



# PReMI'23

10th International Conference on Pattern Recognition and Machine Intelligence  
December 12-15, 2023, URL: <https://www.isical.ac.in/~premi23/>



Organized by

Machine Intelligence Unit, Indian Statistical Institute (ISI), Kolkata, India

## Special Session: Computational Inverse Imaging Call for Papers

### Honorary Chairs

Sankar K. Pal  
ISI Kolkata  
Andrzej Skowron  
University of Warsaw, Poland

### Conference Chairs

Nikhil R. Pal  
ISI Kolkata  
Santanu Chaudhary  
IIT Jodhpur  
Rajat K. De  
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ISI Kolkata  
Tingwen Huang  
Texas A&M University at Qatar, Doha

### Organizing Chairs

Deba Prasad Mandal  
ISI Kolkata  
B. Uma Shankar  
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### Special Session Chairs

Kuntal Ghosh  
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### Tutorial Chairs

Pabitra Mitra  
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Swapna Agarwal TCS  
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South China University of Technology  
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Dominik Slezak  
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University of Oxford, UK

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Ekta Shah  
ISI Kolkata

**Objective:** Computational cameras are in the process of radically revolutionizing medical imaging, microscopy, robotics, and computational photography, among others, owing to the recent innovations and advancements in imaging techniques. This generates the need for fast and accurate algorithms for computational inverse imaging, which until recently, was primarily solved using traditional optimization techniques. Deep learning has revolutionized the way we solve inverse problems with huge data-driven models performing photorealistic reconstructions by exploiting the prior knowledge of the underlying image for regularization. Unconventional reconstruction techniques, such as untrained neural networks, non-convolutional networks, etc. are being explored that have a paradigm-shifting impact on the imaging research community. A special session on this topic intends to bring together active researchers to discuss future research directions on novel imaging modalities, reconstructions in the low-data regime, and so on. Papers are invited in the following areas/application domains:

- Inverse imaging in the low-data regime
- Inverse imaging in the high-data regime
- Computational Image Formation
- Non-traditional Imaging
- Superresolution
- Ptychography
- Phase Retrieval
- Denoising
- Deblurring
- Inpainting
- Compressed Sensing

**Proceedings:** All accepted papers, whose author(s) register, would be included in the conference proceedings to be published by Springer International Publishing in its prestigious LNCS series.

**Location:** The conference will be held at the Indian Statistical Institute, Kolkata. It is close to Netaji Subhas Chandra Bose International Airport, and three important railway termini, Howrah, Sealdah and Kolkata.

**Important Dates:** Paper submission: ~~April 30, 2023~~ May 10, 2023

Acceptance notification: June 30, 2023

Camera-ready submission: July 15, 2023

**Submission Procedure:** Submissions for the special session must be made online through EquinOCS in <https://equinocs.springernature.com/service/PReMI2023> corresponding to the submission track of **Special Session III: Computational Inverse Imaging**. Papers should have maximum eight A4 pages (including figures, tables, and complete authors' affiliations). For details, please see PReMI'23 website (submission). Papers exceeding eight pages will be subjected to overlength page charges. Manuscripts, to be reviewed double-blind, must be prepared with LaTeX2e (use Springer class file llncs2e.zip) and must also adhere to Springer plagiarism policies. Follow the authors' instruction in:

<http://www.springer.com/gp/computer-science/lncs/conference-proceedings-guide-lines>

### Session Organizers:

Dr. Sanjay Singh, Principal Scientist, CSIR-Central Electronics Engineering Research Institute  
&

Dr. Sumeet Saurav, Senior Scientist, CSIR-Central Electronics Engineering Research Institute

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