena, Germ

C6 – Real-Number Complexity

Organizers Carlos Beltrán, Universidad de Cantabria, Spain
Saugata Basu, Purdue University, USA
Mark Braverman, Princeton University, USA

C7 – Special Functions and Orthogonal Polynomials

Organizers Francisco Marcellán, Universidad Carlos III de Madrid & Instituto de Ciencias Matemáticas, Spain
Kerstin Jordaan, University of South Africa, South Africa
Andrei Martinez-Finkelshtein, Universidad de Almería, Spain

Plenary Speakers



Karim Adiprasito

Hebrew University of Jerusalem, Israel
Title: $T < 4E$



Jean-David Benamou

INRIA Rocquencourt, France
Title: Dynamic formulation of Optimal Transportation and variational relaxation of Euler equations



Mireille Bousquet-Mélou *EMS Distinguished Speaker*

CNRS & Université de Bordeaux, France
Title: Functional Equations in Enumerative Combinatorics



Claudio Canuto

Politecnico di Torino, Italy
Title: Adaptive High-Order Methods for Elliptic Problems: Convergence and Optimality



Martin Hairer

University of Warwick, UK
Title: TBA



Pierre Lairez

INRIA Saclay Île-de-France, France
Title: Finding One Root of a Polynomial System: Smale's 17th Problem



Melvin Leok

University of California at San Diego, USA
Title: Variational discretizations of gauge field theories using group-equivariant interpolation spaces



Andrew Stuart

California Institute of Technology, USA
Title: Large Graph Limits of Learning Algorithms



Shmuel Weinberger

University of Chicago, USA
Title: Interpolation, Rudimentary Geometry of Spaces of Lipschitz Functions and Complexity

Plenary Speakers (cont.)



Alexei Borodin

Massachusetts Institute of Technology, USA
 Title: Fourier-like bases and Integrable Probability



Mark Braverman

Princeton University, USA
 Title: Information Complexity and Applications



Monique Laurent

Centrum Wiskunde & Informatica and Tilburg University, Netherlands
 Title: Completely positive semidefinite matrices: conic approximations and matrix factorization ranks



Lek-Heng Lim *2017 Stephen Smale Prize*

University of Chicago, USA
 Title: Structure Tensors



Gábor Lugosi

ICREA & Universitat Pompeu Fabra, Spain
 Title: Mean Estimation: Median-of-Means Tournaments



Bruno Salvy

INRIA & École Normale Supérieure de Lyon, France
 Title: Linear Differential Equations as a Data-Structure



Sylvia Serfaty

New York University, USA
 Title: TBA



Joel Tropp

California Institute of Technology, USA
 Title: TBA



Steve Smale

City University of Hong Kong, China & University of California at Berkeley, USA
 Title: Mathematics of Cell Division

Presentation

The Program, including the **book of abstracts**, can be found at

<http://www.ub.edu/focm2017/> website tab “Program”.

SCHEDULE

Monday, 10th of July 2017

Morning (Venue: Paraninf)

From 08:30	REGISTRATION
09:30 – 10:00	OPENING CEREMONY
10:00 – 11:00	Martin Hairer <i>TBA</i>
11:00 – 11:30	COFFEE BREAK
11:30 – 12:30	Shmuel Weinberger <i>Interpolation, Rudimentary Geometry of Spaces of Lipschitz Functions and Complexity</i>

For updates, check <http://www.ub.edu/focm2017/> website tab “Schedule”

 Semiplenary talks

Afternoon

	Approximation Theory	Computational Algebraic Geometry	Computational Number Theory	Computational Geometry and Topology	Geometric Integration and Computational Mechanics	Mathematical Foundations of Data Assimilation and Inverse Problems	Stochastic Computation	
	A1 - Room B3	A2 - Room B5	A3 - Room B6	A4 - Room B7	A5 - Room 111	A6 - Room T1	A7 - Room B2	
14:30	P. Petrushev 14:30–15:20	R. Thomas 14:30–15:20		A. Patel 14:30–14:55	A. Iserles 14:30–15:00	K. Burrage 14:30–15:00	A. Debussche 14:30–15:20	
15:00				C. Giusti 15:00–15:30	P. Chartier 15:00–15:30	Y. Maday 15:00–15:30		
15:30	A. Hansen 15:30–16:20	T. Krick 15:30–15:55	P. Steinhagen 15:30–16:20	J. Mason 15:30–16:00	M. Thalhammer 15:30–16:00	J. de Wiljes 15:30–16:00	R. Kurniawan 15:30–16:00	
16:00		G. Blekherman 16:00–16:25		B. Schweinhart 16:00–16:30	B. Owren 16:00–16:30	K. Willcox 16:00–16:30	F. Lindner 16:00–16:30	
16:30	Coffee break 16:30 – 17:00							
17:00	L. Grasedyck 17:00–17:35	S. Sullivant 17:00–17:25	A. Bassa 17:00–17:40	M. Lesnick 17:00–17:30	K. Modin 17:00–17:30	J. Garnier 17:00–17:50	S. Mazzonetto 18:00–18:30	
17:30	G. Petrova 17:40–18:15	E. Gorla 17:30–17:55		P. Koehl 17:30–17:55	S. Ober-Blöbaum 17:30–18:00		C. Geiss 17:00–17:30	
18:00	P. Wojtaszczyk 18:20–18:55	C. Vinzant 18:00–18:25	A. Couvreur 17:40–18:20	P. Bubenik 18:00–18:25	M. Farré Puiggalí 18:00–18:30		S. Geiss 17:30–18:00	
18:30		J. Hauenstein 18:30–18:55	J. Bauch 18:20–19:00	U. Bauer 18:30–19:00	A. Zanna 18:30–19:00		F. Bach 17:00–17:25	
19:00				P. Bendich 19:00–19:25				

SCHEDULE (CONT.)

