The 2nd Mediterranean International Conference of Pure & Applied Mathematics and Related Areas (MICOPAM 2019)

Paris, France
August 28th-31th, 2019

Abstract Booklet of the 2nd Mediterranean International Conference of Pure & Applied Mathematics and Related Areas (MICOPAM2019)

Editors
Yilmaz SIMSEK, Abdelmejid BAYAD, Mustafa ALKAN, Irem KUCUKOGLU and Ortaç ÖNEŞ

http://micopam.akdeniz.edu.tr/
Conference Venue: Université d'Evry-Val-d'Essonne, 23 Boulevard François Mitterrand, 91000 Évry, Paris-FRANCE
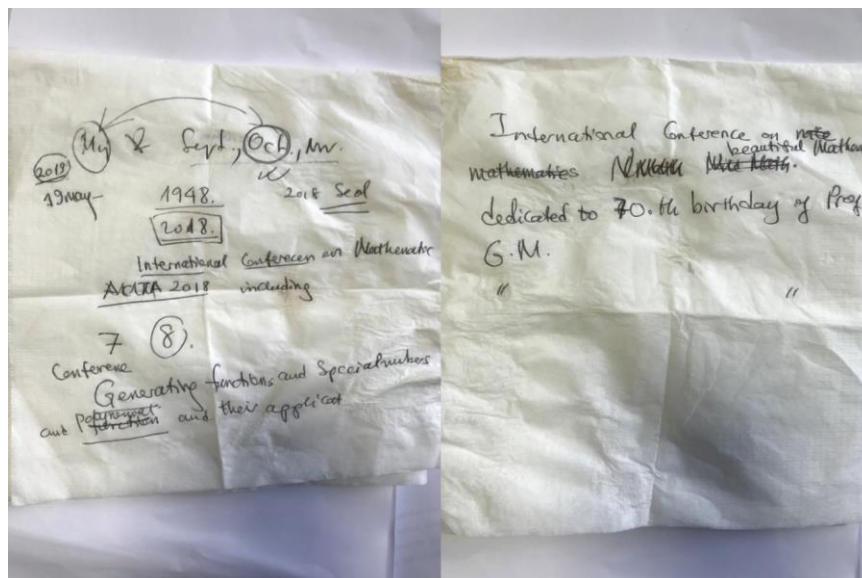
OPENING CEREMONY TALK of MICOPAM 2019

Dear distinguished participants of the 2nd Mediterranean International Conference of Pure & Applied Mathematics and Related Areas (MICOPAM 2019), held in Paris-France, on August 28–31, 2019.

On behalf of the Scientific and Organizing Committees, I would like to say that "Welcome to Paris, which is not only the capital of France, but also one of the most popular cities in Europe."

Now, this city, where art meets architecture, hosts to our conference MICOPAM 2019.

As you may already know, the first of MICOPAM conference (MICOPAM 2018) was held in Turkey's pretty and historical Mediterranean resort town Antalya on October 26–29, 2018. Note that the conference MICOPAM 2018 was dedicated to the 70th birthday of the renowned mathematician Professor Gradimir V. Milovanović, born in Zorunovac, Serbia, 2 January 1948, is one of the world leading scientists in the field of numerical analysis, approximation theory and special functions, a longtime professor at the University of Niš, Serbia, and a member of the Serbian Academy of Sciences and Arts.

The idea of organizing the MICOPAM conference has been firstly appeared in 2017 in Belgrade, Serbia, while speaking with Professor Gradimir V. Milovanović.

Brainstorming for conference name on napkin with Professor Gradimir V. Milovanović in 2017 at Belgrade, Serbia.

Our dreams came true last year and MICOPAM 2018 was successfully held over four days, with presentations made by not only researchers coming from the international communities, but also distinguished keynote speakers.

With the same passion, this year too it is aimed to continue this conference series started last year in Antalya and therefore, it is decided to organize the second of MICOPAM at Université d'Evry Val d'Essonne, Évry in Paris, France by the Professor

Abdelmejid Bayad's great cooperation with me and Professor Mustafa Alkan from Antalya Akdeniz University, Turkey.

Today, we are very happy to make the opening ceremony of the second of the conference MICOPAM together. Thus, dear distinguished participants, you have given honor to us by attending our conference: MICOPAM 2019.

