



# CSSR & SRRM DEGREE & PG COLLEGE

—GATEWAY TO EDUCATION—

Accredited by NAAC with A Grade

# 13/521, Reddy Colony, Kamalapuram-516 289, Kadapa Dist. A.P.

(Affiliated to Yogi Vemana University & Recognized Under 2(f) & 12(B) of UGC Act 1956)

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## Five Day International Faculty Development Programme (Virtual)

" Recent Advances In Mathematical Modelling & Optimization "

(08<sup>th</sup> -12<sup>th</sup>, January 2024)

<p><b>About the Institution:</b></p> <p>CSSR &amp; SRRM Degree &amp; PG College was established in the year 1992 under the aegis of CSSR and SRR Educational Society, in a rural area Kamalapuram, Kadapa, Andhra Pradesh, by Sri C. V. Rajagopala Reddy the Chairman cum Principal of the institution. The College is permanently affiliated to Yogi Vemana University, Kadapa, Andhra Pradesh, India. The institution has a beautiful campus full of greenery which is spread of 4 acres. It is the only college to successfully complete two NAAC cycles with B+ in the 2017 and A in the year 2023. The institution is now ready to get a new mile stone "Autonomous status" by the UGC, India. The institution have good research potentiality and also organised many national and international seminars, conferences and workshops.</p> <p><b>Highlights of the Institution:</b></p> <ul style="list-style-type: none"><li>• UGC 2(f) &amp; 12 (B)</li><li>• NAAC Accreditation</li><li>• IIC Ranking</li><li>• ATAL Ranking</li><li>• NIRF Ranking</li><li>• ISO Certifications</li><li>• Best Green Campus Award</li></ul> <p><b>About the Department:</b></p> <p>The Department of Mathematics was started in the year 1992 with 20 students and now it is enhanced to 400 students. Also the department organised many seminars, quiz competitions, invited talks for the development of students career.</p> <p><b>Programme Convenor:</b></p> <p>Dr. G. Vinod Kumar Head, Department of Mathematics</p>	<p><b>About FDP:</b></p> <p>The goal of this FDP is to train research scientists, academicians, and scholars who are interested in creating evaluating mathematical models to represent issues that arise during problem optimisation by the eminent speakers who have fundamental contributions to the field of mathematic. we will talk about the fundamental theory, approaches, and computing methods of dynamical systems, mathematical applications in engineering disciplines, numerical programming, and heat and mass transfer.</p> <p><b>Chief Patron:</b></p> <p>Sri C. V. Rajagopala Reddy, Chairman &amp; Principal.</p> <p><b>Patrons:</b></p> <p>Dr. P. Krishna, Vice-Principal, Dr. M. Lakshminath, Head, R &amp; D.</p> <p><b>Advisory Committee:</b></p> <p>Dr. G. Radhakrishnamacharya, Rtd. Prof. NIT Warangal Dr. S. V. K. Varma, Prof Emeritus, REVA University, Bangalore. (Rtd. Professor, S V University, Tirupathi.) Prof. N. Kishan, Head, Dept. of Mathematics, Osmania University Hyderabad. Prof. M. C. Raju, JNTU College of Engineering Pulivendula Dr. C. S. K. Raju, Post Doc. Hayang University, South Korea. Dr. R.V.M.S.S. Kiran Kumar, Lecturer, Govt Polytechnic College, Ananthapuramu, A.P. India. Dr. P. Durgaprasad, Assistant Professor, VIT Chennai.</p> <p><b>Organising Committee:</b></p> <p>Mr. D. Vinay Kumar, IQAC Coordinator Ms. T. Pravalika, Lecturer, Department of Mathematics Mr. B. Ashok, Head, Department of English Mr. P. Mahesh Reddy, Head, Department of Physics Mr. K. Sreeratas Reddy, Head, Department of Computer</p>	<p><b>CSSR &amp; SRRM Degree &amp; PG College</b> Reaccredited NAAC 'A' Grade with 3.22 CGPA (3,004-1) Kamalapuram, YSR, A.P., India. -516289</p> <p><b>International Faculty Development Programme on Recent Advances In Mathematical Modelling &amp; Optimization (08-01-2024 to 12-01-2024) (Virtual Mode)</b></p> <p>Organised by Department of Mathematics</p> <p>Timings: 8:00 PM to 4:00 PM IST</p>	<p><b>Key Speakers &amp; Topics</b></p> <p><b>Dr. Bagh Ali</b> Professor, School of Mechanical Engineering and Automation, Harbin Institute of Technology, Shenzhen, China. Topic: Mitigating Heat Transfer Deterioration in Upward Flow of Supercritical Water.</p> <p><b>Dr. Sivaraj R</b> Associate Professor, Department of Mathematics, NIT, Jalandhar. Topic: Heat Transfer Optimization Using Nanofluid in Cavities.</p> <p><b>Dr. Malikarjuna Bandaru</b> Assistant Professor, Department of Mathematics, BMS College of Engineering Bengaluru. Topic: Spectral Method.</p> <p><b>Dr. Khalil Ur Rehman</b> Assistant Professor, Prince Sultan University, Saudi Arabia Topic: What is the right choice of velocity profile at the inlet of the Channel rooted with fluid?</p> <p><b>Dr. Hayath Thameem Basha</b> Post Doc, Ulsan National Institute of Science and Technology, South Korea Topic: Machine Learning prediction models in nanofluid flow.</p>	<p><b>Registration Fee:</b> Student/Scholar: Rs. 150/- Faculty: Rs. 250/- Industrialist: Rs. 350/- Foreign Participants: \$ 5 (USD)</p> <p><b>For Registration Scan QR Code (or) Upload Image</b></p> <p><b>Payment Details:</b></p> <p>Name of Account Holder CSSR&amp;SRRM DEGREE COLLEGE KAMALAPURAM State Bank of India, Kamalapuram Branch Account Number: 34819780249 IFSC Code: SBIN001267 SWIFT Code: SBININBB</p> <p>UPI ID: cssrandsrrmdc@sbi</p> <p><b>For any Queries Contact: Convenor</b> Dr. G. Vinod Kumar Head, Department of Mathematics 9014064906   gvinod@ssm21.com</p>
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## Report:

