

Report on International Conference on Materials Science and Technology (ICMAST-2022) on 15th and 16th March 2022

Department of Physics, Kandaswami Kandar's College in association with Indian Spectro Physics Association has successfully hosted the “International Conference on Materials Science and Technology” between 15 and 16 March 2022 on an online platform. The presence of delegates, an impressive lineup of dignitaries from across the globe, an array of carefully selected, well-researched and well-presented papers on the subject, all came together to help this conference to admirably conclude this huge endeavor. The conference was applauded for the 4 invited lecture sessions, and four oral presentation sessions besides the Inaugural and Valedictory sessions. This Conference has, without a shade of doubt, made the academic fraternity richer, with the additional literature in form of scholarly works on the subject. This two day event offered opportunities to the participating audiences to interact with activists, academicians, scholars and experts from all over the world who deliberated upon and covered topics around the issues of created identity perceptions in science and technology. The views expressed and explored on this platform by the resource persons and paper presenters made the audience rethink ideas which we cling on to unthinkingly in our day to day life.

The Conference owes its success to the able support from Honourable President and Secretary of the Kandaswami Kandar's College Dr. Somasundaram, and able guidance of Principal Prof. N. Thangaraj, and the hard work put in by the entire Physics team led by Dr. K. Selvaraju, convenor of the conference. The Hon'ble Chief Guest Prof. Jiban Podder, Professor of Physics, Bangladesh University of Engineering and Technology inaugurated the Conference. More than 200 people registered for the conference.

INTERNATIONAL VIRTUAL CONFERENCE ON MATERIALS SCIENCE AND TECHNOLOGY (ICMAST - 2022)

15 – 16 March, 2022



Organized by
Department of Physics
Kandaswami Kandari's College
Velur, Namakkal – 638 182

In Association with
Indian SpectroPhysics Association (ISPA)
Chennai, India



About the Institution

Kandaswami Kandari's College is a Govt. Aided College established in 1962 situated in Namakkal in Tamil Nadu state of India. The college is Re-accredited by NAAC. Kandaswami Kandari's College offers B.E. courses including M.Phil and Ph.D. Research programmes. The college is a leader in research and innovation. Focus is given to activities beyond academics at Kandaswami Kandari's College, which is evident from its infrastructure, extracurricular activities and national and international collaborations.

About the Department

The Department of Physics was established in our college during 1964-1965 and offers degree courses at both UG and PG level. The department had been upgraded as Research department from 2010-2011 for offering M.Phil and Ph.D. Research programmes. The Department of Physics is enriched with all facilities, latest equipments, computer system and software for the students to undergo their practical and Research work.

About ISPA

"Indian Spectro Physics Association (ISPA)" is a brain child of Veteran Professor and Scientist Dr. S. Gnanasekaran. ISPA was started on April 23, 1968. It is a registered society under section societies, conferences, workshops and seminars are organized. ISPA is the peak of a strong belief that nurturing young minds and encouraging them to pursue research through Spectroscopy. ISPA has an enviable record of having organized 15 International conferences and 37 National Conferences. ISPA also has organized 18 State Level Technical Seminars in Physical Sciences for PG and M.Phil. students, since 1989. Indian Spectrophysics Association (ISPA) finds its place in encouraging research and young scientists by honoring them with ISPA Awards in the recognition of the research findings of the scientists. 5 Veteran scientist Awards, 20 Life Time Achievement Awards and 70 ISPA Dr. S. Gnanasekaran Awards are given to researchers who have made notable contributions in the field of Research, during Conferences/Seminars organized by ISPA.