I would like to remind you that MICOPAM conference will be held regularly every year. In particular, "The 3rd Mediterranean International Conference of Pure & Applied Mathematics and Related Areas" is scheduled to be held again in Antalya, Turkey next year. By the way Antalya, which is one of our historical cities, has been a source of inspiration for many empires and civilizations. I hope that next year you will visit some part of this pretty and historical city of Turkey with Antalya near the cost of the Mediterranean Sea which connects almost all the countries, seas and oceans.

From Left to Right: Professor Yilmaz Simsek, Professor Walter Gautschi, Professor Gradimir V. Milovanović

I would like to thank to the following my colleagues and students who helped me at every stage of the 2nd Mediterranean International Conference of Pure & Applied Mathematics and Related Areas (MICOPAM 2019): Local Organizing Committee: (including especially Prof. Dr. Mustafa Alkan, Prof. Dr. Abdelmejid Bayad, Conference Secretary Asst. Prof. Dr. Irem Kucukoglu, Asst. Prof. Dr. Ortaç Öneş, Dr. Neslihan Kilar, Dr. Busra Al, Dr. Buket Simsek); my precious family: (my wife Saniye, my daughters Burcin and Buket); and also other friends whose names that I did not mention here.

Also, thanks to the following all invited speakers:

- ❖ Isabel Cação, (University of Aveiro, Portugal)
- ❖ Marc-Antoine Coppo, (Université Côte d'Azur, France)
- ❖ Alan Filipin, (Zagreb University, Croatia)
- ❖ Yoshinori Hamahata, (Okayama University of Science, Japan)
- ❖ Satish Iyengar, (University of Pittsburgh, USA)
- ❖ Daeyeoul Kim, (Chonbuk National University, South Korea)

- ❖ [Branko Malešević](), (University of Belgrade, Serbia)
- ❖ [Gradimir V. Milovanović](), (Serbian Academy of Sciences and Arts, Serbia)
- ❖ [Hussein Mourtada](), (University Université Paris 7, France)
- ❖ [Ayoub Otmani](), (University of Rouen Normandy, France)
- ❖ [Mehmet Ali Özarslan](), (Eastern Mediterranean University, North Cyprus, Turkey)
- ❖ [Olivier Ruatta](), (Université de Limoges, France)

Thanks also to Editors (Prof. Dr. Abdelmejid Bayad, Prof. Dr. Mustafa Alkan, Asst. Prof. Dr. Irem Kucukoglu, and Asst. Prof. Dr. Ortaç Öneş) for their most valuable contribution on preparing both Abstract Booklet and Proceedings Book of MICOPAM 2019.

As for mathematics; Mathematics is the common heritage of everyone; Mathematics is the common language of the world that is always passed from generation to generation by refreshing.

It would be appropriate to say the following:

In addition to the poetic and artistic aspect of mathematics, mathematics has such a spiritual, magical and logical power, all-natural science and social science cannot breathe and survive without mathematics.

Mathematics is such a branch of science that other sciences cannot develop without it. Therefore, Mathematics, which is the oldest of Science, has contributed fundamentally to the development of our world civilizations. So, we can enter into the science and technology centers using the power of mathematics and its branches. So, mathematics and its branches create the possibility of bridgework and communication between the Natural Sciences and the Engineering Sciences as well as the Economic and also Social Science.

The aim of the conference MICOPAM 2019 is to bring together leading scientists of the pure and applied mathematics and related areas to present their researches, to exchange new ideas, to discuss challenging issues, to foster future collaborations and to interact with each other. In fact, the main purpose of this conference is to bring to the fore the best of research and applications that will help our world humanity and society. Due to the valuable idea of the MICOPAM, this conference welcomes speakers whose talk or poster contents are mainly related to the following areas: Mathematical Analysis, Algebra and Analytic Number Theory, Combinatorics and Probability, Pure and Applied Mathematics & Statistics, Recent Advances in General Inequalities on Pure & Applied Mathematics and Related Areas, Mathematical Physics, Fractional Calculus and Its Applications, Polynomials and Orthogonal systems, Special numbers and Special functions, Q-theory and Its Applications, Approximation Theory and Optimization, Extremal problems and Inequalities, Integral Transformations, Equations and Operational Calculus, Partial Differential Equations, Geometry and Its Applications, Numerical Methods and Algorithms, Scientific Computation, Mathematical Methods and computation in Engineering, Mathematical Geosciences.

To summarize my speech, this conference has provided a novel opportunity to our distinguished participants to meet each other and share their scientific works and friendships in the above areas.