Tuesday, 11th of July 2017

Morning (Venue: Aula Magna)

From 09:00	REGISTRATION
09:30 – 10:30	Andrew Stuart <i>Large Graph Limits of Learning Algorithms</i>
10:30 – 11:30	COFFEE BREAK & POSTER SESSION
11:30 – 12:30	Karim Adiprasito T < 4E

For updates, check <http://www.ub.edu/focm2017/> website tab “Schedule”

Semiplenary talks

Afternoon

	Approximation Theory	Computational Algebraic Geometry	Computational Number Theory	Computational Geometry and Topology	Geometric Integration and Computational Mechanics	Mathematical Foundations of Data Assimilation and Inverse Problems	Stochastic Computation
14:30	A1 - Room B3 M. Maggioni 14:30 – 15:20	A2 - Room B5 M. Sombra 14:30 – 14:55 J. Fernández-Sánchez 15:00 – 15:25	A3 - Room B6 N. Heninger 14:50 – 15:30	A4 - Room B7 V. Nanda 14:30 – 14:55 Z. Virk 15:00 – 15:30	A5 - Room 111 A. Bloch 14:30 – 15:20	A6 - Room T1 P. Moireau 14:30 – 15:00 O. Ghattas 15:00 – 15:30	A7 - Room B2 G. Fort 14:30 – 14:55 P. Zitt 15:00 – 15:25
15:00							
15:30	M. Bachmayr 15:30 – 16:20	G. Smith 15:30 – 15:55 E. Tsigaridas 16:00 – 16:25	D. Bernstein 15:30 – 16:20	A. de Mesmay 15:30 – 15:55 F. Chazal 16:00 – 16:25	O. Verdier 15:30 – 16:00 S. Leyendecker 16:00 – 16:30	J. Gerbeau 15:30 – 16:00	P. Dupuis 15:30 – 16:20
16:00							
16:30	Coffee break 16:30 – 17:00						
17:00	T. Ullrich 17:00 – 17:35	T. Recio 17:00 – 17:25 I. Kogan 17:30 – 17:55	M. Massierer 17:00 – 17:40	J. Spreer 17:00 – 17:25 E. Sedgwick 17:30 – 18:00	H. Munthe-Kaas 17:00 – 17:30 A. Stern 17:30 – 18:00	Y. Marzouk 17:00 – 18:00	M. Cameron 17:00 – 17:25 A. Eberle 17:30 – 17:55
17:30	A. Nouy 17:40 – 18:15						
18:00		T. de Wolff 18:00 – 18:25	E. Lorenzo García 17:40 – 18:20	J. Maher 18:00 – 18:25	C. Campos 18:00 – 18:30		A. Garivier 18:00 – 18:25
18:30	G. Kutyniok 18:20 – 18:55		B. Smith 18:20 – 19:00	M. Lackenby 18:30 – 19:00	A. Alfonso Álamo Zapatero 18:30 – 19:00		A. Guyader 18:30 – 18:55

Evening

20:30	Social dinner at Restaurant 1881 at the terrace of the Palau del Mar						
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SCHEDULE (CONT.)

Wednesday, 12th of July 2017

Morning (Venue: Aula Magna)

From 09:00	REGISTRATION
09:30 – 10:30	Melvin Leok <i>Variational Discretizations of Gauge Field Theories Using Group-Equivariant Interpolation Spaces</i>
10:30 – 11:30	COFFEE BREAK & POSTER SESSION
11:30 – 12:30	Jean-David Benamou <i>Dynamic Formulation of Optimal Transportation and Variational Relaxation of Euler Equations</i>

For updates, check <http://www.ub.edu/focm2017/> website tab “Schedule”

Semiplenary talks

Afternoon

	Approximation Theory	Computational Algebraic Geometry	Computational Number Theory	Computational Geometry and Topology	Geometric Integration and Computational Mechanics	Mathematical Foundations of Data Assimilation and Inverse Problems	Stochastic Computation
	A1 - Room B3	A2 - Room B5	A3 - Room B6	A4 - Room B7	A5 - Room 111	A6 - Room T1	A7 - Room B2
14:30	S. Foucart 14:30 – 15:20	D. Plaumann 14:30 – 14:55	S. Anni 14:50 – 15:30	F. Memoli 14:30 – 15:00	D. Holm 14:30 – 15:20	A. Collin 14:30 – 15:00	K. Ritter 14:30 – 14:55
15:00		E. Feliu 15:00 – 15:25		S. Kalisnik 15:00 – 15:30		M. Ohlberger 15:00 – 15:30	B. Jourdain 15:00 – 15:25
15:30	P. Grohs 15:30 – 16:20	L. Zhi 15:30 – 15:55	C. Maistret 15:30 – 16:20	É. Colin de Verdière 15:30 – 16:00	F. Gay-Balmaz 15:30 – 16:00	M. Iglesias 15:30 – 16:00	T. Mueller-Gronbach 15:30 – 15:55
16:00		E. Gross 16:00 – 16:25		M. Kahle 16:00 – 16:25	E. Gawlik 16:00 – 16:30		D. Salimova 16:00 – 16:25
16:30	Coffee break 16:30 – 17:00						
17:00	V. Temlyakov 17:00 – 17:35	G. Ottaviani 17:00 – 17:50	J. Sijsling 17:00 – 17:40	F. Luo 17:00 – 17:30	K. Kropielnicka 17:00 – 17:30		S. Sabanis 17:00 – 17:25
17:30	N. Dyn 17:40 – 18:15		G. Jorði 17:40 – 18:20	B. Springborn 17:30 – 18:00	M. Kobilarov 17:30 – 18:00		B. Recht 17:30 – 17:55
18:00		C. D'Andrea 18:00 – 18:25		K. Crane 18:00 – 18:30	S. Blanes 18:00 – 18:30		
18:30	B. Adcock 18:20 – 18:55		N. Kaplan 18:20 – 19:00				

SCHEDULE (CONT.)

