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## 50<sup>th</sup> Anniversary of 'The Limits to Growth' Seminar Series

Free hybrid (in-person + online) event | Zoom link to be provided after [registration](#)

**When:** every Monday from 31<sup>st</sup> October to 12<sup>th</sup> December 2022

**Where:** [David Attenborough Building](#), Pembroke St, Cambridge CB2 3QZ

[Please click here for the registration form \(needed both for in-person and online participation\)](#)

The year 2022 marked the 50th anniversary of the Club of Rome's landmark report, 'The Limits to Growth'. This report—first published on 2 March 1972—was the first to model our planet's interconnected systems and make clear that if growth trends in population, industrialization, resource use and pollution continued unchanged, we will reach and then overshoot the carrying capacity of the Earth at some point in first half of the 21<sup>st</sup> century. Some fifty years on, the call for a change in direction is more urgent than ever. The report's modelling was remarkably accurate and prescient as the world declares the climate emergency to be real and global ecosystems to be at breaking point. Fifty years offers an excellent opportunity to look back, and forward, at the trends it examined and listen to leading international thought leaders, scientists, and politicians on how we create a new critical framework for living and thriving within the limits on Planet Earth.

The 50<sup>th</sup> Anniversary of 'The Limits to Growth' Seminar Series, hosted by the [Centre for Environment, Energy and Natural Resource Governance \(CEENRG\)](#) and the [Conservation Research Institute](#) at the University of Cambridge in collaboration with [The Club of Rome](#), [Bennett Institute for Public Policy](#), and the [Global Sustainability Institute at Anglia Ruskin University](#), brings together six Club of Rome leaders and co-authors of three latest books on this topic, '[Limits and Beyond: 50 years on from The Limits to Growth, what did we learn and what's next?](#)' (May 2022) and '[Earth for All: A Survival Guide for Humanity](#)' (September 2022), '[Five Insights for Avoiding Global Collapse](#)' (October 2022) and a co-author of '[Resources, Financial Risks and the Dynamics of Growth](#)' (2020). For six out of seven seminars, the speaker will present remotely, preceded by introduction from Dr Roberto Pasqualino.

### Speakers

**31<sup>st</sup> October (16:30 to 18:00 UK time):** [Jørgen Randers](#) – Professor in Climate Strategy at BI Norwegian Business School & Co-Author of '[The Limits to Growth](#)', '[Earth for All](#)', '[Limits and Beyond](#)'

**7<sup>th</sup> November (16:30 to 18:00 UK time):** [Gaya Herrington](#) – Vice-President of ESG Research at Schneider Electric & Co-Author of '[Earth for All](#)' & '[Five Insights for Avoiding Global Collapse](#)'

**14<sup>th</sup> November (16:30 to 18:00 UK time):** [Julia Kim](#) – Program Director for the Gross National Happiness (GNH) Centre Bhutan & Co-Author of '[Limits and Beyond](#)'

**21<sup>st</sup> November (16:30 to 18:00 UK time):** [Ugo Bardi](#) – Professor at the University of Florence & Co-Author of '[Limits and Beyond](#)'

**28<sup>th</sup> November (11:30 to 13:00 UK time):** [Mamphela Ramphele](#) – Co-President of the Club of Rome & Co-Author of '[Limits and Beyond](#)'

**5<sup>th</sup> December (16:30 to 18:00 UK time):** [Roberto Pasqualino](#) – C-EENRG Fellow, Uni. of Cambridge & Co-Author of '[Resources, Financial Risk and the Dynamics of Growth: Systems and Global Society](#)'

**12<sup>th</sup> December (16:30 to 18:00 London time):** [Jayati Ghosh](#) – Professor at the Centre for Economic Studies and Planning at the Jawaharlal Nehru University in New Delhi & Co-Author of '[Earth for All](#)'

For further info, please contact Dr Roberto Pasqualino at [rp747@cam.ac.uk](mailto:rp747@cam.ac.uk) or visit the [website](#)

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## Jørgen Randers

*Professor Emeritus, Climate Strategy,  
BI Norwegian Business School | Co-Author  
of 'The Limits to Growth', 'Earth for All',  
'Limits and Beyond'*