I am delighted to note that all participants have free and active involvement and meaningful discussion with other participants during the conference at Université d'Evry Val d'Essonne, Évry in Paris, France.

It is my great pleasure to thank Professor Abdelmejid Bayad because he gives opportunity to organize MICOPAM in Paris, France. It is my great pleasure to thank again local organizing committee. Consequently, I send my thanks to all distinguished invited speakers, and all valuable participants with their accompanying persons.

On behalf of the Organizing Committee of MICOPAM 2019

PROF. DR. YILMAZ SIMSEK

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FOREWORD

Why we call the name of the conference as "The 2nd Mediterranean International Conference of Pure & Applied Mathematics and Related Areas (MICOPAM 2019)". Because by the Mediterranean Sea, almost all the countries, the sea and the oceans are connected. For this reason, just like Mediterranean Sea, the main aim of MICOPAM 2019 is to give connection between many areas of sciences including physical mathematics and engineering, especially all branches of mathematics. A few of these areas can be given as follows: Pure and Computational and Applied Mathematics, Statistics, Mathematical Physics (related to p-adic Analysis, Umbral Algebra and Their Applications). Another important purpose of MICOPAM 2019 is to bring together leading scientists of the pure and applied mathematics and related areas to present their researches, to exchange new ideas, to discuss challenging issues, to foster future collaborations and to interact with each other in the following areas: Mathematical Analysis, Algebra and Analytic Number Theory, Combinatorics and Probability, Pure and Applied Mathematics & Statistics, Recent Advances in General Inequalities on Pure & Applied Mathematics and Related Areas, Mathematical Physics, Fractional Calculus and Its Applications, Polynomials and Orthogonal systems, Special numbers and Special functions, Q-theory and Its Applications, Approximation Theory and Optimization, Extremal problems and Inequalities, Integral Transformations, Equations and Operational Calculus, Partial Differential Equations, Geometry and Its Applications, Numerical Methods and Algorithms, Scientific Computation, Mathematical Methods and computation in Engineering, Mathematical Geosciences.

A brief description about the contents of "Proceedings Book of the 2nd Mediterranean International Conference of Pure & Applied Mathematics and Related Areas (MICOPAM 2019)" is given as follows:

The first chapter of the Proceedings Book of MICOPAM 2019 includes opening ceremony talk, foreword and some information about MICOPAM including the meaning of its name and the name of conference committee members. Its second chapter includes full-text Proceedings (at least 3 pages and at most 5 pages long), of participants who signed "COPYRIGHT RELEASE FORM FOR MICOPAM 2019 of CONFERENCE PROCEEDINGS" sent after acceptance followed by the evaluation made by Scientific Committee. In addition to the Proceedings Book of MICOPAM 2019, Abstract Booklet of MICOPAM 2019 has been published. As for the scope of the Abstract Booklet of MICOPAM 2019, it consists of foreword about the MICOPAM 2019 including conference committees, and short abstracts of both oral and poster presentations that of some participants who did not submit full-text Proceedings to MICOPAM.

Consequently, the Proceedings Book and the Abstract Booklet of MICOPAM 2019 are resources for researchers who works in above mentioned branches of science (Mathematics, Physics, Engineering) and other relevant areas.

In this regard, we would like to thank to all invited speakers and participants for their contributions. Finally, we express our sincere thanks to all members of the scientific committee and all members of the organizing committee because of their efforts to the success of the conference.

Editors of MICOPAM 2019

ABOUT CONFERENCE

The 2nd Mediterranean International Conference of Pure & Applied Mathematics and Related Areas (MICOPAM 2019) has been held in Paris, France for four days from August 28 to August 31, 2019. MICOPAM 2019 was organized by Professors Abdelmejid Bayad (Université d'Evry Val d'Essonne, France), Yilmaz Simsek (Akdeniz University, Turkey) and Mustafa Alkan (Akdeniz University, Turkey).

During the dates of MICOPAM 2019, a great number of excellent oral and poster presentations was made by 65 participants from 16 different countries (Algeria, Canada, Croatia, France, India, Jordan, Nigeria, Portugal, Russia, Saudi Arabia, Serbia, Spain, South Africa, South Korea, Thailand, Turkey).

