



**2017 International Conference on
“Physics and Mechanics of New Materials
and Their Applications” (PHENMA 2017)**

Jabalpur, India, October 14-16, 2017

<http://phenma2017.math.sfedu.ru>

First Announcement

Sponsored by



Rostov Regional Administration, Russia



Ministry of Education and Science
of the Russian Federation, Russia



South Scientific Center of Russian
Academy of Science, Russia



Russian Foundation for Basic Research, Russia



Ministry of Science and Technology
of Taiwan, Taiwan

Ministry of Science and Technology



New Century Education Foundation

New Century Education Foundation, Taiwan



Ocean & Underwater Technology Association, Taiwan



Unity Opto Technology Co., Taiwan



Fair Well Fishery Co., Taiwan



Woen Jinn Harbor Engineering Co., Taiwan



Lorom Group, Taiwan



Longwell Co., Taiwan



University of 17 Agustus 1945 Surabaya, Indonesia



University of 45, Surabaya, Indonesia



University of Islam Kadiri, Indonesia



Khon Kaen University, Thailand



Don State Technical University, Russia



South Russian Regional Centre for Preparation and Implementation of International Projects, Ltd., Russia

Organizing Committee

Conference Chairs

- V. K. Gupta (PDPM Indian Institute of Information Technology, Design and Manufacturing, India)
I. A. Parinov (Southern Federal University, Russia)
S.-H. Chang (National Kaohsiung Marine University, Taiwan, ROC)

Advisory Chairs

- M. A. Borovskaya (Southern Federal University, Russia)
K. Harinarayana (PDPM Indian Institute of Information Technology, Design and Manufacturing, India)
P. K. Jain (PDPM Indian Institute of Information Technology, Design and Manufacturing, India)

Advisory Committee

- B. Bhattacharya (Indian Institute of Technology Kanpur, India)
S. Bhattacharya (Indian Institute of Technology Kanpur, India)
I. A. Brahmasari (University of 17 Agustus 1945 Surabaya, Indonesia)
C.-K. Chou (New Century Education Foundation, Taiwan, ROC)
A. Daeng (University of 45, Indonesia)
R. Ganguli (Indian Institute of Science Bangalore, India)
R. Hastijanti (University of 17 Agustus 1945 Surabaya, Indonesia)
D.-H. Hsiao (Ocean & Underwater Technology Association, ROC)
H.-H. Huang (Ocean & Underwater Technology Association, ROC)
I.-C. Huang (Fair Well Fishery Group, Taiwan, ROC)
V. I. Kolesnikov (Rostov State Transport University, Russia)
K. Kolmetz (International Association of Certified Professional Engineers, USA)
P. D. Mangalgi (Aeronautical Development Agency, India)
G. G. Matishov (South Scientific Center of Russian Academy of Sciences, Russia)
B. Ch. Meskhi (Don State Technical University, Russia)
S. K. Mishra (BrahMos Aerospace, India)
P. Seshu (Indian Institute of Technology Bombay, India)
A. Siritaratiwat (Khon Kaen University, Thailand)
S. Theerakulpisut (Burapha University, Thailand)
D.-S. Wu (Da-Yeh University, Taiwan, ROC)
D.-S. Wu (National Chung Hsing University, Taiwan, ROC)

Conference Co-Chairs

- Y.-C. Chen (National Sun Yat-Sen University, Taiwan, ROC)
L.-K. Chien (National Taiwan Ocean University, Taiwan, ROC)
H.-C. Huang (National Kaohsiung Marine University, Taiwan, ROC)
P.K. Jain (PDPM-Indian Institute of Information Technology, Design and Manufacturing Jabalpur, India)
M. A. Jani (University of 17 Agustus 1945 Surabaya, Indonesia)
V. V. Kalinchuk (South Scientific Center of Russian Academy of Sciences, Russia)

P.K. Kankar (PDPM-Indian Institute of Information Technology, Design and Manufacturing Jabalpur, India)
Mahjudin (University of 45, Indonesia)
M. I. Karyakin (Southern Federal University, Russia)
C.-T. Lin (National Kaohsiung Marine University, Taiwan, ROC)
A. V. Metelitsa (Southern Federal University, Russia)
V. I. Minkin (Southern Federal University, Russia)
I. Prasetyawan (Lloyd Register Asia, Malaysia)
M. A. Rahim (University of 17 Agustus 1945 Surabaya, Indonesia)
I. K. Shevchenko (Southern Federal University, Russia)
L. Tanwanichkul (Khon Kaen University, Thailand)
I. A. Verbenko (Southern Federal University, Russia)
J.-K. Wu (National Kaohsiung Marine University, Taiwan, ROC)
M.-C. Wu (National Tsing Hua University, Taiwan, ROC)
V. V. Zemlyakov (Southern Federal University, Russia)