Thursday, 13th of July 2017

Morning (Venue: Paraninf)

From 09:00	REGISTRATION
09:50 – 10:00	OPENING REMARKS
10:00 – 11:00	Mireille Bousquet-Mélou <i>Functional Equations in Enumerative Combinatorics</i>
11:00 – 11:30	COFFEE BREAK
11:30 – 12:30	Joel Tropp <i>TBA</i>

For updates, check <http://www.ub.edu/focm2017/> website tab “Schedule”

Semiplenary talks

Afternoon

	Computational Dynamics	Graph Theory and Combinatorics	Symbolic Analysis	Learning Theory	Random Matrices	Multiresolution and Adaptivity in Numerical PDEs	Numerical Linear Algebra
14:30	A. Celletti 14:30 – 15:20	O. Pikhurko 14:30 – 15:20	E. Hubert 14:30 – 14:55	F. Bach 14:30 – 15:20	I. Dumitriou 14:30 – 15:20	L. Diening 14:30 – 15:00	L. De Lathauwer 14:30 – 15:00
15:00			R. Hernández Heredero 15:00 – 15:25			M. Weimar 15:00 – 15:30	M. Bachmayr 15:00 – 15:30
15:30	J.-Ll. Figueras 15:30 – 15:55	S. Cabello 15:30 – 15:55	A. Bostan 15:30 – 15:55	R. Barber 15:30 – 15:55	N. El Karoui 15:30 – 15:55	W. Dahmen 15:30 – 16:20	A. Uschmajew 15:30 – 16:00
16:00	R. Barrio 16:00 – 16:25	G. Perarnau 16:00 – 16:25	W. Seiler 16:00 – 16:25	M. Hein 16:00 – 16:25	E. Meckes 16:00 – 16:25		F. De Terán 16:00 – 16:30
16:30	Coffee break 16:30 – 17:00						
17:00	C. Efthimiopoulos 17:00 – 17:25	P. Ossona de Mendez 17:00 – 17:50	E. Mansfield 17:00 – 17:25	P. Rigollet 17:00 – 17:25	K. Wang 17:00 – 17:25	M. Schedensack 17:00 – 17:30	P. Absil 17:00 – 17:30
17:30	C. Simo 17:00 – 17:25		P. Acosta-Humánez 17:30 – 17:55	A. Dalaylan 17:30 – 17:55	J. Nelson 17:30 – 17:55	A. Bonito 17:30 – 18:00	E. Mengi 17:30 – 18:00
18:00		M. Brass 18:00 – 18:25	T. Dreyfus 18:00 – 18:25	O. Klopp 18:00 – 18:25		D. Peterseim 18:00 – 18:30	
18:30		É. Fusy 18:30 – 18:55		F. Bunea 18:30 – 18:55		F. Gazpoz 18:30 – 19:00	

SCHEDULE (CONT.)

Friday, 14th of July 2017

Morning (Venue: Aula Magna)

From 09:00	REGISTRATION
09:30 – 10:30	Claudio Canuto <i>Adaptive High-Order Methods for Elliptic Problems: Convergence and Optimality</i>
10:30 – 11:30	COFFEE BREAK & POSTER SESSION
11:30 – 12:30	Bruno Salvy <i>Linear Differential Equations as a Data-Structure</i>

For updates, check <http://www.ub.edu/focm2017/> website tab “Schedule”

Semiplenary talks

Afternoon

	Computational Dynamics	Graph Theory and Combinatorics	Symbolic Analysis	Learning Theory	Random Matrices	Multiresolution and Adaptivity in Numerical PDEs	Numerical Linear Algebra
	B1 - Room 111	B2 - Room B7	B3 - Room B2	B4 - Room B6	B5 - Room B3	B6 - Room T1	B7 - Room B5
14:30	A. Haro 14:30 – 14:55	A. Atserias 14:30 – 15:20	M. Singer 14:30 – 14:55	R. Gribonval 14:30 – 14:55	F. Bornemann 14:30 – 14:55	M. Vohralik 14:30 – 15:00	P. Van Dooren 14:30 – 15:00
15:00	Z. Arai 15:00 – 15:25		S. Rueda 15:00 – 15:25	D. Slepcev 15:00 – 15:25	M. Meckes 15:00 – 15:25	C. Makridakis 15:00 – 15:30	D. Bindel 15:00 – 15:30
15:30	Z. Galias 15:30 – 15:55	A. Abiad 15:30 – 15:55	M. Barkatou 15:30 – 15:55	G. Blanchard 15:30 – 15:55	A. Singer 15:30 – 16:20	F. Karakatsani 15:30 – 16:00	S. Bora 15:30 – 16:00
16:00	H. Koch 16:00 – 16:25	A. Padrol 16:00 – 16:25	G. Frasca-Caccia 16:00 – 16:25	J. Lee 16:00 – 16:25		O. Lakkis 16:00 – 16:30	S. Friedland 16:00 – 16:30
16:30	Coffee break 16:30 – 17:00						
17:00	K. Mischalkow 17:00 – 17:25	V. Dalmau 17:00 – 17:50	B. Adamczewski 17:00 – 17:50	K. Schnass 17:00 – 17:25	D. Chafaï 17:00 – 17:25	I. Smears 17:00 – 17:30	V. Simoncini 17:00 – 17:30
17:30	P. Zgliczynski 17:30 – 17:55			R. Willet 17:30 – 17:55	R. Movassagh 17:30 – 17:55	P. Binev 17:30 – 18:00	
18:00		J. Rué 18:00 – 18:25	I. Kogan 18:00 – 18:25			S. Dahlke 18:00 – 18:30	
18:30		Ll. Vena 18:30 – 18:55					

Evening

20:30	Social dinner at Hotel Miramar at Montjuic						
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SCHEDULE (CONT.)

Saturday, 15th of July 2017

Morning (Venue: Aula Magna)

From 09:00	REGISTRATION
09:30 – 10:30	Pierre Lairez <i>Finding One Root of a Polynomial System: Smale's 17th Problem</i>
10:30 – 11:30	COFFEE BREAK & POSTER SESSION
11:30 – 12:30	Gábor Lugosi <i>Mean Estimation: Median-of-Means Tournaments</i>

For updates, check <http://www.ub.edu/focm2017/> website tab “Schedule”

