JTG/IEEE IT Society Summer School in India

Proposal for the 2019 - 2021
Summer school format

- Four days, two advanced topics
- Two hours lecture + 30 minutes of discussion per topic per day
- Student research presentations: 1 hr per day
- Advanced, intense, primarily aimed at research students
- Material for 2009 - 2017 available on the web
  https://www.ece.iisc.ernet.in/~jtg/2015
  https://www.ece.iisc.ernet.in/~jtg/2016
  https://www.ee.iitb.ac.in/~jtg17/
  https://www.ee.iitb.ac.in/jtg18/
Past Summer Schools

- 2008 (Experimental, Zeroth), IIT Madras
  - Multiterminal information theory
    - Rajesh Sundaresan
  - Network coding
    - Andrew Thangaraj & Srikrishna Bhashyam
- 2009 (First), IISc Bangalore
  - New paradigms in processing large data sets
    - Ravi Kannan and Amit Deshpande
  - Function computation
    - D. Manjunath
- 2010 (Second), IISc Bangalore
  - Physical layer security
    - Matthieu Bloch
  - Markov renewal processes and mean-field limits
    - Anurag Kumar
- 2011 (Third): IIT Bombay
  - Statistical recovery problems in high dimensions
    - Martin Wainwright
  - Optimising performance of wireless networks
    - Prasanna Chaporkar
- 2012 (Fourth): IIT Bombay
  - Games and mechanisms for comm. systems
    - Bruce Hajek
  - Communication complexity
    - Jaikumar Radhakrishnan
- 2013 (Fifth): IIT Madras
  - Random matrix theory and wireless networks
    - Giuseppe Caire
  - Stochastic geometry for wireless networks
    - Srikanth Iyer
- 2014 (Sixth): IIT Madras
  - Stati-physics methods in coding/info theory
    - Pascal Vontobel
  - Mesoscopic perspective on network dynamics
    - Sitabhra Sinha
- 2015 (Seventh): IISc Bangalore
  - Info-theoretic methods in high-dim. statistics
    - Yihong Wu
  - Multiterminal communication theory
    - Gerhard Kramer
- 2016 (Eighth) : IISc Bangalore
  - Concentration Inequalities
    - B V Rao
  - Millimeter-Wave Systems: Theory, Systems, and Algorithms
    - Upamanyu Madhow
  - Polar Coding
    - Erdal Arikan
- 2017 (Ninth): IIT Bombay
  - Non-Smooth Convex Optimization and Structured Signal Recovery
    - Babak Hassibi
  - Codes with Local Decoding Procedures
    - Sergey Yekhanin
- 2018 (Tenth): IIT Bombay
  - How Physics and Computer Science Helped Us Build Better Codes
    - Rudiger Urbanke
  - Topics in Social Algorithms
    - Ashish Goel
JTG/IEEE IT Society School 2018

- Registration: INR 1000 (USD 15) for students, INR 6000 (USD 90) for others
- Participant profile: 130 attendees
  - Students 100, Faculty (IITs, and from local engineering colleges) : 30
  - Students mostly from IITs, IISc, and other engineering colleges.
- Sponsors:
  - IEEE IT Society: INR 770,000 = USD 11,250
  - Registration fees: INR 270,000 = USD 4,000
- Money used for air travel of foreign speakers, students travel, boarding and lodging, speakers honorarium, printed material, registration kits, transportation, venue charges
- Local organisation
  - Bikash Kumar Dey, Nikhil Karamchandani, Sibiraj Bhaskaran Pillai, Jayakrishnan Nair, Sharayu Moharir, D Manjunath, Vinod Prabhakaran
Plan for 2019

- **Speakers**
  - Speaker 1: Prof. Michelle Effros, CalTech
  - Speaker 2: Praneeth Netrapalli, Microsoft Research India

- **Dates**
  - June 25-28

- **Venue**
  - IC&SR building, IIT Madras, Chennai, India

- **Organising committee:** Chooses venue, topics, speakers, local arrangements
  - Andrew Thangaraj (IITM), Srikrishna Bhashyam (IITM), Krishna Jagannathan (IITM), Pradeep Sarvepalli (IITM), Radhakrishna Ganti (IITM), Sheetal Kalyani (IITM), Avhishek Chatterjee (IITM)

- **Advisory committee**
  - JTG national coordinator, IT society president, Prakash Narayan, B Sundar Rajan, P Vijay Kumar, Vivek Borkar, Rajesh Sundaresan
Plan for 2020 and 2021

- **Format and speakers**
  - Same as before

- **Venue**
  - Chennai, Bangalore, Mumbai: established venues so far
  - 2020: IIT Kanpur
  - Gandhinagar or Mandi: possible new venue for 2021
    - Critical to have strong local support and infrastructure

- **Timing**
  - Might be changed if new venues are too hot in summer

- **Organising committee (for 2020):** Chooses venue, topics, speakers, local arrangements
  - Profs. Adrish Banerjee, Ketan Rajawat, Abhishek Gupta and Abhay Karandikar

- **Advisory committee**
  - JTG national coordinator, IT society president, Prakash Narayan, B Sundar Rajan, P Vijay Kumar, Vivek Borkar, Rajesh Sundaresan
Budget for 2019 (in INR)

- Speaker travel: 250,000
- Honoraria: 100,000
- Speaker accommodations: 100,000
- Others accommodations: 300,000
- Food: 350,000
- Venue, local arrangements: 150,000
- Total: Rs.1,250,000 ~ $18,250

- Budget can be partially covered by registration fees, and support from local funding agencies.
- Speaker honoraria will be covered from registration and other local funds, and not from the IEEE ITSoc funds.
- Budget for 2020 and 2021 are expected to be similar
Motion

1. We request the IEEE Information Theory Society to support the JTG/ITSoC Summer School 2019 with a budgetary allocation of USD 7,000.