Secretariats

M. Z. Ansari (PDPM-Indian Institute of Information Technology, Design and Manufacturing Jabalpur, India)
V. A. Chebanenko (South Scientific Center of Russian Academy of Sciences, Russia)
N. K. Jaiswal (PDPM-Indian Institute of Information Technology, Design and Manufacturing Jabalpur, India)
Yu. V. Klunnikova (Southern Federal University, Russia)
E. P. Putri (University of 17 Agustus 1945 Surabaya, Indonesia)
M. S. Shevtsova (RheinMain University of Applied Sciences, Germany)
H.-W. Tin (National Kaohsiung Marine University, Taiwan, ROC)
C. E. Vassilchenko (Southern Federal University, Russia)

Scientific Program Committee

O. A. Ageev (Southern Federal University, Russia)
Y.-Y. Bu (National University of Tainan, Taiwan, ROC)
S. I. Builo (Southern Federal University, Russia)
R.-B. Chen (National Kaohsiung Marine University, Taiwan, ROC)
D. Chetchotsak (Khon Kaen University, Thailand)
K.-K. Chong (National Kaohsiung Marine University, Taiwan, ROC)
G. Dutta (PDPM-Indian Institute of Information Technology, Design and Manufacturing, India)
J.-J. Ho (National Taiwan Ocean University, Taiwan, ROC)
C.-L. Huang (National Kaohsiung Marine University, Taiwan, ROC)
F.-S. Juang (National Formosa University, Taiwan, ROC)
Y.S. Katharia (PDPM-Indian Institute of Information Technology, Design and Manufacturing, India)
S. Kumar (PDPM-Indian Institute of Information Technology, Design and Manufacturing, India)
A.K. Kundu (PDPM-Indian Institute of Information Technology, Design and Manufacturing, India)

C.-Y. Lee (National Kaohsiung Marine University, Taiwan, ROC)
J.-Y. Lee (National Kaohsiung Marine University, Taiwan, ROC)
P.-H. Lei (National Formosa University, Taiwan, ROC)
C.-F. Lin (National Taiwan Ocean University, Taiwan, ROC)
J.-H. Lu (National Kaohsiung Marine University, Taiwan, ROC)
F. Mandita (University of 17 Agustus 1945 Surabaya, Indonesia)
I. P. Miroshnichenko (Don State Technical University, Russia)
S. Mukherjee (PDPM-Indian Institute of Information Technology, Design and Manufacturing, India)
A. V. Nasedkin (Southern Federal University, Russia)
A. Ojha (PDPM-Indian Institute of Information Technology, Design and Manufacturing, India)
P.K. Padhy (PDPM-Indian Institute of Information Technology, Design and Manufacturing, India)
A. E. Panich (Southern Federal University, Russia)
P. Peerapattana (Khon Kaen University, Thailand)
D. Y. Rakhmawati (University of 17 Agustus 1945 Surabaya, Indonesia)
L. A. Reznichenko (Southern Federal University, Russia)
M.K. Roy (PDPM-Indian Institute of Information Technology, Design and Manufacturing, India)
T. Sheorey (PDPM-Indian Institute of Information Technology, Design and Manufacturing, India)
S. N. Shevtsov (South Scientific Center of Russian Academy of Sciences, Russia)
M.-C. Shihg (National University of Kaohsiung, Taiwan, ROC)
A. N. Soloviev (Don State Technical University, Russia)
M. A. Sumbatyan (Southern Federal University, Russia)
R. Sunder (BiSS (P) Ltd, India)
P. Tandon (PDPM-Indian Institute of Information Technology, Design and Manufacturing, India)
V. Yu. Topolov (Southern Federal University, Russia)
A. O. Vatulyan (Southern Federal University, Russia)
F.-T. Wang (Hwa Hsia Institute of Technology, Taiwan, ROC)
H.-Y. Wang (National Kaohsiung University of Applied Sciences, Taiwan, ROC)
J.-P. Wang (National Kaohsiung Marine University, Taiwan, ROC)
J.-C. Wu (National Kaohsiung Marine University, Taiwan, ROC)
C.-C. Yang (National Kaohsiung Marine University, Taiwan, ROC)
C.-D. Yang (National Kaohsiung Marine University, Taiwan, ROC)
M.-Y. Yeh (National Kaohsiung Marine University, Taiwan, ROC)
S.-F. Zhao (National Kaohsiung Marine University, Taiwan, ROC)

