



# INDIAN ACADEMY OF SCIENCES

BENGALURU 560 080

## TWENTY EIGHTTH MID-YEAR MEETING

30 June–1 July 2017  
@ Faculty Hall, Indian Institute of Science  
Bengaluru 560 012

*Programme*



# INDIAN ACADEMY

30 JUNE

**0930–1010** SESSION 1A – SPECIAL LECTURE

**K Ullas Karanth**, Wildlife Conservation Society, Bengaluru  
*Conservation science at macro-ecological scales*

**1010–1055** SESSION 1B – INAUGURAL LECTURES OF FELLOWS

1010–1030 **V Subramanian**, CLRI, Chennai  
*Exploring the changes in the structure of  $\alpha$ -helical peptides adsorbed onto carbon and boron nitride-based nanomaterials*

1035–1055 **Sumathi Rao**, Harish-Chandra Research Institute, Allahabad  
*Topological phases of quantum matter*

**1100–1120** Tea break

**1120–1300** SESSION 1C – INAUGURAL LECTURES OF FELLOWS/ASSOCIATES

1120–1140 **Debabrata Dash**, BHU, Varanasi  
*Killing thrombus with nano-bullets*

1145–1205 **Suman K Dhar**, JNU, New Delhi  
*DNA replication in pathogens: Unique properties and possible intervention*

1210–1230 **Arvind Ayyer**, IISc, Bengaluru  
*The asymmetric simple exclusion process: An exactly solvable model of particle transport*

1235–1255 **Pallab Dasgupta**, IIT, Kharagpur  
*The science of formal safety assurance of embedded electronic systems*

**1300–1430** Lunch break

# 2017 (FRIDAY)

## 1430–1540 SESSION 1D – INAUGURAL LECTURES OF FELLOWS/ASSOCIATES

- 1430–1450 **Raghavan Krishnan**, IITM, Pune  
*Understanding the South Asian monsoon response to greenhouse gas (GHG) and aerosol forcing*
- 1455–1515 **Amitava Patra**, IACS, Kolkata  
*Nanomaterials-based light-harvesting systems for potential applications*
- 1520–1540 **Ranjit Thapa**, SRM University, Kattankulathur  
*Descriptor and indicator for  $sp^2$ -hybridized carbon-based catalyst*

1545–1605 **Tea break**

## 1605–1720 SESSION 1E – INAUGURAL LECTURES OF FELLOWS

- 1605–1625 **Siva R Athreya**, ISI, Bengaluru  
*Dense graph limits under respondent-driven sampling*
- 1630–1650 **Mitali Chatterjee**, IPGMER, Kolkata  
*Post-kala-azar dermal leishmaniasis; In vivo veritas*
- 1655–1715 **Sagar Sengupta**, NII, New Delhi  
*Understanding the mechanisms that prevent carcinogenesis by studying a family of caretaker tumour suppressors*

## 1800–1900 SESSION 1F – PUBLIC LECTURE

**A R Venkatachalapathy**, Madras Institute of Developmental Studies, Chennai  
*C Subramania Bharati: Nationalism and creativity*

# 1 JULY 2017 (SATURDAY)

## 0930–1010 SESSION 2A – SPECIAL LECTURE

**Gagandeep Kang**, THSTI, Faridabad  
*Vaccines and public health in India*

## 1010–1300 SESSION 2B – SYMPOSIUM ON “MOLECULAR MACHINES: A MULTI-DISCIPLINARY ENTERPRISE”

1010–1020 **Debashish Chowdhury**, IIT, Kanpur  
*Introduction*

1020–1050 **Debashish Chowdhury**, IIT, Kanpur  
*Noise and nonequilibrium in nano-machine operation: A physics perspective*

1050–1110 **Tea break**

1110–1140 **Roop Mallik**, TIFR, Mumbai  
*Teamwork in molecular motors: A cell biology perspective*

1140–1210 **Tanweer Hussain**, IISc, Bengaluru  
*Understanding the principles of design of molecular machines: A structural biology perspective*

1210–1240 **Pradyut Ghosh**, IACS, Kolkata  
*Synthetic small molecules as machines: A chemistry perspective*

1300–1400 **Lunch break**

