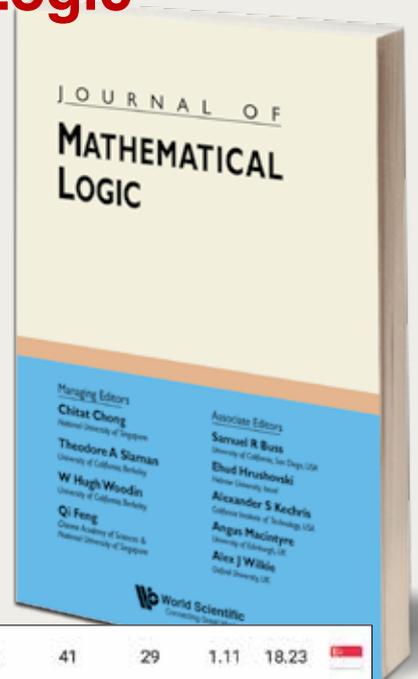


Brief Newsletter from World Scientific July 2018

Journal of Mathematical Logic by World Scientific Ranks World No. 1 in the Field of Logic Based on SJR Ranking



The *Journal of Mathematical Logic* (JML) now ranks number 1 in the world in the category of Logic journals. Published since 2001, JML is now firmly established as the leading journal in logic.

JML provides an important forum for the communication of original contributions in all areas of mathematical logic and its applications. It publishes papers at the highest level of mathematical creativity and sophistication, and represents the most important and innovative developments in the subject.



About the Managing Editors

Chitat Chong is Director of the Institute for Mathematical Sciences at the National University of Singapore (NUS). Professor Chong is one of the founders of the Asian Logic Conference series and a central figure in establishing mathematical logic in Asia. He received the Public Administration Medal (Gold), in Singapore's National Day Awards 2002.



Qi Feng is a professor at the Institute of Mathematics of the Chinese Academy of Sciences and was its deputy director from year 1994 to 2002. Professor Feng has served as Chair of Logic in East Asia and as a Council Member of the Association for Symbolic Logic.



Theodore A Slaman is a professor of mathematics at the University of California, Berkeley and was the chair of its Department of Mathematics from year 2003 to 2006 and from year 2009 to 2010. Professor Slaman is best known for his contributions to recursion theory.



William Hugh Woodin is an American mathematician and set theorist at Harvard University. Professor Woodin has made many notable contributions to the theory of inner models and determinacy. A type of large cardinal, the Woodin cardinal, bears his name.



Notable Titles

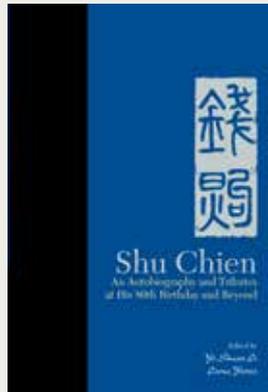
Shu Chien: An Autobiography and Tributes at His 80th Birthday and Beyond

Edited by **Yi-Shuan Li** (UC San Diego),
Leona Flores (UC San Diego)

This book celebrates Professor Shu Chien's contributions and achievements in his eight decades of learning, servicing, innovation and creation. The book is composed of tributes written by family, friends, colleagues, students, and trainees, as well as an autobiography by Professor Chien.

Professor Chien is one of the most eminent scientists in the world. He is a laureate of US National Medal of Science and Taiwan's Presidential Prize in Life Sciences, as well as members of six American and Chinese Academies. Besides his academic achievements in physiology and biomedical engineering, he has made outstanding contributions through leadership in professional organizations in these disciplines. His dedications to education and teaching have inspired countless young scientists around the world.