Focus of the Conference

International Conference on Materials Science and Technology (ICMAST – 2022) is organized by the Department of Physics in collaboration with ISPA. The conference aims to provide knowledge and share new ideas amongst the professionals and students from research areas of Spectroscopy, Crystallography, Biophysics, Medical Physics, Molecular Dynamics, Materials Science, Crystal Growth and Nanotechnology to share their research experiences and findings in interactive discussions and technical sessions at the event. The Conference will also have a space for colloquia/lectures to present their services, products, innovations and research results. The conference would create a platform for the scientists to interact with research scholars in the latest findings in their respective fields. The research papers of the conference intend to throw light on the application oriented innovative research in their respective fields.

| Invited Areas | | |
|--------------------------|------------------------|---------------------------|
| Spectroscopy | Instrumentation | Surface Engineering |
| Crystal Growth | Luminescent Materials | Sensor & Smart Materials |
| Crystallography | Magnetic Materials | Superconducting Materials |
| Characterization Methods | Molecular dynamics | Semiconductor Materials |
| Bio Physics | Modeling & Simulation | Solar Technology |
| Medical Physics | MEMS Design | Transport Properties |
| Ceramic Materials | Nanotechnology | Thin Film Technology |
| Drug Design | Nonlinear Optics | |
| DFT Analysis | Optoelectronic Devices | |
| Materials Science | Photo catalysts | |
| Theoretical Physics | Polymer Composites | |

International Advisory Committee

- | | |
|--------------------------------------|--|
| Dr. Wolfgang Kiefer, Germany | Dr. H. M. Hehn, Germany |
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| Dr. Irena Kaniava, Bulgaria | Dr. Jiban Podder, Bangladesh |
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- | | |
|------------------------------------|-----------------------------------|
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| Dr. S. Pannanaray, Chennai | Dr. S. Sudhakar, CEHRI – Karaikal |
| Dr. S. Jeyaseelan, Chennai | Dr. M. Venkateshwaran, Karaikal |
| Dr. Sarathkumar Chidambaram, Noida | Dr. S. Arunagan, Tiruchirappalli |

Contact

E-mail id : icmast2022@gmail.com

**Registration Fee waived
for all Delegates and Participants**

Chief Patron

Dr. R. Somasundaram, M.D.
Secretary, Kandaswami Kandari's College
Prof. N. Thangaraju, Ph.D.
Principal

Patron

Prof. S. Gnanasekaran, Ph.D., D.Sc.
Founder President, ISPA,
Dean (R & D), SPIHER

Conference President

Prof. K. Selvaraju, Ph.D.
Head, Dept. of Physics

Convener

Mrs. P. Jayalakshmi, M.Sc., M.Phil.

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Organising Committee

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Dr. P. Sivagurunathan, Annamalai University, Annamalai Nagar
Dr. M. Subramanian, Periyar University, Salem
Dr. Raj Mohamed, Bharathidasan University, Tiruchirappalli

Call for Abstracts & Oral Presentations

The authors intending to participate in this conference are requested to send their abstracts of their research findings within **250-300 words (MS Word, 12pts, Times New Roman with 1.5 line spacing)** on all topics related to the focused areas to icmast2022@gmail.com on or before 05th March 2022. The technical committee shall duly inform the oral presentation to the authors of the selected abstracts. Proceedings with ISSN number shall contain the selected abstracts of oral presentations and invited talks.

Invited speakers & Oral Presentations

Title of the Talk: Biomass Based Activated Carbon for High Performance Supercapacitor Electrodes
Prof. Jiban Podder, Ph.D., FRS
Professor, Department of Physics
Bangladesh University of Engineering and Technology, Bangladesh



Title of the Talk: ATR - Attenuated Total Reflectance – A fortune to FTIR for Materials Characterisation
Prof. S. Gnanasekaran, Ph.D., D.Sc.
Dean, Research & Development, St. Peter's Institute of Higher Education and Research, Avadi, Chennai – 600 854.



