

# REPORT OF NATIONAL WEBINAR ON RECENT TRENDS IN COMPUTING

## P.G. DEPARTMENT OF MATHEMATICS & DEPARTMENT OF COMPUTER SCIENCE

The Webinar on “**RECENT TRENDS IN COMPUTING**” was organized jointly by the P.G. Department of Mathematics and the Department of Computer Science, Fakir Mohan Autonomous College, Balasore, on 20<sup>th</sup> July 2021, from 10:30 AM to 1:30 PM. Invitation to the students and academic fraternity was sent by the host team through WhatsApp Group and email. The objectives of the webinar were:

1. To enlighten the students and researchers about the emerging topics of computing such as approximate computing and multi-grid methods.
2. To gain familiarity with computing and to give new insights into the current research on computing.
3. Better interaction between the students and the professors as the webinar brings all the students on an equal footing.

Professor Sukumar Nandi, Senior Professor of Computer Science and Engineering, Indian Institute of Guwahati and Dr. Satyananda Panda, Professor of Mathematics, National Institute of technology, Calicut, graced the webinar as the Resource Persons.

Dr. Sangita Sahu, Principal, Fakir Mohan Autonomous College, Balasore, welcomed the resource persons and participants. In her address she also stated the importance of computing in the current internet age. Professor Nandi, in his talk, spoke about the evolution of existing computing paradigms. He also pointed out the limitation of traditional computing and briefly discussed with participants about a new research area called approximate computing. Dr. Panda presented a talk on Multigrid method – A framework for large scale computing, in which he discussed about the parallel computing technique with multigrid method. He also talked about solutions to the current problems achieved by him using multigrid methods.

Ms. Dillip Kumar Ghose, HoD and Asst. Professor of Mathematics, acted as a moderator throughout the webinar as well as question and answer session. At the end of the webinar, Mr. Jyoti Prakash Mohanta, Asst. Professor of Computer Science, gave vote of thanks briefly. Approximately 100 numbers of students as well as teachers participated in the Webinar in virtual through Google Meet Platform.

# BROCHURE OF THE WEBINAR

**RESOURCE PERSONS**



**Professor Sukumar Nandi**  
Senior Professor  
Department of Computer Science & Engineering  
Indian Institute of Technology,  
Guwahati



**Dr. Satyananda Panda**  
Professor  
Department of Mathematics  
School of Natural Sciences  
National Institute of Technology  
Calicut, Kerala

**PATRON**



**Dr. Sangita Sahu**  
Principal  
Fakir Mohan Autonomous College, Balasore

**CONVENOR**



**Mr. Dillip Ku. Ghose**  
HOD, Mathematics  
Mob: 98614 16590



**Mr. Manas Ku. Mishra**  
HOD, Computer Science  
Mob.: 70773 00496



**Mr. Jyoti Prakash Mohanta**  
Asst. Prof., Computer Science  
Mob: 94398 69031

**CO- CONVENORS**



**Mr. Pankaj Ku. Dash**  
Mob: 9655873124



**Mr. Raghunath Bandha**  
Mob.: 8249779339



**Mr. Bhikari Ch. Mallik**  
Mob: 9437099519



**Ms. Anvesha Nayak**  
Mob.: 7008142365

**ONE DAY NATIONAL WEBINAR**

on

**"RECENT TRENDS IN COMPUTING"**

**TOPIC**

Session 1  
"Approximate Computing"  
by Prof. Sukumar Nandi

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Session 2  
"Multigrid Method : A framework for Large Scale Scientific Computing"  
by Dr. Satyananda Panda



Organised by  
**Department of Mathematics & Computer Science**  
Fakir Mohan Autonomous College, Balasore, Odisha

ON  
**20th July 2021**  
from 10.30 AM onwards.

**PLATFORM**  
Google Meet

**PROGRAMME**

**20.07.2021 (TUESDAY)**

10.30 A.M - Introduction by Convenor  
**Mr. Dillip Kumar Ghose**  
HOD, Mathematics

10.40 A.M - Welcome address by Principal-Cum-Patron  
**Dr. Sangita Sahu**  
Principal, FM Autonomous College, Balasore

10.50 A.M - Address by Convenor  
**Mr. Jyoti Prakash Mohanta**  
Asst. Prof. of Computer Science

11.00 A.M - Talk by Speaker-1  
**Prof. Sukumar Nandi**  
Senior Professor  
Department of Computer Science & Engineering  
Indian Institute of Technology, Guwahati

11.45 A.M - Interactive session

12 Noon - Address by Convenor  
**Mr. Dillip Kumar Ghose**  
HOD, Mathematics

12.10 P.M - Talk by Speaker-2  
**Dr. Satyananda Panda**  
Professor  
Dept. of Mathematics, School of Natural Science  
National Institute of Technology, Calicut, Kerala

