

Report of the Conference

The Department of Physics, Dr. Kalaignar M. Karunanidhi Government Institute for Post Graduate Studies and Research, Karaikal organized a **One Day National Conference on Emerging Materials and Computational Techniques (NCMCT-2023) on 29th September 2023**, sponsored by **Innovative Spectro Physicist Association, Puducherry**.

In this conference, totally more than 200 participants from **24 Private and Govt. colleges** were participated as Resource persons, Chair persons, Academicians, Research Scholars and Students. In particular, **90 students and 80 faculties and research scholars** were registered for the conference and received **79 Conference abstracts** from Puducherry, Tamilnadu, Karnataka and Maharashtra for conference souvenir.

The inaugural program was started with Prayer Song and lighting of Kuthuvillaku with Chief guests **Dr. A.Pouchepparadjou**, Dean, Pandit Jawaharlal Nehru College of Agriculture and Research Institute (PAJANCOA&RI), Karaikal, **Dr. Md. Assad Raza**, Principal, Dr.Kalaignar M. Karunandhi Government Institute for Post Graduate Studies and Research, Karaikal, **Dr. S.Periandy**, Founder President, Innovative Spectro Physicist Association (ISPA), Puducherry.

In the **Inaugural Welcome address, Dr.P.B.Nagabalasubramian**, (Organizing Secretary of the conference), HOD Physics, Dr.Kalaignar M. Karunandhi Government Institute for Post Graduate Studies and Research, Karaikal welcomed all the dignitaries, Resource persons, Chair persons, Faculties Research Scholars and Student Participants from various colleges. He also highlighted the focus and the overall spectrum of the conference.

The focus of the conference is to provide an overview of type of emerging materials and recent advancements in the field of material science with computational techniques. Its objective is to explore the relationship between the structure, properties and performance of the materials. Also, this conference will familiarize various characterisation techniques, encouraging critical thinking, promoting interdisciplinary collaboration and communication among students and researchers. Furthermore, this conference is to create opportunities for students to interact with experts and researchers in the thrust areas such as spectroscopy, nanotechnology, material science, computational quantum theory, computer aided drug design and molecular docking etc. Additionally, through this conference, make the inspiration to the students to pursue research ideas in the field of material science and computational techniques.

The **presidential address was graced by Dr. Md. Assad Raza**, Principal, KMGIPGSR, Karaikal, as the Chief Guest and congratulated all the faculties, research scholars, academicians and student participants. Also he enlightened the vision and mission of the college and future activities.

In his **keynote address, Dr. S. Periandy**, Founder President, ISPA Puducherry, and Associate Professor, KMGIPSR, Puducherry emphasized the motto of the Association and the significance of materials and computational techniques in technological advancements. He also advised the participants to focus on their Academics and Research.

In continuation, Professor **Dr. A.Pouchepparadjou**, Dean, Pandit Jawaharlal Nehru College of Agriculture and Research Institute (PAJANCOA&RI), Karaikal has delivered his motivational **inaugural address** by briefing the

need and importance of emerging materials, openings in the field of research to students and encouraged them to become as a communicative and multitask personalities.

The inaugural program was concluded with the **unveiling of the Conference Abstract Souvenir** which was comprised of messages from eminent personalities, abstracts of resource persons, 79 research paper abstracts received from the researchers of Puducherry, Tamilnadu, Karnataka and Maharashtra.

After the Inaugural program, the conference was continued with Six Technical sessions. In the first session, **Dr. P.M. Anbarasan**, Professor, Dept. of Physics, Periyar University, Salem delivered his talk on ***Technologically important Metamaterials for Seismic Protection***. During his lecture he explained about the importance, technology and applications of the materials used for seismic protection and the session was chaired by Dr. R. Thilak Kumar, Associate Professor of Physics, Periyar Govt. Arts College, Cuddalore.

The second session was continued by **Dr.K. Ravichandran**, Associate Professor & Head, PG& Research Dept. of Physics, AVVM Sri Pushpam College (Autonomous), Poondi, Thanjavur and delivered the talk on ***Cost effective preparation of Nano materials for Environmental Applications*** and the session was chaired by Dr. K. Carthigayan, Assistant Professor of Physics, Women Engineering College, Puducherry. In his talk, he explained about nanoscience, nano technology, how nano materials were prepared with low cost and is utilized for environmental applications.