### **Title of Seminar**

*From "The Limits to Growth" to "Earth for All" – the long global perspective*

**When:** 31<sup>st</sup> October 2022 – 16:30 to 18:00  
UK Time

**Where:** Main Seminar Room  
[David Attenborough Building](#)  
Pembroke St, Cambridge CB2 3QZ



Online presenter

[Please click here for the registration form \(needed both for in-person and online participation\)](#)

### **Abstract**

50 years ago, 'The Limits to Growth' study warned about the risk of physical overshoot and global collapse. Since then, there has been continued physical growth into a physical overshoot which is most obvious in the climate sector. But there has not yet been global collapse from environmental reasons. The new 'Earth for All' study warns that unless the world implements 5 extraordinary turnarounds, there will be continuing decline in human wellbeing over the next 50 years because of rising warming and inequality, and local social collapse (societal breakdown) in vulnerable nations.

### **Biography**

Jorgen Randers (born 1945) is Professor Emeritus of Climate Strategy at the BI Norwegian Business School. He has always worked on issues of the future, especially related to sustainability, climate, and energy. Professor Randers lectures and provides advice all over the world, and increasingly in China. He has spent one third of his life in academia, one third in business, and one third in the NGO world. He was president of BI Norwegian Business School 1981-89, and Deputy Director general of WWF International 1994-99. He has been the chair of three Norwegian banks, non-executive member of numerous corporate boards, and member of the sustainability councils of three multi-nationals. He is a full member of the Club of Rome and is the founding chair of the China Association for the Club of Rome. Professor Randers has written many papers and books, starting with co-authoring 'The Limits to Growth' in 1972. His recent writings include '2052 – A Global Forecast for the Next Forty Years' in 2012, 'Reinventing Prosperity' with Graeme Maxton in 2016, and 'Transformation is feasible!' with Johan Rockstrøm and others in 2018. His most recent book is 'Earth for All' (S Dixon-Decleve et al. 2022).

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## Gaya Herrington

*Vice-President of ESG Research at Schneider Electric, Member of The Club of Rome's Transformational Economics Commission | Co-Author of 'Earth for All' & 'Five Insights for Avoiding Global Collapse'*

### **Title of Seminar**

*I did a data comparison on the world model that predicted collapse. Here's what I found.*

**When:** 7<sup>th</sup> November 2022 – 16:30 to 18:00  
UK time

**Where:** Manatee Room (1.41)  
[David Attenborough Building](#)  
Pembroke St, Cambridge CB2 3QZ



Online presenter

[Please click here for the registration form \(needed both for in-person and online participation\)](#)

### **Abstract**

In the bestselling 1972 book 'The Limits to Growth', the authors concluded that continuing the business-as-usual growth pursuit would lead to collapse in the 21st century, with the decline setting in about now. They based these conclusions, among other things, on the first dynamic systems model of the world. Gaya Herrington conducted an empirical data comparison on some of this model's scenarios, including the 'business as usual' one. She will discuss her methods, findings, and most importantly, conclude what the 50-year-old model teaches us today about a way forward.

### **Biography**

Gaya Herrington is Vice President of ESG Research at Schneider Electric and Member of The Club of Rome's Transformational Economics Commission. She is a published author and regular speaker on how global environmental, social, behavioural and economic trends interact. Gaya's previous positions include sustainability consultant, Dutch Representative in international financial regulatory bodies, and Head of a non-profit for sustainable economics. She holds a Master's degree in Econometrics from the Liberal University of Amsterdam, and another Master in Sustainability from Harvard University. She has published an article in Yale's Journal of Industrial Ecology and a book about The Limits to Growth publications.

