

European Academy of Sciences & Arts
German-Japanese Society of Integrative Science

Complexity & Integration
in Nature and Society

March 1st, 2019
Juridische Fakultät der Universität Salzburg
Churfürststraße 1
Hörsaal 206
5020 Salzburg

At the occasion of the annual festive session in Salzburg 2019, the European Academy of Sciences and Arts organizes a common symposium with the German-Japanese Society of Integrative Science. According to the famous slogan of Leibniz „Unity in Diversity“, the German-Japanese Society tried to integrate different scientific, cultural and religious traditions and approaches in Japan and Germany since many years. But „Unity in Diversity“ is a world-wide challenge, especially for Europe. Therefore, members of both societies suggested to organize a common symposium on „Complexity & Integration in Nature and Society“. The European Academy of Sciences and Arts invites their members of different classes to take part and contribute to the common symposium.

From a scientific point of view, complex dynamical systems are well-known interdisciplinary methods of modeling in the physical, biological, and ecological sciences. Therefore, complexity research brings together scientists of different fields to learn from one another and to solve different problems. In the life sciences and medicine, climate, environment, populations, and organisms are examples of highly complex systems which need interdisciplinary research. Without any doubt, our political, legal, and economic world is driven by increasing diversity and complexity. We need integration by corporate and public governance. Can digitalization solve the problem of integration with a world-wide technological infrastructure? At this point, humanities and philosophy come in to ask for ethical standards of integration. Last but not least, the demand for „Unity in Diversity“ has deep roots in the world religions.

Under this scope, the symposium will consider our topic in the following sections:

- Complex systems in physical, environmental, and life sciences
- Complex systems in medicine and psychology
- Complexity & integration in technical, economic, and social sciences
- Complexity & integration in humanities and world religions

The talks of academy members should take 15 minutes (incl. questions and discussion). It is a main target of the symposium to support interdisciplinary discussion between the different classes of our academy. Therefore, the speakers are asked to restrict their talks to short explanations and theses, in order to have time for discussion. The symposium will take place on Friday 1st March 2019.

FRIDAY 1st MARCH 2019

8:00-8:10 Opening and greetings by the President of EASC Felix Unger

Introduction

8:10-8:30 Klaus Mainzer: *Complexity and Integration in Nature and Society*

Complex Systems in Physical, Environmental, and Life Sciences

8:30-8:45 Giulio Casati: *What is Chaos that we should be mindful of it?*

8:45-9:00 Marko Robnik: *Complex Behaviour in Classical and Quantum Chaos*

9:00-9:15 Arturo Carsetti: *Complexity, Self-organization and Morphogenesis in Life Sciences*

9:15-9:30 Juan Perez-Mercader: *Biologically Inspired Chemically Operated Synthetic Systems (BICHOSS): building complexity in the laboratory from simple parts*

9:30-9:45 Marc Thorsten Hütt: *Understanding biological complexity – the value of Systems Biology*

9:45-10:00 Edmond Nasi Pinguli/ Nasho Edmond Pinguli: *Climate Change and Global Warming. Water Scarcity in the World and in Albania*

10:00-10:15 Hans-Martin Sass: *Biocomplexity, Bioethics and Integration*

10:15-10:30 COFFEE BREAK

Complex Systems in Medicine and Psychology

10:30-10:45 Simon John Simonian: *Complexity in Medicine and Psychology*

10:45-11:00 Zoran Kovacevic: *Cancer as Paradigm of Complex Diseases*

11:00-11:15 Marjan Slak Rupnik: *Complex Systems in Diabetes*

11:15-11:30 Patriciu Achimas-Cadariu: *Complex Systems in Oncology: A Case for Ovarian Cancer*

11:30-11:45 Günter Schiepek: *Complexity and Integration in Psychological Medicine*

11:45-12:00 Ernst Pöppel: *Time Windows for Complexity Reduction in Neural Information Processing*

12:-12:15 Yan BAO: *Complexity Reduction in Visual Information Processing with*

Different Attention Mechanisms

12:15- 13:15 LUNCH BREAK

13:15-13:30 Uwe an der Heiden: *The Complex Integrative Function of Human Memory from a Psychoneurological Perspective*

13:30-13:45 Viktor Jirsa: *Translational Neuroscience: from bifurcations to personalized medicine*

13:45-14:00 Türker Kiliç: *What Brain Research has taught us about what Life is*

Complexity & Integration in Technical, Economic, and Social Sciences

14:00-14:15 Gudar Beqiraj/ Neki Frasheri: *Internet Complexity and Social Integration*

14:15-14:30 Mihail C. Roco: *Principles of Convergence in Nature and Society: with Illustration to Converging Technologies*

14:30-14:45 Markus C. Müller: *Complexity and Divergent Economic Policy Preferences – Can Governments anticipate and engineer Optimal Solutions to Popular Demands?*

14:45-15:00 Hans G. Danielmeyer: *Complexity and Integration – Understanding the Industrial Society with Quantitative Forecasting Quality*

15:00-15:15 Mirsad Hadzikadic: *A Complex System Model of an Identity-based Conflict in Developing Nations*

15:15-16:00 Thomas Reuter: *The Principle of ‘Unity in Diversity’ as a Measured Response to Resurgent Nationalism: Valuing Local Diversity as well as Global Citizenship is not a Contradiction*

16:00-16:15 COFFEE BREAK

Complexity & Integration in Humanities and World Religions

16:15-16:30 Michael von Brück: *Complexity and Integration of/in Religion, Ecology, and Ethics*

16:30-16:45 Annette Noller: *Intercultural Complexity and Integration of Ethics*

16:45-17:00 Hans-Ferdinand Angel: *Credition - The Believing Process as a Highly*

Complex Phenomenon

17:00-17:15 Harald Holz: *Complexity and Integration in the History of Ideas. Example: Origin of Christian Dogmatics*

17:15-17:30 Yutaka Tanaka: *Clash of Civilizations and Ways of Religious Coexistence: Christianity and Japan after the Meiji Restoration.*

17:30-17:45 Archbishop Machado: *The Cared Earth is the Common Home for the Family which is the Basic Cell of Society: a Catholic Perspective*

17:45-18:00 Abbot Takeuchi: *Wholeness and Variety in Buddhist Perspective*

18:00 DISCUSSION

18:30 Closing

Scientific Organization

Univ.-Prof. em. Dr. Klaus Mainzer (Soc. Acad.)
TUM Emeritus of Excellence
TUM Graduate School of Computer Science
Technische Universität München (TUM)

Organisation/Registration

European Academy of Sciences and Arts
St. Peter Bezirk 10
A-5020 Salzburg
Tel.: +43 662 841345
Fax: +43 662 841343
E-Mail: office@euro-acad.eu