Contents of oral and poster presentations are mainly related to the following areas: Mathematical Analysis, Algebra and Analytic Number Theory, Combinatorics and Probability, Pure and Applied Mathematics & Statistics, Recent Advances in General Inequalities on Pure & Applied Mathematics and Related Areas, Mathematical Physics, Fractional Calculus and Its Applications, Polynomials and Orthogonal systems, Special numbers and Special functions, Q-theory and Its Applications, Approximation Theory and Optimization, Extremal problems and Inequalities, Integral Transformations, Equations and Operational Calculus, Partial Differential Equations, Geometry and Its Applications, Numerical Methods and Algorithms, Scientific Computation, Mathematical Methods and computation in Engineering, Mathematical Geosciences.

Further details about MICOPAM2019 is given as follows:

COMMITTEES

Scientific Committee

- Mustafa Alkan, Turkey,
- Ravi Agarwal, USA,
- Abdelmejid Bayad, France,
- Nenad Cakić, Serbia,
- Ismail Naci Cangul, Turkey,
- Abdullah Cavus, Turkey,
- Ahmet Sinan Cevik, Turkey,
- Junesang Choi, South Korea,
- Dragan Djordjević, Serbia,
- Allal Guessab, France,
- Mohand Ouamar Hernane, Algeria,
- Satish Iyengar, USA,
- Taekyun Kim, South Korea,
- Miljan Knežević, Serbia,
- Veli Kurt, Turkey,
- Branko Malešević, Serbia,
- Francisco Marcellán, Spain,
- Giuseppe Mastroianni, Italy,
- Gradimir V. Milovanović, Serbia,
- Tibor Poganj, Croatia,
- Abdalah Rababah, Jordan,
- Themistocles Rassias, Greece,
- Lothar Reichel, USA,
- Ekrem Savas, Turkey,
- Yilmaz Simsek, Turkey,
- Burcin Simsek, USA
- Miodrag Spalević, Serbia,
- Hari M. Srivastava, Canada,
- Marija Stanić, Serbia

Organizing Committees

Heads of the Organizing Committees

- Prof. Dr. Abdelmejid Bayad, (Université d'Evry Val d'Essonne, France)
- Prof. Dr. Yilmaz Simsek, (Akdeniz University, Turkey)
- Prof. Dr. Mustafa Alkan, (Akdeniz University, Turkey)

MICOPAM 2019 Conference Secretary

- Asst. Prof. Dr. Irem Kucukoglu, (Alanya Alaaddin Keykubat University, Turkey)

International Organizing Committee

- Chandrashekar Adiga, (University of Mysore, India)
- Mustafa Alkan, (Akdeniz University, Turkey)
- Ayman Badawi, (American University of Sharjah, United Arab Emirates (UAE))
- Abdelmejid Bayad, (Université d'Evry Val d'Essonne, France)
- Satish Iyengar, (University of Pittsburgh, USA)
- Daeyeoul Kim, (Chonbuk National University, South Korea)
- Taekyun Kim, (Kwangwoon University, South Korea)
- Irem Kucukoglu, (Alanya Alaaddin Keykubat University, Turkey)
- Veera Lokesha, (Vijayanagara Sri Krishnadevaraya University, India)
- Gradimir V. Milovanović, (Serbian Academy of Sciences and Arts, Serbia)
- Ortaç Öneş, (Akdeniz University, Turkey)
- Yilmaz Simsek, (Akdeniz University, Turkey)

Local Organizing Committee

- Busra Al
- Mustafa Alkan
- Abdelmejid Bayad
- Neslihan Kilar
- Irem Kucukoglu
- Ortaç Öneş
- Buket Simsek
- Yilmaz Simsek

INVITED SPEAKERS

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- Alan Filipin, (Zagreb University, Croatia)

- Yoshinori Hamahata, (Okayama University of Science, Japan)

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MICOPAM 2019

The 2nd Mediterranean International Conference of Pure & Applied Mathematics and Related Areas

Paris-France, August 28-31, 2019

At Université d'Evry Val d'Essonne

Invited Speakers

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Aim and Scopus

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www.univ-evry.fr

http://micopam.akdeniz.edu.tr/

Anti–Gaussian quadrature rule for trigonometric polynomials

Marija P. Stanić[a], Nevena Z. Petrović[a], Tatjana V. Tomović[a]

Abstract

In this paper we introduce anti–Gaussian quadrature rules for trigonometric polynomials. Special attention is paid to even weight functions on $[-\pi, \pi)$. We prove the main properties of such quadrature rules and present numerical method for their construction. Some numerical examples are included.

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