Title of the Talk: Graphitic Carbon Nitride/ metal oxide nanocomposites for photocatalytic Application
Prof. Suresh Sagadevan, Ph.D.
Professor, Nanotechnology Group, Catalysis Research Centre, University of Malaya, Kuala Lumpur, Malaysia



Title of the Talk: 3-Hydroxy Fatty Acids induce Hepatocyte and Trichoblast Lipopoptosis & Development and Testing of Mycobacterium avium subsp. paratuberculosis Diva Vaccines in Ruminants
Dr. Erhumalai Muthukrishnan, Ph.D.
University of Nebraska
School of Veterinary Medicine and Biomedical Sciences, USA



Awards

Life Time Achievement Award
ISPA Dr. S. Gnanasekaran Awards
Best Oral Presentation Awards

Important Dates

Submission of Abstracts : 05.03.2022
Acceptance Notification : 11.03.2022

Dr. K. Selvaraju, Convenor of the conference, welcomed the dignitaries and delegates, Hon'ble President and Secretary, Dr. Somasundaram, Chief Patron of the conference blessed the conference for a great success in his prime address, Prof. N. Thangaraj, Principal of KKC and Patron of the conference presided the conference with his presidential address. Since this conference was conducted in commemoration of National Science Day, it would fall short if Sir CV Raman was not applauded. The conference was really honoured by the unveiling the portrait of Sir CV Raman by all the dignitaries. Then, the Hon'ble Chief Guest, Prof. Jiban Podder, Professor of Department of Physics, Bangladesh University of Engineering and Technology, Bangladesh, Dhaka inaugurated the conference with his exhilarating inaugural address. He emphasized the importance of materials, and how the innovative advanced research can be done using super materials and green energy and its societal applications of producing low cost renewable energy.

Conference Proceedings was released by the Hon'ble President and Secretary, Dr. R. Somasundaram and Hon'ble Chief Guest, Prof. Jiban Podder and it was received by the Founder president of Indian SpectroPhysics Association ISPA Dr. S. Gunasekaran. Then CD proceedings was released by the University Representative, Prof. P. Viswanathamurthi, Professor of Department of Chemistry, Periyar University, Salem and was received by the Principal Dr. T. Thangaraj and convenor, Dr. K. Selvaraju. ISPA Awards was followed by the conference proceedings. Four eminent scientists receive ISPA Awards from the dignitaries. ISPA Veteran Scientist Award was conferred to Prof. Gandham Ramana Rao, Emeritus Professor of Physics, Former Dean, Faculty of Science, University college, Kakatiya University, Warangal, ISPA Life Time Achievement Award was conferred to Prof. Byru Venkatram Reddy, Registrar, Professor of Department of Physics, Kakatiya University, Warangal, ISPA Dr. S. Gunasekaran Award was conferred to two scientists, Prof. N. Kanagathara, Professor, Department of Physics, Saveetha School of Engineering and Dr. N. Sivakumar, Assistant Professor, Department of Physics, Sri Sai Ram Engineering College, Chennai.



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Google Meet: <https://meet.google.com/omd-ribf-yke>

Presidential Address

Prof. N. Thangaraju, Ph.D.
Principal, KKC

Inaugural Address

Prof. Jiban Podder, Ph.D., FRS
Professor, Department of Physics
Bangladesh University of Engineering and
Technology, Bangladesh

Keynote Address

Prof. S. Gunasekaran, Ph.D., D.Sc.
Dean, Research & Development,
St. Peter's Institute of Higher Education and
Research, Avadi, Chennai – 600 054.

Felicitation

Dr. R. Somasundaram, M.D.
Secretary
Kandaswami Kandar's College

Prof. S. Jayakumar, Ph.D.
Associate Professor,
Vivekananda Arts & Science College,
Chennai

Valedictory Address

Prof. Byru Venkatram Raddy, Ph.D.
Registrar & Professor of Physics
Kakatiya University, Warangal

Convenor

Prof. K. Selvaraju, Ph.D.
Head, Department of Physics

Organising Secretary

Mrs. P. Jayalakshmi, M.Sc., M.Phil.
Assistant Professor, Department of Physics

A Cordial Welcome to all

Prof. CK Jayasankar Retired Professor of Physics, Sri Venkateshwara University, Tirupathi, Prof. Vel Arjunan, Esteemed principal of a reputed college, Prof. S. Jayakumar, Associate Professor, Department of Physics, Vivekananda College, Chennai graced the event with the felicitation address. Professor S. Gunasekeran, Founder president of ISPA presented the keynote address of the conference in a lucid manner for the understanding of the audience. He emphasized the importance of hand in hand science and technology to improvise the future innovations in nanotechnology with all the materials available on Earth. Mrs. P. Jayalakshmi, Organising secretary proposed the vote of thanks.