In the third technical session, **Dr. S. Periandy**, Associate Professor of Physics, Kanchi Mamunivar Govt. Institute for Post Graduate Studies & Research, Puducherry delivered a lecture on ***Transitions between Excited states and Ground State***. During his lecture he expressed the concepts, theories, formulas, various techniques and applications in a Research Perspective and the session was chaired by Dr. M. Govindarajan, Assistant Professor of Physics, Avvaiyar Govt. College for women, Karaikal.

In the Fourth technical session, **Rev.Fr. Dr. Xavier**, HOD Physics, St. Joseph's College of Arts and Science (Autonomous), Cuddalore delivered a lecture on ***Photocatalytic Activity of CaO/BaO decorated on Graphene Oxide***. He has explained an Experimental and Theoretical approach on the work and the session was chaired by Dr. K. Carthigayan, Assistant Professor of Physics, Women Engineering College, Puducherry.

In the fifth session, **Dr. S. Sugunakala**, Associate Professor & Head Department of Bioinformatics, AVC College (Autonomous), Mayiladuthurai delivered her lecture on ***Computer Aided Drug Design for Discovery of New Drugs*** and the session was chaired by Dr. D. Shoba, Assistant Professor of Physics, Krishnasamy College of Science, Arts and Management for women, Cuddalore.

The last, sixth technical session was ended with the talk of **Dr. S. Ramalingam**, Assistant Professor of Physics, AVC College (Autonomous), Mayiladuthurai on ***Computational Modelling of Organic Photovoltaic Materials***. During the talk, he has given an Overview on computational modelling, organic photovoltaic materials, preparation techniques and applications. The session was chaired by Dr. V. George Fernandez, Maraimalai Adigal Government Higher Secondary School, Embalam, Directorate of School Education, Puducherry.

Parallel sessions for **Oral and Poster Presentation** were conducted for the participants. In the oral presentation, **26 participants** were participated and presented their research findings. Best three presentations were selected

for the Best Oral presenter award. The oral presentation was chaired by Dr. M.Sathish and Dr. S.Sebastian, Assistant Professor of Physics, St. Joseph's College of Arts and Science (Autonomous), Cuddalore.

In the Poster Presentation, **23 participants** were participated and showcased their papers in the form of posters. Among 23, three best poster presentation was selected for the Best Poster Presenter award. This session was chaired by Mr. K. Venkitachalapathy, Assistant Professor of Physics, Bharathidasan Govt. College for Women, Puducherry and Dr. V. George Fernandez, Maraimalai Adigal Government Higher Secondary School, Embalam, Directorate of School Education, Puducherry.

The conference was came to an end with the valedictory function. In the valedictory function, **Dr. Major R. Rengaiyan** (Convenor of the conference), HOD Physics, Arignar Anna Govt Arts and Science College, Karaikal delivered his valedictory welcome address.

Dr. Md. Assad Raza, Principal, KMGIPGSR, **Dr. A. Kalyanasundaram**, HOD Physics, Avvaiyar Govt. college for women, Karaikal, **Dr. Kathirvelu Sambandan**, HOD Botany, Arignar Anna Govt. Arts and Science College, Karaikal were felicitated the conference.

Dr. S. Sundaravarathan, Registrar, National Institute of Technology, Puducherry, Karaikal delivered his valedictory address and presented the Best Presenter Awards to the prize winners of Oral and Poster Presentation.

Finally, **Dr.P.B.Nagabalasubramanian** (Organizing Secretary), HOD Physics, KMGIPGSR, Karaikal highlighted the glimpses of the conference and delivered his vote of thanks. He also appreciated and admired that the whole success of the conference is because of the hard work and dedication made by the students of 2nd M.Sc. Physics.

The occurrence of the conference were advertised through All India Radio (FM) Karaikal Online, Karaikal Times, Diamond TV News, Karaikal. Post conference News were published in Karaikal online, Karaikal times, Sukiran Daily online, Malai Boomi, Dhinamani and Karaikal Diamond TV News.