



# **AMiTaNS – Euro-American Consortium for Promoting the Application of Mathematics in Technical and Natural Sciences - Retrospection, Present and Future**

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The Euro-American Consortium for Promotion of the Application of Mathematics in Technical and Natural Sciences was founded in 2008 as a non-governmental non-profit organization in order to foster the scientific activity and informal international exchange. Since then a main tool to realize this intention and idea became an annual conference called AMiTaNS. The first two editions were held in Sozopol, the fourth one – in the resort of St Constantine and Helena near Varna. All other conferences excluding the last one in 2020 were held in Congress Centre of the top level vacation resort of Albena on the Northern Bulgarian Black Sea coast, situated close to Bulgarian sea capital Varna.

Since 2012 the conference has been organized in cooperation with the Society of Industrial and Applied Mathematics (SIAM).

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Every year the conference is scheduled in plenary and keynote lectures followed by special and contributed sessions. The accents of the conference are on Mathematical Physics, Solitons and Transport Processes, Numerical Methods, Scientific Computing, Continuum Mechanics, Applied Analysis, Applied Physics, Biomathematics. They are complemented by specific topics in contributed special sessions. We have had a few dozen announced and organized special sessions so far. The recapitulation for the first 12 issues of AMiTaNS is more than satisfactory: More than 1000 presentations and scientific reports – oral, poster, and remote via internet platforms with more than 600 participants and delegates from 40 countries from all over the world. Though part of them are regular visitors, almost every year we have 30-40% fresh participants and contributors. The average number of registered participants every year is about 100, varying between 70 and 120. Thus, over the years the conference has created what could be called AMiTaNS community. For the past period we have had 68 plenary and 78 keynote talks and lectures. Among them given by A. Aceves (USA), A. Ackleh (USA), B. Alexeev (Russia), R. Anguelov (South Africa), B. Beuzamy (France), Yu. Bozhkov (Brazil), R. Carretero-Gonzalez (USA), D. Censor (Israel), F. Chernousko (Russia), C.I. Christov (USA), I.C. Christov (USA), I.T. Dimov (Bulgaria), I. Farago (Hungary), L. Fauci (USA), A. Fedoseyev (USA), F. Feuillebois (France), A. Freundlich (USA), V. Gerdjikov (Bulgaria), J. Goddard (USA), G. Grahovski (UK), V. Gushchin (Russia), R. Ivanov (Ireland), G. Jaiani (Georgia), E. Kansa (USA), N. Kolev (Germany), A. Kostenko (Austria), A. Kurganov (USA), R. Lazarov (USA), S. Margenov (Bulgaria), S. Markov (Bulgaria), P. Mineev (Canada), L.Q. Ping (China), A. Polycarpou (Cyprus), V. Pukhnachev (Russia), Z. Qiao (USA), C. Qu (China), P. Radeva (Spain), V. Sadovsky (Russia), K. Sakai (Japan), A. Samsonov (Russia), W. Schilders (Netherlands), V. Shaidurov (Russia), S. Shmarev (Spain), Bl. Sendov (Bulgaria), T. Taha (USA), I. Tsukerman (USA), S. Tsynkov (USA), L. Turchak (Russia), P. Vabishchevich (Russia). A full list of the speakers can be found on the conference websites below. We also organized special sessions dedicated to Professor Raytcho Lazarov on the occasion of his

70th birthday in 2013, to Professor Vladimir Gerdjikov on the occasion of his 70th birthday in 2017, to Professor Vladislav Pukhnachev, Corresponding Member of RAS on the occasion of his 80th birthday in 2019. The AIP Conference Proceedings of AMiTaNS'12, volume 1487 [4] was devoted to the memory and the scientific activity of Professor Christo I. Christov.

Due to the COVID-19 pandemic, the most recent edition, AMiTaNS'20, was held online. In defiance the restrictions and affected inconveniences the conference reached a new horizon due to the modern on-line platforms – about 100 reports including 6 plenary and 1 keynote talks, participants from 16 countries covering 16 time zones from the Pacific shore in California through Brazil, the UK, Europe, Siberia up to Beijing and Ningbo in China. Our inner conviction is that this is the future of the scientific events.

## 1 Publications

The past twelve AMiTaNS conferences were very successful. One can find out about them at URLs:

<http://2009.eac4amitans.eu>, <http://2010.eac4amitans.eu>,  
<http://2011.eac4amitans.eu>, <http://2012.eac4amitans.eu>,  
<http://2013.eac4amitans.eu>, <http://2014.eac4amitans.eu>,  
<http://2015.eac4amitans.eu>, <http://2016.eac4amitans.eu>,  
<http://2017.eac4amitans.eu>, <http://2018.eac4amitans.eu>,  
<http://2019.eac4amitans.eu>, <http://2020.eac4amitans.eu>.