<https://www.worldscientific.com/worldscibooks/10.1142/10802>

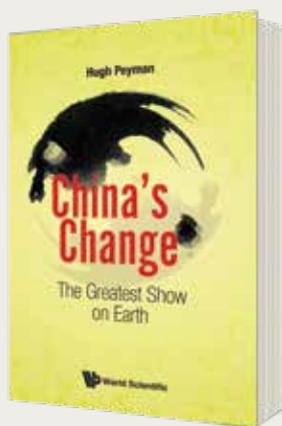


China's Change: The Greatest Show on Earth

by **Hugh Peyman**

China's Change injects timely, original ideas into the world's most important, if confused, debate over how to manage the twin challenges of anaemic economic growth and accelerating global disruption. This book uncovers China's X-Factor, the key to China's record-breaking economic transformation, by providing an understanding of China's past, present and future through its philosophy, history, economics, business, politics, prospects and impact in a way that no other book has done. *China's Change* is the only non-Chinese publisher produced book recommended on Chinese Government associated web-list "Foreign authors on China" ("外国人写中国计划").

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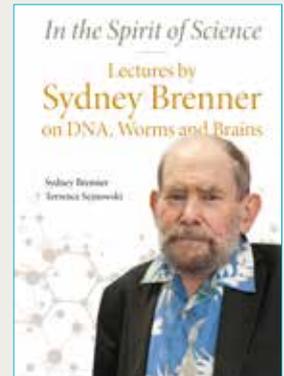
In the Spirit of Science: Lectures by Sydney Brenner on DNA, Worms and Brains

by **Sydney Brenner** (A*STAR, Singapore),
Terrence Sejnowski (Salk Institute for Biological Studies, USA)

Sydney Brenner has been at the centre of the development of molecular biology, being a key player in shaping the Laboratory for Molecular Biology in Cambridge into a cradle of research, where pioneering and seminal discoveries in the field for over half a century have resulted in more than half a dozen Nobel Prizes.

His memory is a treasure trove of the history of the field with innumerable anecdotes on other leading scientists in the past 60 years. These lectures trace the history and recount some of those anecdotes.

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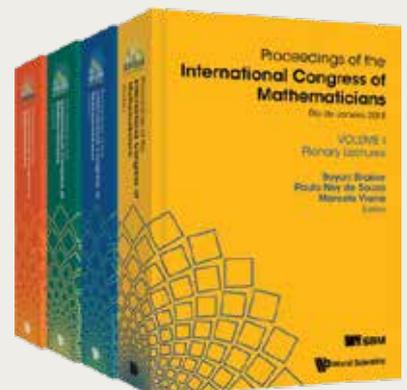
Proceedings of the International Congress of Mathematicians 2018 (ICM 2018) (In 4 Volumes)

International Congress of Mathematicians 2018;
Rio de Janeiro, Brazil, 1 – 9 August 2018

Edited by **Boyan Sirakov**
(Pontifical Catholic University of Rio de Janeiro, Brazil),
Paulo Ney de Souza (UC Berkeley),
Marcelo Viana (IMPA, Rio de Janeiro, Brazil)

The Proceedings of the ICM publishes the talks, by invited speakers, at the conference organized by the International Mathematical Union every 4 years. It covers several areas of mathematics, the Fields Medal and Nevanlinna, Gauss and Leelavati Prizes and the Chern Medal laudatios.

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Highlights in Physics

Topological Phase Transitions and New Developments

Edited by **Kok Khoo Phua** (NTU, Singapore), **Lars Brink** (Chalmers University of Technology, Sweden), **Mike Gunn** (University of Birmingham, UK), **Jorge V José** (Indiana University, USA), **John Michael Kosterlitz** (Brown)

In the past four decades, the discovery of topological phases engendered great interest in condensed matter physics. It also attracted the attention of researchers working on quantum information, quantum materials and simulations, high energy physics and string theory. This unique volume comprises articles which have been carefully curated by some of the most prominent names in the field, including Nobel Laureate John Michael Kosterlitz and Professor Jorge V José. They review previous works as well as addressing contemporary developments in the most pressing and important issues on various aspects of topological phases and topological phase transitions.