The Department of Mathematics, CSSR & SRRM Degree & PG College, Kamalapuram, Kadapa have organised a 5 Day International Faculty Development Programme during the period 08-12, January 2024.

## Day-I: 08-01-2024

The session on the first day was started with inauguration session by the beloved chairman & Principal **Sri C V Rajagopala Reddy Garu**, the chief patron of the programme and gave a brief introduction about the college, and the programme. Later on, the session is handed over to the programme convenor **Dr G Vinod Kumar**, Head, Department of Mathematics, the convenor thanked the chief patron and addresses with brief introduction about the FDP and key features of the programme to the participants.

Next to the Introduction, Dr G Vinod Kumar, have given a short introduction about the Key Speaker of Day-1, Session **Dr Sivaraj**, Associate Professor, Department of Mathematics, NIT, Jalandhar, and his topic "**Heat Transfer Optimisation Using Nanofluid in Cavities**" and the session is handed over to speaker, then the speaker thanked and started with session and successfully completed over an hour. Dr Sivaraj has explained basic introduction of fluid dynamics and types of heat transfer and gave clear picture how the analysis of heat transfer is

done during fluid flow channels and cavities with advance models and techniques and finally gave a clear explanation to the participants with doubts.

**Day 1: YouTube Link-** <https://www.youtube.com/watch?v=2tBpeQ71-0g&t=1010s>

### **Day-II: 09-01-2024**

The session on Day-2, was started with introduction of Key note Speaker, **Dr. Mallikarjuna Bandaru**, Assistant Professor, Department of Mathematics, BMS College of Engineering Bengaluru by the faculty **Smt. T Pravallika**, Department of Mathematics, with his teaching and research experience. Later, on the session is handed over to the speaker and then continued with topic **Spectral Method**, the speaker have started with good concept of boundary layer theory, and nanotechnology advancement in real life applications, how the spectral technique used in applied mathematics for computing the numerical techniques in solving a differential equations and with use of weighted residuals. All the participants are very happy on this session with clearing their doubts by a speaker and getting good suggestions for their research works. Finally the session completed with thanking the speaker.

**Day 2: YouTube Link-** <https://www.youtube.com/watch?v=ooGiXxwORWA>

### **Day-III: 10-01-2024**

On the evening of Day 3, Programme the faculty **Mr. B. Ashok**, Head Department of English, have started by addressing the speaker of the day **Dr. Bagh Ali**, Professor, School of Mechanical Engineering and Automation, Harbin Institute of Technology, Shenzhen, China. He explained the contributions and key roles maintained by the Dr Bagh Ali Garu, in teaching and research, and also said he also play a vital role as key speakers in many national and international seminars and conferences, and guided many research scholars. Later the session is handed over to speaker, the speaker started the with good step by giving overall concept on "**Mitigating Heat Transfer Deterioration in Upward Flow of Supercritical Water**"

**Day 3: YouTube Link-** [https://www.youtube.com/watch?v=t7Jkj\\_lg8gg](https://www.youtube.com/watch?v=t7Jkj_lg8gg)

### **Day-IV: 11-01-2024**

The 4th Day session was addressed by Mr D Vinay Kumar, IQAC Coordinator, giving the brief introduction of day 4 speaker **Dr Khalil Ur Rehman**, Assistant Professor, Prince Sultan University, Saudi Arabia. Later on the session is handed over to the key speaker Dr Rehman, and speaker gave a lecture on **What is the right choice of velocity profile at the inlet of the Channel rooted with fluid?**. and cleared the doubts raised by the participants with giving hands on experience on the tools used to solve the fluid parameter.