Publications are an important final outcome and goal of the conference meetings. We have traditional ties with the publishing arm of the American Institute of Physics (AIP), who has been the publisher of all the hitherto AMiTaNS conferences, volumes 1186, 1301, 1404, 1487, 1561, 1629, 1684, 1773, 1895, 2025, 2164, 2302 (see Refs. [1, 2, 3, 4, 5, 6, 7, 8, 9], [11, 12], [14]). The rigorously reviewed proceedings have been published online by AIP only three-four months after the end of the respective meeting. Hoping to reprise these good achievements, we intend to keep and extend our fruitful collaboration. According

to the publishing policy of AIP, the papers can be longer/more substantial without any cost implications. Tutorials, reviews, etc. are welcome as well. The manuscripts are to be submitted by the authors and accepted for consideration for publication up to the end of July. This allows the editors to ensure the proper reviewing process. The manuscripts must be accompanied by Permission Requests for Permission to Reprint Published Material form (if any), and Offprint Order forms if you wish to order offprints of your paper (if any). The Transfer of Copyright form is already an AIP staff obligation and the contributors will be asked to sign it only after the editor submits the whole reviewed and revised selection of papers. In this way, our conferences are a continuous process because the preparation for the next AMiTaNNS overlays the final part of the present AMiTaNNS.

Parallel with this activity, we submitted and published a couple of selected extended papers from the conference in special issues of *Wave Motion (Elsevier)* **71** (2017), [10] and *European Physical Journal Plus (Springer)* **135** (2020), [13].

## 2 Financial Policy and Sponsorships

The conference is self-supporting. The budget is mainly raised from the registration fees. The registration fee covers the conference materials, welcome party, coffee breaks, office rent and equipment, social activities, and proceedings. We had episodic sponsorships from *Ultra Quantum Inc.*, Huntsville, AL (USA) as well as from *Atomenergoremont AD*, Kozloduy (Bulgaria). The MDPI open access journal *Axioms* based in Switzerland, for second consecutive year is a free media partner of the conference. Moreover, the Editorial board sponsors three “Best student awards” for best presented papers to support young scholars. In 2019, because of the big number of young participants (more than 30) and the big competition the organizers decided to award all of them by object prizes.

## 3 Committees

### 3.1 Program Committee

The Program Committee is constituted by authorities, who support the AMiTaNS initiative and realization from the very beginning and promotes the conference organization. It is a face of the conference. The members nominate plenary and keynote lecturers, coordinate the scientific program and take active part in the reviewing procedure. There is a core that is extended and complemented by new members.

Boyan Dimitrov, Kettering University, Flint, MI, USA

Ardeshir Guran, Institute of Structronics, Montreal, Quebec, Canada

Pedro M. Jordan, Naval Research Laboratory, Stennis, MS, USA

Hristo Kojouharov, University of Texas at Arlington, TX, USA

Alexander Kurganov, Southern University of Science and Technology, Shenzhen, P.R. China and Tulane University, New Orleans, LA, USA

Raytcho Lazarov, Texas A&M University, College Station, TX, USA

Andrei Ludu, Embrie-Riddle Aeronautical University, Daytona, FL, USA

Peter Minev, University of Alberta, Edmonton, Canada

Nectarios Papanicolaou, University of Nicosia, Cyprus

Barbara Prinari, University of Buffalo, New York, USA

Zhijun (George) Qiao, University of Texas Rio Grande Valley, Edinburg, TX, USA

Miguel A.F. Sanjuan, Universidad Rey Juan Carlos, Spain

Vladimir Shaidurov, Institute of Mathematical Modelling RAS, Krasnoyarsk, Russia

Brian Straughan, University of Durham, UK

Manuel G. Velarde, Universidad Complutense, Madrid, Spain

Runzhang Xu, Harbin Engineering University, Harbin, P.R. China

Sanichiro Yoshida, Southeastern Louisiana University, Hammond, LA, USA

## 3.2 Steering Committee

The Steering Committee is a natural continuation of the Program Committee. Its main task is to advertise the conference and to attract and invite fresh participants.

Stefka Dimova, St. Kliment Ohridski University of Sofia, Bulgaria

Alexander Fedoseyev, Computational Sciences LLC, Madison, AL, USA

Ivan Georgiev, Institute of Mathematics and Informatics, BAS, Sofia, Bulgaria

Todor Gurov, Inst. of Inform. and Comm. Technologies, BAS, Sofia, Bulgaria

Nevena Ilieva, Inst. of Inform. and Comm. Technologies, BAS, Sofia, Bulgaria

Stoyan Mishev, New Bulgarian University, Sofia, Bulgaria

Svetozar Margenov, Inst. of Inform. and Comm. Technologies, BAS, Sofia, Bulgaria

Tsvetan Ostromsky, Inst. of Inform. and Comm. Technologies, BAS, Sofia, Bulgaria

Elena Zhuravleva, Lavrentyev Inst. of Hydrodyn., SB RAS, Novosibirsk, Russia

Marcin Paprzycki, Systems Research Institute, PAS, Warsaw, Poland

The conference does not have an organizing committee. Due to a smooth coordination and collaboration with the Congress Centre administration in Albena, which is an object of the contract with them,

the participants and their accompanying persons have no concerns with accommodation, local transportation, food, office and IT equipment and service, social activities. It can be said that AMiTaNS series of conferences are self-supporting and self-organized scientific events – from scientists for scientists.

## 4 Social Program

The social program includes a reception and welcome party, excursions and a banquet dinner. An important part of the social program are coffee breaks in the lounge – a place of informal discussions and introductions.

## Conclusion – Invitation

In this note we share our experience in the organization of the scientific conference series AMiTaNS and the accompanying publication activities. We hope that the presented report may be useful for colleagues who are planning to attend future AMiTaNS meetings. In particular, the organization of AMiTaNS'21 has started. All needed information can be found at URL: <http://2021.eac4amitans.eu>. Welcome!

## References

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