



# National Chemical Laboratory

(Council of Scientific and Industrial Research)

## Prof. J. W. McBain Memorial Lecture

### Title

## Entropy and (dis)information

### Professor Daan Frenkel

Emeritus Professor formerly 1968 Chair,  
Yusuf Hamied Department of Chemistry,  
University of Cambridge, UK



### About the speaker:

Daan Frenkel (1948) received his PhD in Physical Chemistry from the University of Amsterdam in 1977. Subsequently, he was as a postdoc at UCLA and worked at Shell Research (Amsterdam), the Universities of Utrecht and Amsterdam and at the FOM Institute AMOLF. In 2007, he was appointed 1968 Chair of Chemistry (Cambridge), where he was Head of Department from 2011 to 2015. He is a member of six Academies of Science, and he is an Honorary Fellow of Trinity College Cambridge. His numerous prizes include the 2016 IUPAP Boltzmann Medal, the Rahman Prize and the Alder-CECAM Prize.

### Abstract:

The statistical interpretation of entropy dates back to Boltzmann. In recent years, several other quantities have been introduced that share the name entropy, but it is fair to ask what properties these modern entropies share with Boltzmann's original creation. In my talk, I will briefly review thermodynamic entropy and some of the more modern variants. I will discuss the similarities and highlight the differences.



7th December 2021



10.30 AM ( GMT )  
3.00 PM (IST)



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## Prof. J. W. McBain Memorial Lecture

### About the Event:



**Prof. J. W. McBain**

India's industrial advancement. In essence, he laid the very foundations on which this laboratory rests today. Through his visionary leadership, he also created the culture and core values that have stood the test of time for over sixty years.

**Prof. J.W. McBain Memorial Lecture Series:** NCL Research Foundation, as part of its activities aimed at promoting excellence in Science and Technology, has instituted the Prof.J.W. McBain Memorial Lecture Series in Chemical Sciences.

**Professor James William McBain:** When the Government of India and CSIR decided to set up the National Chemical Laboratory at Pune, the choice for leading it fell on Prof. James William McBain, a doyen in the field of colloid chemistry and a professor at Stanford University, USA. Born on 21 March 1882, he had his university education in Toronto. After graduate studies in Leipzig and Heidelberg, he joined the Stanford University in 1926. He was a Fellow of the Royal Society. He was the Director of NCL from 1949 to 1952. Professor McBain was a surface and colloid chemist of great distinction. He introduced the word “sorption” into the lexicon of science. As NCL's first director, he built the main building of the laboratory, staffed and equipped it for research, all in a record time of three years. Prof. McBain visualized the laboratory as being a service institution that would make specialized knowledge available to anyone for the development and advancement of India. So his scientists would not forget this objective, he worded it into a *motto* for to read as they enter the spacious entrance hall of NCL: “The purpose of this laboratory is to advance knowledge and to apply chemical science for the good of the people.” He created many of the scientific divisions, which exist even today. He brought the industry to NCL and emphasized that the production of basic chemicals in India is a key to the

### Distinguished Speakers Date

1. Prof. C.N.R.Rao	19 April, 1995
2. Prof. D. Balasubramanian	14 March, 1997
3. Prof. Ajay Sood	7 October, 2003
4. Prof. T. V. Ramakrishnan	7 January, 2005
5. Dr. Colin D. Bain	16 May, 2005
6. Prof. Narendra Kumar	17 August, 2006
7. Prof. Vinayak P. Dravid	23 July, 2007
8. Prof. Paul S. Weiss	9 July, 2009
9. Prof. Martyn Poliakoff	20 August, 2010
10. Prof. Debashis Mukherjee	13 January, 2012
11. Dr. Henry F. Schaefer, III	3 February, 2014
12. Prof. Anthony K. Cheetham	2 June, 2014
13. Prof. Frank Caruso	18 November, 2015
14. Prof. A.K. Shukla	30 November, 2018
15. Prof. A. Chattopadhyay	28 November, 2019

### NCL Research Foundation:

The NCL Research Foundation, a non-Governmental body was created to encourage and reward those values and culture of NCL that the Laboratory holds high and dear, namely, sustained excellence in science and technology, contributions to creation of wealth in society through science and technology, team work, individual efforts beyond the call of normal duty and a constant endeavor to improve productivity and efficiency. Through several named lectures, the NCL Research Foundation also honors those men and women who have made NCL proud.

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