# **Resonance** journal of science education

May 2018 Volume 23 Number 5

## **GENERAL ARTICLES**

545



535 **External and Internal Irreversibility** Heat Engine as an Example Arnab Sarkar and S S Mondal

545 Anhydrobiosis

Drying Without Dying T Ramakrishna Rao

555 A Sneak Peek into 5G Communications Udit Narayana Kar and Debarshi Kumar Sanyal

573 Fluctuation Theorems of Work and Entropy in Hamiltonian **Systems** Sourabh Lahiri and Arun M Jayannavar

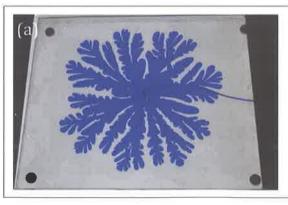
591 Points at Which Continuous Functions Have the Same Height

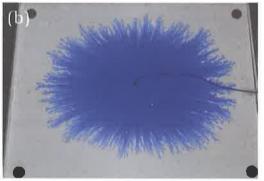
Parth Prashant Karnawat

609



My Family and Other Animals GERALD DURRELL





**ons** nar Sanyal

ntropy in Hamiltonian

ar

ons Have the Same

601



ONANCE | May 2018



#### Classroom

A Geometrical Visualisation of  $\frac{\lambda'}{1+\lambda'} < ln(1+\lambda') < \lambda' - \frac{x^2}{2(1+\lambda)} \text{ for } X > 0$  Sagar Chakraborty

#### The Inveterate Tinkerer

601

Experiments with Hele-Shaw Cells Bigyansu Behera and Chirag Kalelkar

### Classics

619

Reliability in Communication Systems and the Evolution of Altruism

A Zahavi

#### **Front Cover**



Madhubani art depicting the 'handicap principle' proposed by Amotz Zahavi. Artwork by Manjari Jain, IISER Mohali.

#### **Back Cover**



Amotz Zahavi (1928–2017) Illustration: Subhankar Biswas

### **DEPARTMENTS**



**Editorial** 519 *N Sathyamurthy* 



Science Smiles 521

Ayan Guha

Article-in-a-Box 525

Amotz Zahavi
Tales of a Swamp and
Peacock Tails
Manjari Jain

Book Review
Where Humans are
Animals and Animals are
Human

Raghavendra Gadagkar

Research News 613
Robert Langlands Wins
the 2018 Abel Prize
B Sury

**Inside Back Cover** 

Night Life Feast After Dark Credit: V Mahandran

RESONANCE | May 2018

523