Four technicals sessions were conducted by eminent speakers. The first technical session was chaired by Prof. P. Vishwantha murthi, Periyar University Salem. The invited speaker **Prof.Jiban Podder delivered a invited talk entitled Biomass Based Activated Carbon for High Performance Super capacitor Electrodes that encompass how biomass or green energy in activated carbon can improve the efficiency of supercapacitors. The talk was mind blowing and a timely one for the beneficial of the society.** The second technical session was chaired by **Prof.G.Anbalagan**, University of Madras. The invited speaker **Prof.Suresh Sagadevan delivered a invited talk entitled Graphite Carbon Nitride/metal oxide Nanocomposites for photolytic applications that emphasized the nanoparticles and nanocomposites for photolytic applications. The talk was highly informative for the nanosociety.**

The third technical session was chaired by **Prof. S. Jayakumar**, Vivekananga College, Chennai. The invited speaker **Prof. S. Gunasekaran, Founder President of ISPA delivered a invited talk entitled Attenuated Total Reflectance-A fortune to FTIR for Materials Characterization that gives an idea how a spectroscopic technique can do wonders in analyzing the characteristics of materials.**



**KANDASWAMI KANDAR'S COLLEGE
VELUR, NAMAKKAL**

**PROCEEDINGS OF
International Virtual Conference on
Materials Science and Technology
(ICMAST 2022)**

In commemoration of National Science Day



Organised by

Department of Physics



In collaboration with

**Indian SpectroPhysics Association (ISPA)
Chennai, India**

ISBN: 9789391131401

The fourth technical session was chaired by Prof. P. Kumaradhas, Periyar University, Salem. The invited speaker Dr. Ezhumalai Muthukrishnan, University of Nebraska, USA delivered a invited talk entitled 3-Hydroxy Fatty acids induce Hepatocyte and Tropoblast Lipoapoptosis and Development and Testing of Mycobacterium avium subsp. paratuberculosis diva vaccine in Ruminants. that gives an idea of a vaccine tested in ruminants. He explained about the effectiveness of vaccine tested in ruminants.

Around 70 papers were received for the oral presentation and it was divided into four sessions. The first oral presentation session was judged by Prof. M. Selvapandiyar and Prof. R. Arivuselvi. The second oral presentation session was judged by Prof. S. Kumaresan and Prof. S. Srinivasan. The third oral presentation session was judged by Prof. M. Balakrishnan and Prof. R. Thilak kumar and the final oral presentation session was judged by Prof. A. Kala and Prof. B. Latha. 12 Best paper awards were selected and certificates for the best paper award was awarded to the presents during the valedictory address.

The valedictory address of Prof. Byru Venkatram Reddy and Special Address by Prof. S. Gunasekaran offered an apt conclusion to the conference with specific summing up of the theme of the conference and the acknowledgment of the efforts of the whole Physics team of Kandaswami Kandar's College, Namakkal, Mr. Senguttuvan welcomed the gathering for the valedictory address and the Principal Prof. N. Thangaraj presided the valedictory session. The conference came to an end with a happy note of thanks by the convenor, Dr. K. Selvaraju.


Organizing Secretary


Convenor


IQAC


Principal

Dr. K. SELVARAJU, M.Sc., M.Phil., Ph.D.
HEAD, Department of Physics
Kandaswami Kandar's College,
(Govt. Aided - Accredited by NAAC)
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PRINCIPAL,
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