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## Julia Kim

*Program Director for the Gross National Happiness (GNH) Centre Bhutan |  
Co-Author of 'Limits and Beyond'*

### **Title of Seminar**

*Beyond GDP, Beyond Numbers: Bhutan's Journey Towards Gross National Happiness*

**When:** 14<sup>th</sup> November 2022 – 16:30 to 18:00 UK time

**Where:** Manatee Room (1.41)

[David Attenborough Building](#)

Pembroke St, Cambridge CB2 3QZ



Online presenter

[Please click here for the registration form \(needed both for in-person and online participation\)](#)

### **Abstract**

At a time of unprecedented social, economic, and environmental crisis many leaders are starting to question our current measures of growth and prosperity. Why is it that in many cases, chasing GDP growth has not translated into greater happiness and wellbeing? During this seminar, Dr. Kim will share emerging lessons from Bhutan's national-level experiment of Gross National Happiness. Drawing on the latest scientific research on wellbeing (including neuroscience, epidemiology and economics), we will explore how wellbeing economics are starting to be applied internationally, across a wide range of sectors and scales. As the recent publication, 'Limits and Beyond' notes - far from being a "luxury" or "trade-off", the goal of human flourishing is profoundly connected to our ability to make the leap from our current economy of consumption, towards one of planetary wellbeing.

### **Biography**

Dr. Julia Kim is the Program Director for the Gross National Happiness (GNH) Centre Bhutan. She joined the GNH Centre in 2013, after serving as a member of the International Expert Working Group for a New Development Paradigm convened by the Royal Government of Bhutan. Through local and international partnerships, the GNH Centre leads initiatives that promote a more flourishing, equitable and sustainable world – based on New Economics principles, alternative progress measures, the growing science of wellbeing, and sustainable development. Prior to living in Bhutan, Julia worked as a physician and HIV researcher in Africa and Asia, before serving with the United Nations (UNDP and UNICEF) in New York. She brings a background in programs, policy, and research in the fields of global health and sustainable development, and is an associate of the Presencing Institute – a global network that views the integration of compassion and mindfulness-based practices as a core capacity of 21st-century innovation and leadership. Julia holds degrees from the University of Manitoba, Cornell University, Tufts University, and the London School of Hygiene and Tropical Medicine.

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## Ugo Bardi

*Professor at the University of Florence &  
Co-Author of 'Limits and Beyond'*

### **Title of Seminar**

*The Limits to Growth 50 years later. The  
role of models in studying the future*

**When:** 21<sup>st</sup> November 2022 – 16:30 to  
18:00 UK time

**Where:** Manatee Room (1.41)  
[David Attenborough Building](#)  
Pembroke St, Cambridge CB2 3QZ



Online presenter

[Please click here for the registration form \(needed both for in-person and online participation\)](#)

### **Abstract**

50 years after the publication of the seminal report to the Club of Rome “The Limits to Growth” (1972) it is possible to reassess the role of models as tools to examine the future and, within some limits, predict it. It has been said that “all models are wrong, but some are useful.” It is true, but what does it mean in practice, especially facing an incredible proliferation of models in all fields of science? To understand this subject, I am discussing some of the best known, and most common, models, starting from “world modeling” (the subject of the “Limits to Growth” study, to move to climate models, ecosystem models, and other kind of model. The complexity of the subject is nothing less than bewildering, but it is possible to discern some trends, and produce some recommendations. Often, simpler models turn out to have a better record as predicting tools than complex ones. The case of “The Limits to Growth” is an illustration of this point: although it was a very simple model compared to the current standards, its basic scenario turned out to be able to describe the trajectory of the world system up to now.

### **Biography**

Prof. Ugo Bardi is the author of a number of books and articles on the subject of mineral resources and their depletion, among which the 33rd report to the Club of Rome titled “Extracted” (2014) and “The Limits to Growth Revisited” (2011) and the recent “Limits and Beyond” (2022). He is also a member of the Club of Rome and a former faculty member at the University of Florence. Ugo’s work focuses on promoting a sustainable transition to renewable energy on the basis of a quantitative energy yield analysis. In his blog “The Seneca effect” ([www.senecaeffect.com](http://www.senecaeffect.com)) he examines among other things the “Seneca Effect”, a biophysical interpretation of the collapse of complex systems. Ugo lives in Florence (IT) with his wife Grazia.