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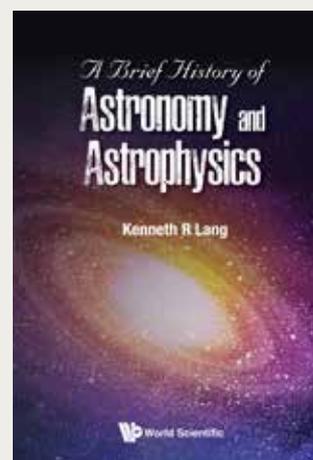
A Brief History of Astronomy and Astrophysics

by **Kenneth R Lang** (Tufts University, USA)

This book traces out the unfolding history of important discoveries in astronomy and astrophysics, and anchors our present understanding of the Universe within the findings and personalities of accomplished astronomers. They have used telescopes and instruments to extend our vision to places that cannot be seen with the unaided eye, discovered a host of unanticipated objects, found out how various parts of the night sky are related, and discovered that the Universe is larger, more complex, and older than has been previously thought. This comprehensive historical approach to the present state of astronomy is a unique aspect of the book.



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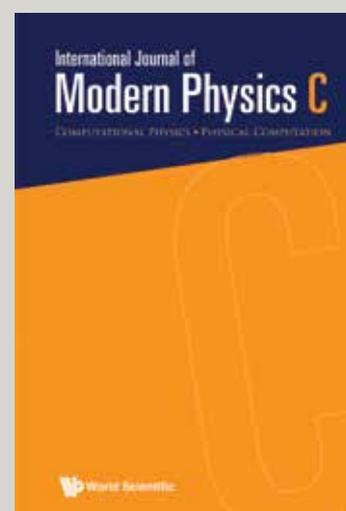


International Journal of Modern Physics C: NetSciX2018 Special Issue

World Scientific's *International Journal of Modern Physics C*'s Special Issue for the International Network Science Conference (NetSciX2018) brings together some of the cutting-edge research results presented at NetSciX 2018. The volume focuses on interdisciplinary research in the multidisciplinary fields of economics, biology and sociology, with the aim of re-inventing new networks. Theories and methods are applied in a wider range of fields to promote interdisciplinary communication and cooperation.



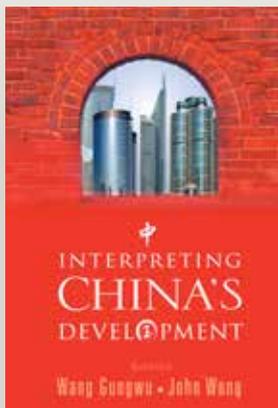
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Company News

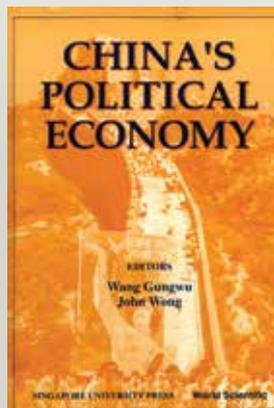
World Scientific remembers Prof John Wong Chiu Hon

World Scientific is saddened to hear of the passing of our author, Prof John Wong Chiu Hon, on 11 Jun 2018. The late Prof Wong was known for his passion and heart for China Studies and Singapore-China relations. He was a Professional Fellow at the East Asian Institute, National University of Singapore; an editorial board member of *East Asian Policy*, and *China: An International Journal*; and prolific author/co-author of many noteworthy books, such as *Interpreting China's Development*, *China's Emerging New Economy*, and *China's Political Economy*.



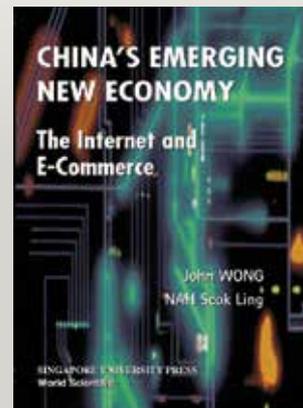
Interpreting China's Development

<https://www.worldscientific.com/worldscibooks/10.1142/6510>



China's Political Economy

<https://www.worldscientific.com/worldscibooks/10.1142/3751>



China's Emerging New Economy

<https://www.worldscientific.com/worldscibooks/10.1142/4588>



China: An International Journal

<https://www.worldscientific.com/worldscinet/cj>



East Asian Policy

<https://www.worldscientific.com/worldscinet/eap>



Book Events

To Celebrate Israel's 70th Anniversary: World Scientific launches "K-12 Mathematics Education in Israel: Issues and Innovations"