Semiplenary talks

Afternoon

	Computational Dynamics	Graph Theory and Combinatorics	Symbolic Analysis	Learning Theory	Random Matrices	Multiresolution and Adaptivity in Numerical PDEs	Numerical Linear Algebra
	B1 - Room 111	B2 - Room B7	B3 - Room B2	B4 - Room B6	B5 - Room B3	B6 - Room T1	B7 - Room B5
14:30	M. Joldes 14:30 – 15:20	J. Kratochvil 14:30 – 15:20	J. Clelland 14:30 – 15:20	B. Retch 14:30 – 14:55	K. Tikhomirov 14:30 – 14:55	R. Nochetto 14:30 – 15:00	D. Kressner 14:30 – 15:00
15:00				N. Vishnoi 15:00 – 15:25	R. Rao 15:00 – 15:25	D. Praetorius 15:00 – 15:30	B. Vandereycken 15:00 – 15:30
15:30	A. Luque 15:30 – 15:55	S. Ball 15:30 – 16:20	E. Musso 15:30 – 15:55	V. Koltchinskii 15:30 – 16:20	T. Trogdon 15:30 – 15:55	D. Gallistl 15:30 – 16:00	N. Gillis 15:30 – 16:00
16:00	T. Gedeon 16:00 – 16:25		T. Cluzeau 16:00 – 16:25		A. Edelman 16:00 – 16:25	A. Demlow 16:00 – 16:30	A. Dmytryshyn 16:00 – 16:30
16:30	Coffee break 16:30 – 17:00						
17:00	Y. Ishii 17:00 – 17:25	É. Colin de Verdière 17:00 – 17:50	D. Henrion 17:00 – 17:25	A. Carpentier 17:00 – 17:25		A. Veiser 17:00 – 17:50	C. Mehl 17:00 – 17:30
17:30	S. Hittmeyer 17:30 – 17:55		J. Morales-Ruiz 17:30 – 17:55	K. Sridharan 17:30 – 17:55			V. Noferini 17:30 – 18:00
18:00			J. Weil 18:00 – 18:25			M. Feischl 18:00 – 18:30	

SCHEDULE (CONT.)

Monday, 17th of July 2017

Morning (Venue: Paraninf)

From 09:00	REGISTRATION
09:45 – 10:00	OPENING REMARKS, AND JOFC AND IBC AWARD CEREMONY
10:00 – 11:00	Steve Smale <i>Mathematics of Cell Division</i>
11:00 – 11:30	COFFEE BREAK
11:30 – 12:30	Mark Braverman <i>Information Complexity and Applications</i>

For updates, check <http://www.ub.edu/focm2017/> website tab “Schedule”

Semiplenary talks

Afternoon

	Computational Harmonic Analysis and Compressive Sensing	Computational Mathematical Biology with emphasis on the Genome	Continuous Optimization	Foundations of Numerical PDEs	Information-Based Complexity	Real-Number Complexity	Special Functions and Orthogonal Polynomials
14:30	R. Calderbank 14:30 – 15:20	C2 - Room B2	C3 - Room 111	C4 - Room B6	C5 - Room B7	C6 - Room T1	C7 - Room B5
15:00		N. Komarova 15:15 – 15:45	F. Vallentin 14:30 – 15:00 J. Vera 15:00 – 15:30	R. Nürnberg 14:30 – 14:55 F. Nobile 15:00 – 15:25	M. Ullrich 14:30 – 15:20	N. Vorobjov 14:30 – 14:55 J. Schneider 15:00 – 15:25	Y. Xu 14:30 - 15:00 P. Román 15:00 – 15:30
15:30	A. Bandeira 15:30 – 15:55		N. Boumal 15:00 – 15:30	J. Mirebeau 15:30 – 15:55	J. Vybiral 15:30 – 15:55	O. Bournez 15:30 – 16:25	M. Rösler 15:30 – 16:00
16:00	B. Adcock 16:00 – 16:25		A. Ahmadi 15:30 – 16:00	C. Kreuzer 16:00 – 16:25	M. Wnuk 16:00 – 16:25		Z. da Rocha 16:00 – 16:30
16:30	Coffee break 16:30 – 17:00						
17:00	P. Grohs 17:00 – 17:25	G. Guntaratne 17:00 – 17:30		S. Bartels 17:00 – 17:50	V. Temlyakov 17:00 – 17:25	K. Meer 17:00 – 17:25	J. Christiansen 17:00 – 17:30
17:30	M. Maggioni 17:30 – 17:55	X. Guo 17:30 – 18:00	S. Wild 17:30 – 18:00		P. Kritzer 17:30 – 17:55	A. Lerario 17:30 – 17:55	G. Filipuk 17:30 – 18:00
18:00	S. Villar 18:00 – 18:25	T. Ried 18:00 – 18:30	L. Vicente 18:00 – 18:30		D. Bazarckhanov 18:00 – 18:25	D. Armentano 18:00 – 18:25	A. Loureiro 18:00 – 18:30
18:30	G. Lerman 18:30 – 18:55		A. Sidford 18:30 – 19:00		D. Nguyen 18:30 – 18:55		B. Simanek 18:30 – 19:00
19:00			A. Waechter 19:00 – 19:30				

SCHEDULE (CONT.)

Tuesday, 18th of July 2017

Morning (Venue: Aula Magna)

From 09:00	REGISTRATION
09:30 – 10:30	Alexei Borodin <i>Fourier-Like Bases and Integrable Probability</i>
10:30 – 11:15	COFFEE BREAK & POSTER SESSION
11:15 – 11:30	SMALE PRIZE AWARD CEREMONY
11:30 – 12:30	Lek-Heng Lim <i>Structure Tensors</i>

For updates, check <http://www.u.b.edu/focm2017/> website tab “Schedule”