**Day 4: YouTube Link-** <https://www.youtube.com/watch?v=YKRAxjdd3TY>

## Day-V: 12-01-2024

The Last day of the session was started by Dr G Vinod Kumar addressing the day speaker Dr Thameem Basha, Post Doc, Ulsan National Institute of Science and Technology, South Korea, and handed over to the speaker and continued with topic **Machine Learning prediction models in nanofluid flow**, and he gave a nice explanation with advance technology and role of machine learning in fluid dynamics and hands on experience on **Numpy Programming** to use machine learning and ended with doubt session and all the participants have cleared their valuable doubts.

**Day 5: YouTube Link-** [https://www.youtube.com/watch?v=eA20GnDII\\_0&t=12s](https://www.youtube.com/watch?v=eA20GnDII_0&t=12s)

Finally at the end of the programme, the convenor concluded with vote of thanks.

**Number of Participants: 213**, that includes all categories of participants like PG Students, Research Scholars, Lecturers, Professors, Academicians and other like industrialists from various Government and Private, Degree and Pg Colleges, Engineering Colleges, Research Labs, Universities that covered nearly 25 states from India and five different countries like Pakistan, China, West Indies, Saudi Arabia, etc.,

Feedback: All the participants are very much happy and provided a good feedback and encouraged us to conduct more programmes related to this topic and other topics, and 100 % percent said **Yes** that they are willing to participate in future programmes that are organised by the department.

**Registration Link:**

<https://docs.google.com/forms/d/e/1FAIpQLScBjUnxxiKw91k-auDtBWSkRFJZB2qm8whZ82DjOD2a09rISO/viewform?vc=0&c=0&w=1&flr=0&pli=1>

**Feedback Link:**

<https://docs.google.com/forms/d/1CD6Y6-USC6ChmeZknjP6Nv5Svqyc2pMOVURTNrzF1nI/edit>

**Model Certificate:**



# Programme Schedule:



CSSR & SRRM Degree & PG College, Kamalapuram,  
YSR Kadapa, A.P., India-516289

*International Faculty Development Programme*  
on  
*Recent Advances In Mathematical Modelling & Optimization*  
(08-01-2024 to 12-01-2024)  
(Virtual Mode)

Organised by Department of Mathematics

**Programme Schedule**  
(As Per Indian Standard Time-IST)

*Online Platform: Zoom*

<b>Day 1: 08/01/2024</b>	
02:45 PM to 03:00 PM	Inauguration by Sri C V Rajagopala Reddy, Chairman & Principal
3:00 PM To 04:00 PM	<b>Dr . Sivaraj R</b> Associate Professor, Department of Mathematics, NIT, Jalandhar. Topic: Heat Transfer Optimisation Using Nanofluid in Cavities
<b>Day 2: 09/01/2024</b>	
02:50 PM to 03:00 PM	Introduction of Resource Person by Mrs. T Pravallika, Department of Mathematics
3:00 PM To 04:00 PM	<b>Dr. Mallikarjuna Bandaru</b> Assistant Professor, Department of Mathematics, BMS College of Engineering Bengaluru. Topic: Spectral Method
<b>Day 3: 10/01/2024</b>	
02:50 PM to 03:00 PM	Introduction of Resource Person by Mr. B Ashok, Head, Department of English
3:00 PM To 04:00 PM	<b>Dr. Bagh Ali</b> Professor, School of Mechanical Engineering and Automation, Harbin Institute of Technology, Shenzhen, China. Topic: Mitigating Heat Transfer Deterioration in Upward Flow of Supercritical Water.
<b>Day 4: 11/01/2024</b>	
02:50 PM to 03:00 PM	Introduction of Resource Person by Mr. D Vinav Kumar, IQAC, Department of English
3:00 PM To 04:00 PM	<b>Dr Khalil Ur Rehman</b> Assistant Professor, Prince Sultan University, Saudi Arabia. Topic: What is the right choice of velocity profile at the inlet of the Channel rooted with fluid?.
<b>Day 5: 12/01/2024</b>	
02:50 PM to 03:00 PM	Introduction of Resource Person by Dr. G Vinod Kumar, Head, Department of Mathematics
3:00 PM To 04:00 PM	<b>Dr Hayath Thameem Basha</b> Post Doc, Ulsan National Institute of Science and Technology, South Korea. Topic: Machine Learning prediction models in nanofluid flow.
<b>Feedback</b>	
<i>Valedictory by the convener, Dr G Vinod Kumar</i>	