[Left to right] Book-editor, Prof. Nitsa Movshovitz-Hadar, presenting a copy of "K-12 Mathematics Education in Israel: Issues and Innovations" to Muhana Fares, Head of National Programs, and Nerit Katz, superintendent of high school mathematics, the Ministry of Education, Israel. PHOTO: Yoni Reif, BIU

The 13th volume of World Scientific Series on Mathematics Education: *K-12 mathematics education in Israel – Issues and Innovations* was launched on May 15, 2018, at Bar Ilan University (BIU), Israel. Government officers who attended the launch described the book as "one of the highlights of the celebration of the 70th anniversary of the foundation of the state of Israel".

Hosted by the special program for mathematically talented youth, the event was well-attended by distinguished representatives of the Israel mathematics and mathematics education communities as well as almost all 86 contributors of the book's 44 chapters.

K-12 Mathematics Education in Israel: Issues and Innovations provides the reader with a multifaceted picture of mathematics education in Israel. It gives an overview of a wide range of topics covering issues such as raising and maintaining motivation, search for excellence, treatment of difficulties, teacher education, language issues, minorities issues, curriculum changes over the first 70 years of the state of Israel, and many more. The book also covers aspects of research and practice into the teaching and learning of mathematics, innovation, developments, policy, achievements, and implementation with some international comparison.



For more information on the book, visit <https://www.worldscientific.com/worldscibooks/10.1142/10741>.

Three of World Scientific's titles debut at International Sustainability Events

From 8–12 July, three international sustainability events unfolded at Marina Bay Sands, Singapore: The World Cities Summit, Singapore International Water Week, and CleanEnviro Summit Singapore. Three new titles by World Scientific debuted at the co-occurring sustainability events that drew over 20,000 government and business leaders focused on making cities more liveable and sustainable.



Right: Print copies of "Nature, Place and People", "Saving Lakes" and "Water Is". Photo: World Scientific

NATURE, PLACE AND PEOPLE @ World Cities Summit



(Left to right) Prof Tan Puay Yok, Programme Director for Master of Landscape Architecture, National University of Singapore (NUS), Minister for National Development Lawrence Wong and Housing Development Board (HDB) CEO Dr Cheong Koon Hean at the launch of "Nature, Place & People". Photo: Housing & Development Board

10 July 2018: World Scientific's latest Urban Planning book *Nature, Place & People: Forging Connections through Neighbourhood Landscape Design* was launched at the World Cities Summit by HDB CEO, Dr Cheong Koon Hean, and Minister for National Development, Singapore, Mr Lawrence Wong.

The culmination of an interdisciplinary project, the book illustrates how the design of neighbourhood landscapes helps to deliver more benefits for urban dwellers and, at the same time, protect ecosystems that facilitate human well-being. As its title suggests, *Nature, Place & People* explains how the synergistic relationships between human well-being, quality of biophysical urban environment, and health of human-environment interactions fundamentally underpin urban sustainability. Most

of all, the book highlights the role of focusing on people in this endeavour.

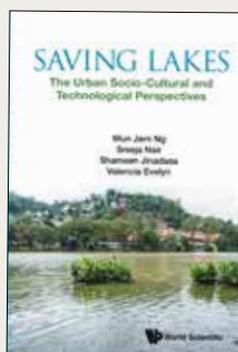
Said Prof Tan at the launch, "Because we believe [the results and benefits of] research should be accessible to a wide range of audience beyond the academia ... the e-version of this book has been published Open Access ... anyone anywhere in the world will be able to download the book for free in perpetuity."