Semiplenary talks

Afternoon

	Computational Harmonic Analysis and Compressive Sensing	Computational Mathematical Biology with emphasis on the Genome	Continuous Optimization	Foundations of Numerical PDEs	Information-Based Complexity	Real-Number Complexity	Special Functions and Orthogonal Polynomials	
	C1 - Room B3	C2 - Room B2	C3 - Room 111	C4 - Room B6	C5 - Room B7	C6 - Room T1	C7 - Room B5	
14:30	D. Gross 14:30 – 14:55	J. Andersen 14:30 – 15:20	D. Drusvyatskiy 14:30 – 15:00	C. Ortner 14:30 – 14:55	I. Sloan 14:30 – 14:55	M. Lotz 14:30 – 14:55	D. Gomez-Ullate 14:30 – 15:00	
15:00	G. Kutyniok 15:00 – 15:25		A. d'Aspremont 15:00 – 15:30	A. Oberman 15:00 – 15:25	M. Hefter 15:00 – 15:25	T. Krick 15:00 – 15:25	M. Bertola 15:00 – 15:30	
15:30	J. Bruna 15:30 – 15:55	X. Michael 15:30 – 16:00	F. Kilinc-Karzan 15:30 – 16:20	S. Mishra 15:30 – 15:55	L. Yaroslavtseva 15:30 – 16:20	F. Cucker 15:30 – 15:55	P. Bleher 15:30 – 16:00	
16:00	B. Recht 16:00 – 16:25	L. Glass 16:00 – 16:30		L. Beirao da Veiga 16:00 – 16:25		G. Malajovich 16:00 – 16:25	G. Silva 16:00 – 16:30	
16:30	Coffee break 16:30 – 17:00							
17:00	H. Boelskei 17:00 – 17:25	T. Gedeon 17:00 – 17:30	F. Glineur 17:00 – 17:30	R. Stevenson 17:00 – 17:50	T. Kühn 17:00 – 17:25	C. Riener 17:00 – 17:25	T. Grava 17:00 – 17:50	
17:30	D. Mixon 17:30 – 17:55	K. Mischaikow 17:30 – 18:00	J. Renegar 17:30 – 18:00		D. Rudolf 17:30 – 17:55	J. Yakoubsohn 17:30 – 17:55		
18:00	A. Singer 18:00 – 18:25	C. Macedonia 18:00 – 18:30	J. Lasserre 18:00 – 18:30		A. Hinrichs 18:00 – 18:25	M. Narváez-Clauss 18:00 – 18:25	M. Foupouagnigni 18:00 – 18:30	
18:30		I. Rajapakse 18:30 – 19:00	K. Scheinberg 18:30 – 19:00		C. Kacwin 18:30 – 18:55		L. Vinet 18:30 – 19:00	

Evening

20:30	Social dinner at Courtyard of the Casa de Convalescência						
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SCHEDULE (CONT.)

Wednesday, 19th of July 2017

Morning (Venue: Aula Magna)

From 09:00	REGISTRATION
09:30 – 10:30	<p style="text-align: center;">Monique Laurent</p> <p style="text-align: center;"><i>Completely Positive Semidefinite Matrices: Conic Approximations and Matrix Factorization Ranks</i></p>
10:30 – 11:30	COFFEE BREAK & POSTER SESSION
11:30 – 12:30	<p style="text-align: center;">Sylvia Serfaty</p> <p style="text-align: center;"><i>TBA</i></p>

For updates, check <http://www.ub.edu/focm2017/> website tab “Schedule”

Semiplenary talks

Afternoon

	Computational Harmonic Analysis and Compressive Sensing	Computational Mathematical Biology with emphasis on the Genome	Continuous Optimization	Foundations of Numerical PDEs	Information-Based Complexity	Real-Number Complexity	Special Functions and Orthogonal Polynomials	
	C1 - Room B3	C2 - Room B2	C3 - Room 111	C4 - Room B6	C5 - Room B7	C6 - Room T1	C7 - Room B5	
14:30	L. Demanet 14:30 – 14:55	I. Enrique Sánchez 14:30 – 15:00	Y. Nesterov 14:30 – 15:20	M. Neilan 14:30 – 14:55	S. Heinrich 14:30 – 14:55	P. Breiding 14:30 – 14:55	P. Yuditskii 14:30 – 15:20	
15:00	S. Foucart 15:00 – 15:25	S. Li 15:00 – 15:30		A. Salgado 15:00 – 15:25	A. Kolleck 15:00 – 15:25	J. Marzo 15:00 – 15:25		
15:30	S. Ling 15:30 – 15:55	J. Li 15:30 – 16:00	A. So 15:30 – 16:00	D. Leykekhman 15:30 – 15:55	C. Irrgeher 15:30 – 15:55	M. Roy 15:30 – 16:20	M. Stanić 15:30 – 16:00	
16:00	J. Romero 16:00 – 16:25	J. Reinitz 16:00 – 16:30	C. Cartis 16:00 – 16:30	I. Smears 16:00 – 16:25	V. Nguyen 16:00 – 16:25		B. Beckermann 16:00 – 16:30	
16:30	Coffee break 16:30 – 17:00							
17:00	I. Daubechies 17:00 – 17:50	Y. Yao 17:00 – 17:30	R. Sotirov 17:30 – 18:00	G. Sangalli 17:00 – 17:50	D. Nuyens 17:00 – 17:25	A. Pouly 17:00 – 17:25	M. Tyaglov 17:00 – 17:30	
17:30			R. Hauser 17:30 – 18:00		H. Leovey 17:30 – 17:55	P. Koiran 17:30 – 17:55	M. Cantero 17:30 – 18:00	
18:00			S. Chubanov 17:00 – 17:30		P. Przybyłowicz 18:00 – 18:25		A. Ranga 18:00 – 18:30	
18:30			E. de Klerk 18:30 – 19:00		A. Hansen 18:30 – 18:55		U. Etayo 18:30 – 19:00	

Posters**Period 1: July 10th–12th, 2017****Workshop A1 – Approximation Theory**

Yuliya Babenko, Kennesaw State University, USA

Optimal Recovery of Integral Operators and Applications

Jacob Carruth, University of Texas at Austin, USA

The Beurling-Selberg Box Minorant Problem

Moulay Abdellah Chkifa, University Mohamed 6 Polytechnic, Morocco

Sparse Polynomial Techniques in High Dimension for Non Intrusive Treatment of Parametric PDEs

Paul Escande, Johns Hopkins University, USA

Multi-Scale Decomposition of Transformations

Daan Huybrechs, KU Leuven, Belgium

Frames and Numerical Approximation

Yurii Kolomoitsev, University of Lübeck, Germany

Lebesgue Constants for Convex Polyhedra and Polynomial Interpolation on Lissajous-Chebyshev Nodes

Sebastian Kraemer, IGPM at RWTH Aachen University, Germany

The Geometrical Description of Feasible Singular Values in the Tensor Train Format

Olga Mula, Paris Dauphine, France

Dictionary Measurement Selection for State Estimation with Reduced Models

Toby Sanders, Arizona State University, United States

Higher Order Total Variation, Multiscale Generalizations, and Applications to Inverse Problems

