

Multiplicity of time scales. Challenges in sciences and communication
RUC-Circles Initiative, Start-up Meeting, Friday October 4, 2019, 9.00-14.00
RUC, Building 27.2, Room 5, "The Glass and time lecture room"

INVITATION

Dear colleagues and friends,

The multidisciplinary initiative “*Multiplicity of time scales. Challenges in sciences and communication*” originated from discussions about climate change hazards. We are not climate change modellers. However, we are convinced that transforming for sustainability and mitigating climate change will depend decisively on the broad support of an informed public. From our own research fields we know that the multiplicity of time-scales and the structural instability of many complex systems often is difficult to grasp scientifically and always difficult to communicate convincingly to the public.

With this call for a start-up meeting on October 4, 2019, we seek to connect researchers within the Natural Sciences and the Humanities. The goals are to (i) understand the universal emergence of multiplicity of time scales in a broad sense, i. e. in climate, matter, life, economy, and politics; (ii) compare the various approaches of detecting multiple time scales in empirical evidence (e.g., filtering characteristic time lengths out of clouds of data); (iii) analyze failures in modelling and communicating dynamic phenomena and control tasks due to underestimation of differences between characteristic time scales.

The task of the start-up meeting shall be a first exchange of views about the listed topics as seen from different fields of sciences and the humanities and an open brainstorming about arranging an international 2-days conference, presumably in May 2020. The goal of that conference should be a comprehensive review of multiscale modelling and the treatment of structurally unstable systems in various fields and of experiences made when communicating related risks to the public.

Preliminary program / time frame of the Start-up Meeting, October 4

9:00-9:30, Welcome, presentation [coffee, tea, croissants]

9:30-11:15, Session I – four specific views on multiplicity of time scales

- Eigil Kaas, KU, Niels-Bohr Institute, *A personal view on climate change modelling*
- Ulf Rørbæk Pedersen, RUC, INM, IMFUFA, *Multiple time scales in simulating viscous liquids and stunning parallels in climate modelling, biomedicine and economy*
- Oluf Danielsen / Pernille Almlund, RUC, IKH, *Klimanyhedernes svingninger på kortere og længere sigte*
- Jakob Feldt / Stefan Gaarsmand Jacobsen, RUC, IKH, *Historical evidence of the role of time lags in decision making*

11:15-11:30, Break [fruits, coffee, water]

11:30-12:30 Session II on *Shared Research Interests and Planning of International Conference* (for May 2020)

12:30-13:15 Break [lunch]

13:15-14:00 Session III -- Planning of International Conference (for May 2020), continued

Participation is free, but we would be grateful for a notice of your participation in advance.

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