12.55 P.M - Interactive session

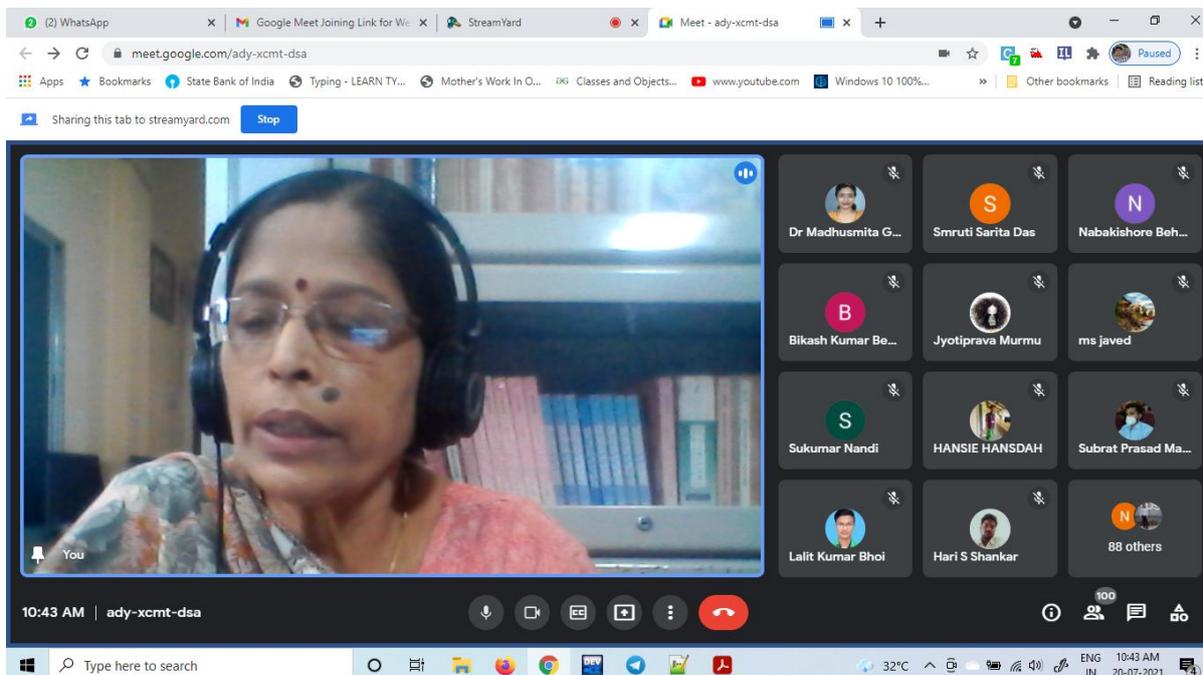
1.10 P.M - Vote of Thanks by  
**Mr. Jyoti Prakash Mohanta**  
Asst. Prof. of Computer Science

Link for Registrations:  
<https://forms.gle/jwJNpRojGeJcXLLB9>

Link for Google Meet will be provided one day before on official WhatsApp Group.

Link to join WhatsApp Group:  
<https://chat.whatsapp.com/lse94nxDPyKz0llQkqtoH>

## SOME SCREENSHOTS OF THE WEBINAR



Browser tabs: (2) WhatsApp, Link for RTC Feedback form, RTC Feedback Form - Google, StreamYard, Meet - ady-xcmt-dsa

Address bar: meet.google.com/ady-xcmt-dsa

Page title: Sharing this tab to streamyard.com

Meeting ID: ady-xcmt-dsa

Time: 1:11 PM

Participants list:

- Add people
- DIBYARANJAN MISHRA
- Dillip Ghose
- DILLIP KUMAR DASH
- Dipshikha Samal
- Dr Satyananda Panda
- easy math.
- Jayanta Sahu

System tray: 34°C, ENG IN, 01:11 PM, 20-07-2021

Browser tabs: (2) WhatsApp, Google Meet Joining Link for, StreamYard, Webinar on RTC - YouTube, Meet - ady-xcmt-dsa

Address bar: meet.google.com/ady-xcmt-dsa

Page title: Sharing this tab to streamyard.com

Meeting ID: ady-xcmt-dsa

Time: 10:40 AM

Participant grid:

- Dr Madhusmita G...
- Smruti Sarita Das
- Nabakishore Beh...
- Bikash Kumar Be...
- Jyotiprava Murmu
- ms javed
- Hari S Shankar
- Subrat Prasad Ma...
- Nigamananda Sa...
- Lalit Kumar Bhoi
- 88 others
- You

System tray: 32°C, ENG IN, 10:40 AM, 20-07-2021

(2) WhatsApp | Google Meet Joining Link for Wi... | StreamYard | Meet - ady-xcmt-dsa

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S Sukumar Nandi is presenting

Approximate Computing: An Emerging Paradigm for High-performance Energy-efficient Implementation

by Prof. Sukumar Nandi



Department of Computer Science & Engineering  
Indian Institute of Technology Guwahati  
Guwahati, Assam, India - 781039



Dibyajoti Behera has left the meeting

10:50 AM | ady-xcmt-dsa

Windows taskbar: Type here to search, 32°C, 10:50 AM 20-07-2021

(3) WhatsApp | Inbox (1) - hodscfmac@gm... | RTC Feedback Form - Google | StreamYard | Meet - ady-xcmt-dsa

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Apps | Bookmarks | State Bank of India | Typing - LEARN TY... | Mother's Work In O... | Classes and Objects... | www.youtube.com | Windows 10 100%... | Other bookmarks | Reading list

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Dr Satyananda Panda

 Sri Dinesh Nayak,...	 Dillip Ghose	 Raghunath Bandha
 Pramod Kumar M...	 PRAFUL Dubey	 Smruti Sarita Das
 Nabakishore Beh...	 45 others	 You

1:13 PM | ady-xcmt-dsa

Windows taskbar: Type here to search, 34°C, 01:13 PM 20-07-2021

Dr Satyananda Panda is presenting

### Weighted Jacobi Iteration

$$y_i = \frac{1}{3} \left[ \sin\left(\frac{j\pi}{n}\right) + 2 \sin\left(\frac{6j\pi}{n}\right) + \sin\left(\frac{32j\pi}{n}\right) \right]$$

Works very well for the first several iterations. However convergence slows and the entire scheme appears to stall.

How to speed up the convergence? **Origin of multigrid methods**  
**Smoothing property of traditional methods is the way to multigrids**

National Institute of Technology Calicut

12:40 PM | ady-xcmt-dsa

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1:12 PM | ady-xcmt-dsa