Tatyana Sorokina, Towson University, USA

Subdivision and Spline Spaces

A2 – Computational Algebraic Geometry

Mateo Diaz, Cornell University, USA

Angles and Dimension: Estimating Local Dimensions from a Dataset

Rebecca E. Garcia, Sam Houston State University, USA

Gröbner Bases of Neural Ideals

Marina Garrote-López, Universitat politècnica de Catalunya, Spain

Multilinear Algebra for Phylogenetic Reconstruction

Thorsten Jürgens, Goethe University Frankfurt, Germany

Imaginary Projections of (Homogeneous) Polynomials

Pierre-Vincent Koseleff, UPMC - Sorbonne Universités (Paris 6), France

The Lexicographic Degree of the First Two-Bridge Knots

Jordi Roca-Lacostena, Universitat Politècnica de Catalunya, Spain

The Embedding Problem for Kimura Nucleotide Substitution Models

Jose Rodriguez, University of Chicago, USA

Multiprojective Witness Sets and a Trace Test

Meritxell Sáez Cornellana, University of Copenhagen, Denmark

Elimination in Steady State Equations of Chemical Reaction Networks

A3 – Computational Number Theory

A4 – Computational Geometry and Topology

Daniel Crane, University of Queensland, Australia

Visualising Normal Surfaces

Pierre-Vincent Koseleff, UPMC – Sorbonne Universités (Paris 6), France

The lexicographic degree of the first two-bridge knots

My Ismail Mamouni, Maroc

String Topological Robotics II

Grey Violet, University of Konstanz, Germany

The Topology of DD-Stability

A5 – Geometric Integration and Computational Mechanics

Yakov Berchenko-Kogan, Washington University in St. Louis, United States

Hamel's Formalism for Infinite-Dimensional Mechanical Systems

Nikita Kopylov, Universitat Politècnica de València, Spain

Time-average Magnus-decomposition methods for solving non-autonomous linear wave equations

Rodrigo Takuro Sato Martín de Almagro, ICMAT, Spain

Higher-Order Geometric Nonholonomic Integrators on Vector Spaces and Lie Groups

Benjamin Tapley, NTNU, Norway

Structure Preserving Integration of Non-spherical Particles in Turbulent Flows

Theresa Wenger, University of Erlangen-Nuremberg, Germany

Mixed Order Variational Integrators for Multiscale Problems

Michele Zadra, University of Kent, UK

Lie Group Integrators Commute up to Order Four

A6 – Mathematical Foundations of Data Assimilation and Inverse Problems

A7 – Stochastic Computation

Bahareh Akhtari, Assistant Professor, Institute for Advanced studies in Basic Sciences (IASBS), Iran

Numeric for Stochastic State-Dependent Delay Differential Equations

Yasmina Djabali, Research Unit LaMOS, University of Bejaia, Algeria

Strong Stability in Phase-Type Queueing Systems

Sedda Hakmi, Research Unit LaMOS (Modeling and Optimization of Systems), University of Bejaia, Algeria

Performance Modeling of Finite-Source Priority Queue with Vacations Via Generalized Stochastic Petri Nets

Hyung-Chun Lee, Ajou University, South Korea

Comparison Study for Random PDE Optimization Problems Based on Different Matching Functionals

Ethan Levien, University of Utah, United States

Coupling Sample Paths to the Partial Thermodynamic Limit in Stochastic Chemical Reaction Networks

Marija Milosevic, University of Nis, Faculty of Science and Mathematics, Serbia

Comparison of the Euler-Maruyama and Backward Euler Methods for Neutral Stochastic Differential Equations with Time-Dependent Delay

Gamze Ozel Kadilar, Hacettepe University, Turkey

Stochastic Image Processing with an Application

Przemyslaw Zielinski, KU Leuven, Belgium

Minimisation of Relative Entropy to Efficiently Capture the Macro-Scale Behaviour of Stochastic Systems

Nabil Zougab, Research Unit LaMOS, University of Bejaia, Algeria

Inverse Gamma Kernel Estimators Using Two Multiplicative Bias Correction Methods

Period 2: July 13th–15th, 2017

B1 – Computational Dynamics

Maxim Demenkov, Institute of Control Sciences, Russia

Approximation of Basin of Attraction in Piecewise-Affine Systems by Star-Shaped Polyhedral Sets

Vanessa López, IBM T. J. Watson Research Center, Yorktown Heights, NY, USA

Numerical Continuation Study of Invariant Solutions of the Complex Ginzburg-Landau Equation

Irmina Walawska, Jagiellonian University, Poland

Halo Orbits and Their Bifurcations - Rigorous Numerical Approach

John P. Wormell, The University of Sydney, Australia

Spectral Methods for Transfer Operators in One-Dimensional Dynamics

B2 – Graph Theory and Combinatorics

Alvaro Javier Fuentes Suárez, Inria Sophia Antipolis, France

Scaffolding Skeletons Using Spherical Voronoi Diagrams

Luis David Garcia Puente, Sam Houston State University, USA

Counting Arithmetical Structures

Daniel Alejandro Jaume, Universidad Nacional de San Luis, Argentina

Null Decomposition of Trees and its Concequences

Bernd Sing, The University of the West Indies, Barbados

Bounds on the Letter Frequencies in Kolakoski Sequences Via Chvatal's Sequence of Graphs

Nicole Yamzon, San Francisco State University, United States

The Dehn-Sommerville Relations and the Catalan Matroid

B3 – Symbolic Analysis

Dmitry Lyakhov, KAUST, KSA

On Strongly Consistent Finite Difference Approximations to the Navier-Stokes Equations

Clemens Raab, Johannes Kepler University Linz, Austria

Symbolic Computation for Operators with Matrix Coefficients

Ana Rojo-Echeburúa, University of Kent, United Kingdom

Discrete Moving Frames and Noether's Finite Difference Conservation Laws. Euler's Elastica

B4 - Learning Theory

B5 - Random Matrices

Plamen Koev, San Jose State University, United States of America

New Expressions for the Extreme Eigenvalues of β Random Matrices

B6 – Multiresolution and Adaptivity in Numerical PDEs**B7 – Numerical Linear Algebra**