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## Mamphela Ramphela

*Co-President of the Club of Rome since 2018 & Co-Author of 'Limits and Beyond'*

### **Title of Seminar**

*Limits to Growth or Limits and Beyond?*

**When:** 28<sup>th</sup> November 2022 – 11:30 to 13:00 UK time

**Where:** Weston Seminar Room (2.49)  
[David Attenborough Building](#)  
Pembroke St, Cambridge CB2 3QZ



Online presenter

[Please click here for the registration from \(needed both for in-person and online participation\)](#)

### **Abstract**

The planetary emergencies upon us requires nothing less than heeding the consistent messages of the 'Limits to Growth' and 'Limits and Beyond' - humanity must shift its mindset from me, myself and I to recognition that to be human is to be relational and inextricably interconnected and interdependent within the web of life. 'Limits and Beyond' focusses on addressing the gaps in the 'Limits to Growth' due to the neglect of key factors: socio-cultural and governance. Human beings are not 'homo economicus' but relational, cultural and spiritual beings. The failure to address these relational factors robs us of the opportunities to promote conversations that are essential to developing empathy and shared goals that are fundamental to the governance of the Commons. Emergence from the multiple emergencies upon us requires nothing less than learning a new how to be human, and harvest the lessons of COVID that what matters in life is life itself - this is what the Club of Rome 5th Element work is about.

### **Biography**

Dr. Mamphela Ramphela is Co-President of the Club of Rome since 2018. She has been a student activist, medical doctor, community development activist, researcher, university executive, global public servant and is now an active citizen, she was a founding trustee of the Nelson Mandela Foundation and is Chair of the Desmond Tutu IP Trust. Previously, Dr Ramphela was Vice-Chancellor of UCT, one of four Managing Directors of the World Bank in Washington, DC and Leader of Agang SA, a party for all South Africans which won two seats in the national elections in 2014. She was also Chairperson of Gold Fields, Circle Capital Ventures (Pty) Limited, Technology Innovation Agency (TIA) and Director of Medi-Clinic Corporation Limited and Remgro Limited and founder of the Open Society Foundation for South Africa and the Citizens Movement. Dr. Ramphela authored several books and publications on socio-economic issues in South Africa. She has received numerous awards for her work for disadvantaged people in South Africa and elsewhere.

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## Roberto Pasqualino

*C-EENRG Fellow, University of Cambridge  
& Co-Author of 'Resources, Financial Risk  
and the Dynamics of Growth: Systems and  
Global Society'*

### **Title of Seminar**

*From World3 to modelling financial  
implications of global energy crisis*

**When:** 5<sup>th</sup> December 2022 – 16:30 to 18:00  
UK time

**Where:** Manatee Room (1.41)  
[David Attenborough Building](#)  
Pembroke St, Cambridge CB2 3QZ



In-person presenter

[Please click here for the registration form \(needed both for in-person and online participation\)](#)

### **Abstract**

'The Limits to Growth' pioneered the understanding that exponential growth could eventually lead to overshoot of the planetary boundaries no later than by mid-21<sup>st</sup> century. However, criticisms to the study included the lack the dynamics linked with the financial sector. Building on the World3 Limits to Growth model, Dr Pasqualino developed the Economic Risk Resources and Environment model, which objective was to include financial variables (e.g., resource prices, interest rates, debt, and others) and closed feedbacks with the limits proposed by the World3. The study confirms the results proposed by 'The Limits to Growth' and extends it with new insights relative to the dynamics of resource prices, employment, and general economic downturn using scenario analysis.

### **Biography**

Dr Roberto Pasqualino is a C-EENRG Fellow and a Research Associate in the Department of Land Economy, University of Cambridge, working on the science-policy interface to support systems transformation towards a more just and sustainable society. Dr Pasqualino interdisciplinary background combines extensive training in complexity science, finance, mathematics, computer sciences, dynamic systems modelling, economics and public policy. At C-EENRG, he is working in the £3m BEIS- and ClFF-funded Economics of Energy Innovation Systems Transition (EEIST) research project. Dr Pasqualino is a lead author of the book 'Resources, Financial Risk and the Dynamics of Growth: Systems and Global Society' (Routledge, 2020) and a co-author of the book 'Corporate Sustainability in Practice' (Springer, 2021).