Print copies of the book are available for purchase online and at major book stores. More information on the book as well as the Open Access PDF of the work (released under the CC-BY-NC ND license) can be found on <https://www.worldscientific.com/worldscibooks/10.1142/10879>



SAVING LAKES @ Singapore International Water Week 2018

Launched also on 10 July, at a side event at Singapore International Water Week 2018, *Saving Lakes: The Urban Socio-Cultural and Technological Perspectives* hopes to inspire communities around the world to restore and protect the water bodies in and around their cities, no matter their current state. The book traces the socio-cultural and technological dimensions at play for the protection and remediation of a tropical urban lake, and how these dimensions guide the design of need-based solutions. It explores design requirements based on the need for sensitivity to religious and cultural norms, social values and aesthetic requirements.



Prof Shane Snyder, NEWRI Executive Director, NEWRI, Nanyang Technological University (NTU) and (Right) Prof Ng Wun Jern, lead Professor of the Environmental Bio-innovations Group (EBiG) at NTU, Singapore at "NTU NEWRI-LEF Asia Network of Excellence in Water Development Work" at SIWW 2018. Photo: World Scientific

Saving Lakes is available on <https://www.worldscientific.com/worldscibooks/10.1142/11014>.

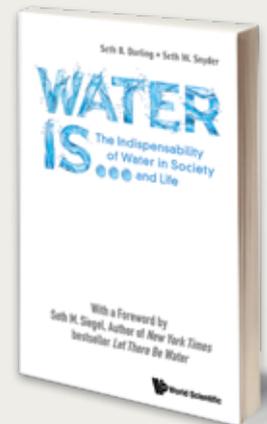


WATER IS @ Singapore International Water Week 2018

Co-authored by Dr Seth B Darling, Director of the Institute for Molecular Engineering at Argonne National Laboratory and Fellow of the Institute for Molecular Engineering at the University of Chicago, USA, and Dr Seth W Snyder, Director of Clean Energy and Transportation at Idaho National Laboratory and Adjunct Professor of Engineering at Northwestern University, USA, *Water Is: The Indispensability of Water in Society and Life* explores the ways-big and small-that water rules the world. It provides a holistic perspective on water, capturing the full breadth of the science, technology, policy, history, and future outlook for the most important substance on earth, written at a level accessible to non-experts in each of these areas.

Water Is walks the reader through diverse perspectives on water. From an exploration of the mysteries of water's properties on the molecular level, to its central role at biological and geological

scales; to its influence on the history of human civilization; to the complexities of water policy, privatization, and pricing in today's world; to the technology and innovation it inspired; to the daunting challenges dictated by increasing water stress and a changing climate; and finally, to the enticing opportunities to achieve a secure global water future.



More information on the authors and the book are available on <https://www.worldscientific.com/worldscibooks/10.1142/11018>



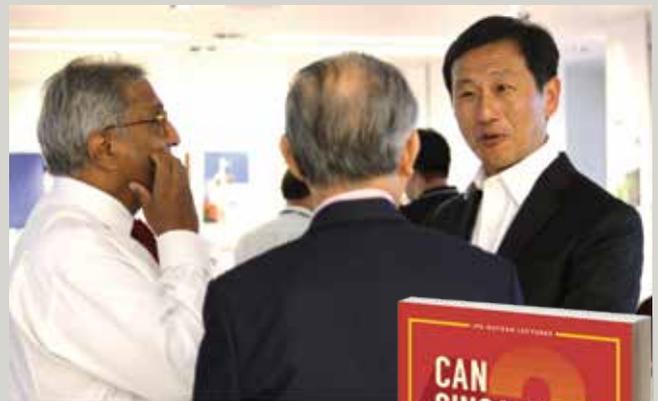
Lim Siong Guan: “Can Singapore fall? Of course, it can.”



On 11 July 2018, Minister for Education, Mr Ong Ye Kung, Institute of Policy Studies director Janadas Devan and Mr Lim Siong Guan launched the latest volume in the IPS-Nathan Lectures series, *Can Singapore Fall? Making the Future for Singapore*, at Lee Kuan Yew School of Public Policy, National University of Singapore.