Scope of the Conference

The scope of the conference includes the following topics, namely:

- (i) **Materials:** Ferro-Piezoelectrics, Semiconductors, High-temperature Superconductors, Environmental Materials, Medical Materials, Composite, Ceramics, Thin Films, Nanomaterials, New Materials for Additive Manufacturing, etc.
- (ii) **Energy Harvesting:** Materials, Methods and Applications
- (iii) **Synthesis & Processing:** Powder Processing, Processing Technologies, Piezoelectric Technologies, MEMS-Processing, etc.
- (iv) **Characterization and Research Methods:** Microstructure Properties, Physical Properties, Mechanical Properties, Strength Properties, Finite-Element Modeling, Mathematical Modeling, Physical Modeling, Physical Experiment, etc.
- (v) **Applications:** MEMS, Hetero-structures, Piezotransducers, Piezoactuators, Piezogenerators, Superconductive Devices, Light-Emitting Diodes, Multimedia Communication, Fiber Reinforced Composites, condition monitoring, Lubricant and Tribology, etc.
- (vi) **Underwater Technologies:** Underwater Communication, Marine Engineering, Power System, Ocean Energy, etc.
- (vii) **Industry and Management**

The symposium will consist of keynote, oral and poster sessions.

Objectives of the Conference

This conference continues thematic of the First Taiwanese-Russian Symposium “Physics and Mechanics of New Materials and Their Applications” (June 4-6, 2012, Rostov-on-Don, Russia), selected reports of which have been published as edited book “Physics and Mechanics of New Materials and Their Applications” by Nova Science Publishers, New York; 2013 International Symposium on “Physics and Mechanics of New Materials and Underwater Applications” (June 5-8, 2013, Kaohsiung, Taiwan), selected reports of which have been published as Springer Proceedings “Advanced Materials – Physics, Mechanics and Applications” by Springer, Heidelberg, New York, Dordrecht, London; 2014 International Symposium on “Physics and Mechanics of New Materials and Underwater Applications” (March 27-29, 2014, Khon Kaen, Thailand), selected reports of which have been published as edited book “Advanced Materials - Studies and Applications” by Nova Science Publishers, New York; 2015 International Conference on “Physics and Mechanics of New Materials and Their Applications” (May 19-22, 2015, Azov, Russia), selected reports of which have been published as Springer Proceedings “Advanced Materials – Manufacture, Physics, Mechanics and Applications” by Springer, Heidelberg, New York, Dordrecht, London and as Proceedings of the 2015 International Conference on “Physics, Mechanics of New Materials and Their Applications”, devoted to 100-th Anniversary of the Southern Federal University by Nova Science Publishers, New York; 2016 International Conference on “Physics and Mechanics of New Materials and Their Applications” (July 19-22, 2016, Surabaya, Indonesia), selected reports of which are published as Springer Proceedings “Advanced Materials – Techniques, Physics,

Mechanics and Applications” by Springer, Heidelberg, New York, Dordrecht, London and as Proceedings of the 2016 International Conference on “Physics, Mechanics of New Materials and Their Applications” by Nova Science Publishers, New York.

General conference topics include, but are not restricted to advanced materials, their synthesis and processing, characterization, research methods, and applications.

In particular, the reports will be devoted to novel piezoelectrics, nanomaterials, other advanced materials and composites with special properties, manufactured on the base of developed processing techniques and modern approaches of chemistry, physics, mechanics and materials science, and also broad applications of the materials including industry and management. The book will present corresponding mathematical models, physical experiments, computer simulation, nano- and piezoelectric applications.

Another goal of the conference is to attract researchers from countries of the Asia and Asian-Pacific Ocean Region, other countries to fulfillment of joint investigations and scientific collaboration.

Abstracts

The abstracts up to one page in WORD 97-2003 (*.doc) should be submitted by e-mail before **May 01, 2017** to: parinov_ia@mail.ru and duplicated to ppr@math.rsu.ru and phenma@iiitdmj.ac.in. Authors will be notified by **June 01, 2017** whether the contribution has been accepted.

The format to be used is a text within one standard page. A 12 point font should be used. The title appears centered. It is separated by an empty line from the author’s name, also centered. The name of the author who presents the contribution should be underlined. An empty line separates the name from the affiliation, also centered. The Abstracts book will be published before conference.