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## Jayati Ghosh

*Professor at the Centre for Economic Studies and Planning at the Jawaharlal Nehru University in New Delhi*

### **Title of Seminar**

*A just green transformation for the developing world: What Earth4All means for most of the world's people*

**When:** 12<sup>th</sup> December 2022 – 16:30 to 18:00 UK time

**Where:** Manatee Room (1.41)  
[David Attenborough Building](#)  
Pembroke St, Cambridge CB2 3QZ



Online presenter

[Please click here for the registration form \(needed both for in-person and online participation\)](#)

### **Abstract**

The world has no choice but to move towards a greener economy with minimal carbon emissions and less exploitation of nature. But moving towards that must avoid accentuating the inequalities that have been responsible for bringing us to the verge of planetary destruction, and must ensure that people in low and middle income countries do not bear the double burdens of climate change and the costs of the green transition. Reducing inequality is key to a just transition, and I will outline how it can be done.

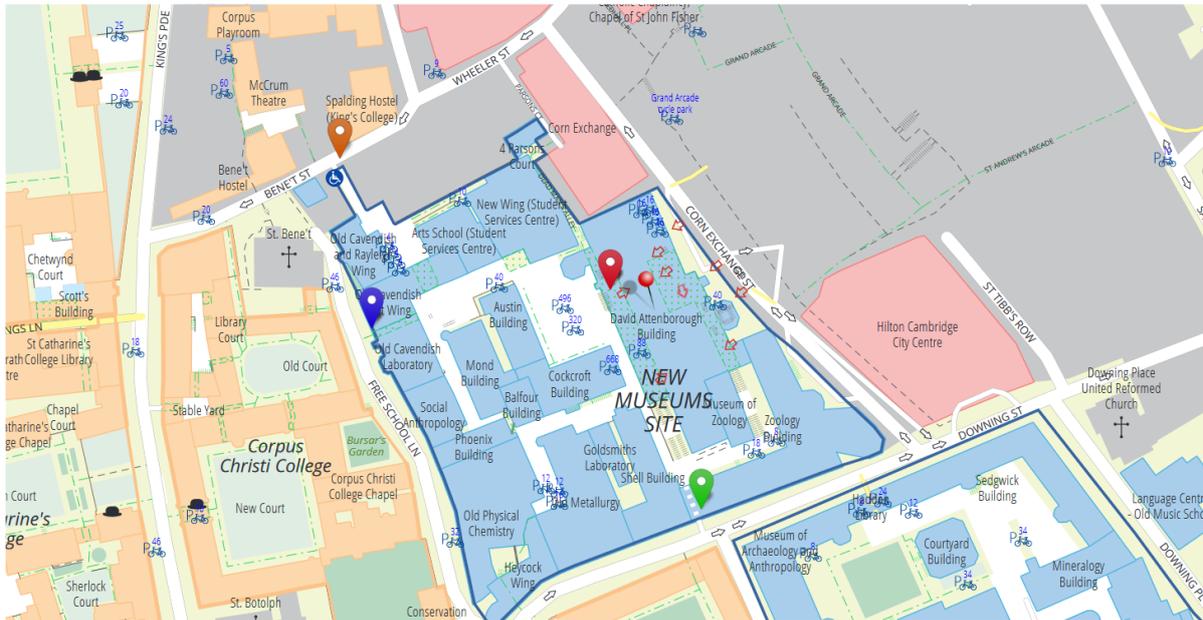
### **Biography**

Jayati Ghosh taught economics at Jawaharlal Nehru University, New Delhi for nearly 35 years, and since January 2021 is Professor of Economics at the University of Massachusetts Amherst, USA. She has authored and/or edited 20 books and more than 200 scholarly articles. Recent books include the co-authored book 'Earth For All: A survival guide for humanity'; 'The making of a catastrophe: Covid-19 and the Indian economy', Aleph Books 2022; 'When governments fail: Covid-19 and the economy', Tulika Books and Columbia University Press 2021 (co-edited); and 'Women workers in the informal economy', Routledge 2021 (edited). She has advised governments in India and other countries, including as Chairperson of the Andhra Pradesh Commission on Farmers' Welfare in 2004, and Member of the National Knowledge Commission of India (2005-09). She is currently a Member of the UN Advisory Board on Economic and Social Affairs, the WHO Council on the Economics of Health for All and the UN Secretary General's High-Level Advisory Board on Effective Multilateralism, mandated to provide a vision for international cooperation to deal with current and future challenges.

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## Map of New Museums Site and Entrance to the David Attenborough Building



Entrance to the David Attenborough Building (Reception)

Entrances to the New Museum Site