Can Singapore Fall? is a compilation of three lectures Mr Lim delivered between September and November last year. The aim of the lectures and the new book was simply "to get Singaporeans to think", said Mr Lim at the launch. In the foreword of the volume, Mr Lim puts it this way, "[J]ust continuing on the path of yesterday is to guarantee a future that will not be so bright, possibly even a future that may not be there...While the theme of the lecture series is 'Can Singapore Fall?', one will soon realise that...when we ask the question in that way, the answer can only be, 'Of course, it can.' The real challenge is to find a way to think and act, so as to minimise the likelihood of Singapore falling."

The issues of succession, transition, sustainable and continual growth, and legacy, which the book and lectures addressed, are not unique to Singapore alone. They are concerns shared by governments of nations that have risen from the ashes of their history and that now need to worry about where their country will be in two to three generations.



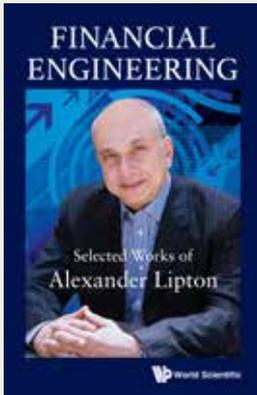
(Left to right) Institute of Policy Studies director Janadas Devan, Mr Lim Siong Guan, Advisor to the Group Executive Committee of GIC, Singapore, and Minister for Education, Mr Ong Ye Kung at the launch of "Can Singapore Fall? Making the Future for Singapore". Photo: World Scientific



More information on the book may be found on <https://www.worldscientific.com/worldscibooks/10.1142/10935>.



Book Reviews



Financial Engineering: Selected Works of Alexander Lipton

by **Alexander Lipton** (MIT Connection Science, USA)

"Alex Lipton, a great scholar and a very experienced practitioner, has put together an impressive book that commands respect by both its technical mastery and the breadth of topics it covers."

Bruno Dupire

Head of Quantitative Research, Bloomberg LP

"Written by one of the most knowledgeable quants of his time, this impressive collection of papers covers highlights of financial engineering in retrospective and perspective. A must-read for practitioners and academics who want to know more about the practically relevant aspects – and future directions – of quantitative finance."

Damir Filipović

Swissquote Chair in Quantitative Finance
Swiss Finance Institute Professor, Ecole Polytechnique Federale de Lausanne

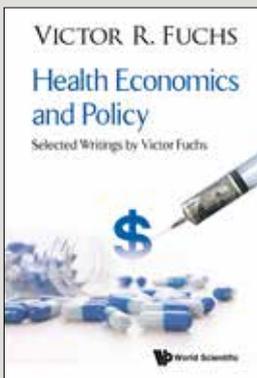
"This book is a must for those who want to be at the cutting edge in finance. The pieces contain not only classics, but current, ground-breaking work that is setting the future direction of financial engineering. A great contribution to the field by one of its leading thinkers."

Alex "Sandy" Pentland

Professor, Connection Science, Social Physics
Massachusetts Institute of Technology



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Health Economics and Policy: Selected Writings by Victor Fuchs

by **Victor R Fuchs** (Stanford)

"You have to be as old as I am to know how long Victor Fuchs has been the dean of health economics. No one knows more, or has thought as carefully about all matters relating to health care than Victor. He is a wise, caring and very funny man. Now more than ever, we need his wisdom, and here we have it in nice bite-sized digestible portions, just like the doctor would order. Read it and learn."

Richard Thaler

Professor of University of Chicago Graduate School of Business
Winner of Nobel Prize in Economics

"This book introduces a broad audience to economist Victor Fuchs' analytical skills, wisdom, and deep humanity. A must-read for every proponent of better health at affordable cost."

Richard Zeckhouse

Professor, Harvard University
Kennedy School of Government

"This book is a treasure trove of insights from the productive career of one of America's most thoughtful health analysts and clearest policy writers."

Alice Rivlin

Brooking Institution
Former Vice-Chair, Federal Reserve



<https://www.worldscientific.com/worldscibooks/10.1142/10786>