Sunyoung Bu, Hongik University, South Korea

Fast Numerical Solver for Higher Order Local Platforms Based on Error Correction Methods

Antoine Gautier, Saarland University, Germany

Perron-Frobenius Theorem for Nonnegative Tensors

Hyun-Min Kim, Pusan National University, Republic of Korea(South Korea)

Numerical Methods for Solving Nonlinear Matrix Equations

Sebastian Kraemer, IGPM at RWTH Aachen University, Germany

Stable ALS Approximation in the TT-Format for Rank-Adaptive Tensor Completion

Ahmed Salam, University Lille Nord de France, France

An Upper JJ-Hessenberg Reduction of a Matrix Through Symplectic Householder Transformations

Punit Sharma, University of Mons, Belgium

A New Formulation for the Nearest Stable Matrix Problem

Yuyang Wang, Amazon, United Statesn

The GSVD and CSD: Matrix Trigonometry or Where are the Ellipses?

Period 3: July 17th–19th, 2017

C1 – Computational Harmonic Analysis and Compressive Sensing

Jacob Carruth, University of Texas at Austin, United States

The Beurling-Selberg Box Minorant Problem

Timo Klock, Simula Research Laboratory, Norway

Exact Support Recovery in Unmixing Problems by an Altered Lasso-Path Algorithm for Multi-Penalty Functionals

Christian Kümmerle, Technische Universität München, Germany

Harmonic Mean Iteratively Reweighted Least Squares for Low-Rank Matrix Recovery

Darian Onchis, University of Vienna, Austria

Novel Aspects of Approximating Hilbert Schmidt Operators Via Gabor Multipliers and Spline-Type Spaces

Zhiyong Zhou, Umeå University, Sweden

Estimation of Block Sparsity in Compressive Sensing

C2 – Computational Mathematical Biology with emphasis on the Genome

C3 – Continuous Optimization

Pavel Dvurechensky, Weierstrass Institute for Applied Analysis and Stochastics, Berlin, Germany

Gradient Method With Inexact Oracle for Composite Non-Convex Optimization

Antoine Gautier, Saarland University, Germany

Nonlinear Spectral Methods for Nonconvex Optimization with Global Optimality Guarantees

Georgina Hall, Princeton University, USA

DC Decomposition of Nonconvex Polynomials with Algebraic Techniques

Tian Sang, RMIT University, Australia

On the Conjecture by Demyanov-Ryabova in Converting Finite Exhausters

C4 – Foundations of Numerical PDEs

C5 – Information-Based Complexity

C6 – Real-Number Complexity

Juan G. Criado del Rey, Universidad de Cantabria, España

Geodesics in the Condition Metric and Curvature

Khazhgali Kozhasov, SISSA, Italy

On the number of tangents to hypersurfaces in RP^n in random position

C7 – Special Functions and Orthogonal Polynomials

Primitivo Acosta-Humánez, Universidad Simón Bolívar, Barranquilla, Colombia

Galoisian Approach to Orthogonal Polynomials

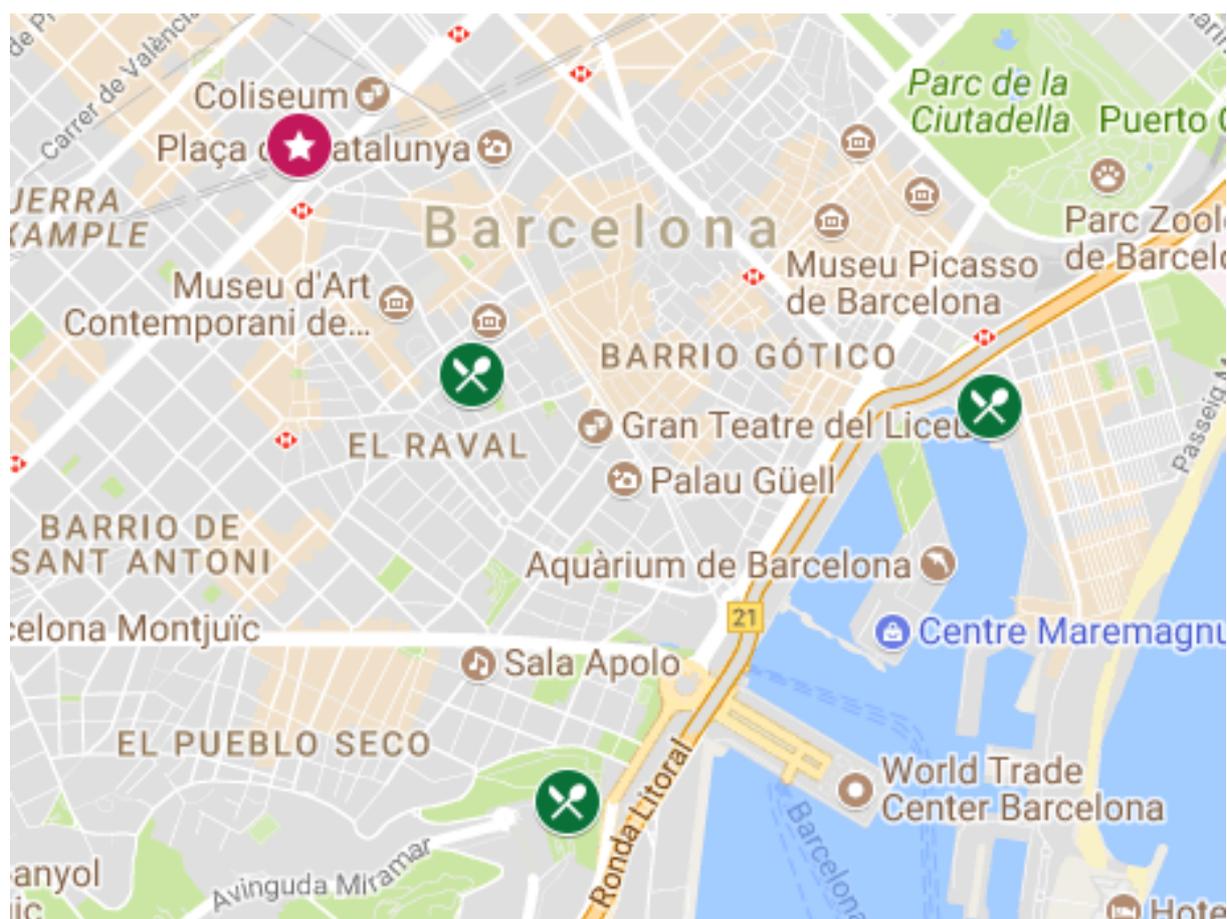
- Maria Italia Gualtieri**, Anna Napoli, University of Calabria, Italy
Collocation Spline Interpolation for Numerical Solution of High-Order Lidstone-Type Boundary Value Problems
- Natig Atakishiyev**, Instituto de Matemáticas, UNAM, Unidad Cuernavaca, México
On Supersymmetric Eigenvectors of the 5D Discrete Fourier Transform
- Kiran Kumar Behera**, Indian Institute of Technology Roorkee, India
On Perturbations of g -Fractions and Related Consequences
- Alfredo Deaño**, SMSAS, University of Kent, United Kingdom
Hankel Determinants and Special Function Solutions of Painlevé IV
- Lidia Fernández**, Universidad de Granada, Spain
Fourth Order Partial Differential Equations for Krall-Type Orthogonal Polynomials on the Triangle
- David García-García**, Universidade de Lisboa, Portugal
Toeplitz Minors for Szegő and Fisher-Hartwig Symbols
- Kerstin Jordaan**, University of South Africa
Generalized Freud Polynomials and the Painleve Equations
- Juan Francisco Mañas-Mañas**, Universidad de Almería, España
Eigenvalues of a Differential Operator for a Family of Sobolev Orthogonal Polynomials
- Juan José Moreno-Balcázar**, Universidad de Almería, Spain
Zeros of some Families of Sobolev Orthogonal Polynomials
- Guillermo Navas-Palencia**, Universitat Politècnica de Catalunya, Spain
Fast and Accurate Algorithm for the Generalized Exponential Integral $E_\nu(x)$ for Positive Real Order
- Teresa E. Perez**, Universidad de Granada, Spain
Zeros of Bivariate Classical Orthogonal Polynomials on the Unit Disk
- David Puertas Centeno**, Universidad de Granada, España
Entropic Functionals of Laguerre and Gegenbauer Polynomials with Large Parameters
- Sina Sadeghi Baghsorkhi**, University of Michigan, United States
A New Framework for Numerical Analysis of Nonlinear Systems: The Significance of the Stahl's Theory and Analytic Continuation Via Padé Approximants
- Bastian Seifert**, Ansbach University of Applied Sciences, Germany
On Cooley-Tukey-Type-Algorithms Based on Generalized Chebyshev Polynomials
- Irene Valero Toranzo**, Departamento de Física Atómica, Molecular y Nuclear, Universidad de Granada, Spain
Linearization and Krein-Like Functionals of Hypergeometric Orthogonal Polynomials by Means of Lauricella Functions