Proceedings

The proceedings will be published as two edited books “*Advanced Materials*” by Springer, Heidelberg, New York, Dordrecht, London and *Proceedings of the 2017 International Conference on “Physics, Mechanics of New Materials and Their Applications”* by Nova Science Publishers, New York. The deadline for contributions to the proceedings submitted electronically by the authors is **November 01, 2017**. It is assumed the length of the Springer manuscripts will be up to 15 pages and Nova manuscripts - up to 6 pages. Instructions for preparing the manuscripts will be sent to all presenting authors after the abstracts have been accepted. A paper charge will be covered by organizing fee.

The official language of the conference will be **English**.

Secretariat of the Conference

Address : PDPM-Indian Institute of Information Technology, Design and Manufacturing Jabalpur- 482005, India

Fax : +91-761-

Phone : +91-761-2794422

e-mail : parinov_ia@mail.ru; ppr@math.rsu.ru, phnema@iiitdmj.ac.in

Web Site : <http://phenma2017.math.sfedu.ru/>, <http://phenma2017.iiitdmj.ac.in/>

Registration and Fees

Registration will be available by e-mail. Corresponding Registration Form will be presented in information distributions of PHENMA-2017 Secretariat and should be submitted by e-mail to parinov_ia@mail.ru and duplicated to ppr@math.rsu.ru and phenma@iiitdmj.ac.in

All **full participants** must register and pay the Registration Fee up to **October 10, 2017**, which will be **US\$400** and include social and technical programs, coffee-break, book of the Conference Abstracts and book of the Conference Proceedings. The book of the Conference Proceedings published after conference in Springer or Nova Science Publishers will be post-mailed to the authors (1 book per paper) by the Conference Secretariat.

Special payment will be made for Symposium Banquet.

For **young scientists (up to 35 years old)** special registration fee is stated which will be **US\$100**. This registration fee does not include the book of the Conference Proceedings.

Registration Desk

The Abstract book with Conference Schedule, tickets for social events and other conference materials will be available at the Conference Registration Desk. The Registration Desk will be open at the following locations during the next times:

PDPM Indian Institute of Information Technology, Design and Manufacturing, Jabalpur – 482005 India, October 14, 2017.

Additional information will be available at the Conference site.

City of Jabalpur

Located in central part of India, Jabalpur is a city in the Mahakaushal region of state of Madhya Pradesh. Jabalpur is the birthplace of snooker, a historic heart of Hindi literature movement and a prominent regional education hub. It is also a major cultural-spiritual center being the birthplace of Maharishi Mahesh Yogi, Osho Rajneesh. These factors lie behind the oft-quoted city's moniker Sanskaardhaani or the Cultural-Capital. Jabalpur is famous for the various tourism attractions like Dhuandhar, Madan Mahal Fort, Tripur Sundari Temple, Jain Temple, etc. Jabalpur is known for its picturesque marble rock formations (Bhedaghat) across the banks of the river Narmada. Jabalpur is the hub of wild-life tourism, being surrounded by three national forests – Kanha, Bandhavgarh and Pench. It is also close to Khajurao (famous for Hindu and Jain temples) and Panchmarhi (Queen of Satpura – the highest point in Central India).

Method of Payment

Payment to be made in USD in direct transfer to:

Account Name: PHENMA2017

Bank Name: Allahabad Bank

Bank Address: Mehgawan, Jabalpur

SWIFT: Will be specified later

ACCOUNT: Will be specified later

Fax: Will be specified later

Phone: Will be specified later

Please note that all transfer charges must be paid by the sender.

Hotel

Information on hotel reservation will be available at the Conference site.

Dates & Deadlines

Deadline for Abstracts:	May 01, 2017
Notification of Acceptance:	June 01, 2017
Registration with Payment:	October 10, 2017
Conference:	October 14-16, 2017
Deadline for Full Papers:	November 01, 2017

PDPM Indian Institute of Information Technology, Design and Manufacturing is going to organize International Conference on "Physics and Mechanics of New Materials and Their Applications (PHENMA 2017)" during October 14-16, 2017 focusing on advanced materials, their synthesis and processing, characterization, research methods, and applications. This Conference provides an international forum for presentation of recent developments/innovations in various aspects of processing techniques and modern approaches of chemistry, physics, mechanics and materials science, and also broad applications of the materials including industry and management. The conference invites key scientists and researchers working in the broad areas of mathematical modelling, physical experimentation, computer simulation, nano- and piezoelectric applications to exchange their ideas/results on the related research fields.