Social Dinners

There will be 3 evening social dinners, on July 11th, 14th and 18th (one per period) and each in a different location. There is an additional cost of 40 Eur (45 Eur for unregistered guests) to participate in each of these events.

- Tuesday July 11th at 20:30: **Restaurant 1881 per SAGARDI**
Terrace of the Palau de Mar (Museu d'Història de Catalunya). Plaça de Pau Vila 2 (fourth floor), Metro Barceloneta (L4).
- Friday July 14th at 20:30: **Restaurant Miramar**
At the Montjuïc hill. Carretera de Miramar 40, Metro Paral·lel (L2) and a bit uphill walk (about 1 Km).
- Tuesday July 18th at 20:30: **Courtyard of the Casa de Convalescència**
A 15th century building at the city center, hosting the Institut d'Estudis Catalans. Carrer del Carme 47.

The menus can be found in <http://www.ub.edu/focm2017>, website tab "Registration"

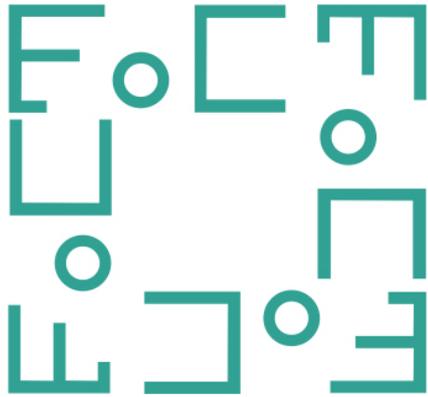


Restaurants Near the University

	NAME	ADRESS	CHARACTERISTICS
1	TERESA CARLES	JOVELLANOS, 2	VEGETARIAN
2	CENTFOCS	BALMES, 16	MEDITERRANEAN FOOD
3	ZEN	MUNTANER, 12	MACROBIOTHIC & VEGETARIAN
4	GHANDI	BALMES, 21	INDIAN FOOD
5	D'DIVINE	BALMES, 24	INTERNACIONAL FOOD
6	CANELA	ARIBAU, 16	MEDITERRANEAN FOOD
7	LA FLAUTA	ARIBAU, 23	MEDITERRANEAN FOOD
8	HANIN	ARIBAU, 32	KOREAN FOOD
9	FLAMANT	ENRIC GRANADOS, 23	MEDITERRANEAN FOOD
10	OLLA DE SI CHUAN	PL. DEL DR. LETAMENDI, 11	CHINESE FOOD
11	PAMPERO	PL. DEL DR. LETAMENDI, 25	ARGENTINE FOOD
12	ARTTIC	BALMES, 18	MEDITERRANEAN FOOD
13	BODEGA GRANADOS	ENRIC GRANADOS, 6	MEDITERRANEAN FOOD
14	HANA BISCHI	BALMES, 55	JAPANESE FOOD
15	HANOI ASIA	PL. DEL DR. LETAMENDI, 27	VIETNAMESE/ CHINESE FOOD
16	FRES CO	RONDA UNIVERSITAT, 19	ALL YOU CAN EAT
17	VEGENASA	ARIBAU, 14	VEGAN FOOD
18	L'OLIVA	GRAN VIA, 596	MEDITERRANEAN FOOD

All these restaurants have daily menus for a price between 9 and 15 euros.

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