MAX PLANCK GESELLSCHAFT

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Chimera States: From Theory and Experiments to Technology and Living Systems

Max Planck Institute for the Physics of Complex Systems

International Workshop
16 - 20 May 2022

One of the pillars of modern physics is the concept of symmetries. Spontaneously breaking such symmetries gives rise to non-trivial phenomena and can explain why particles have mass.
Chimera states – characterized by the coexistence of localized synchronized and unsynchronized dynamics – are a novel example. Yet, experimental realizations remain scarce and the relevance of the phenomenon in technology and in nature remains to be established.

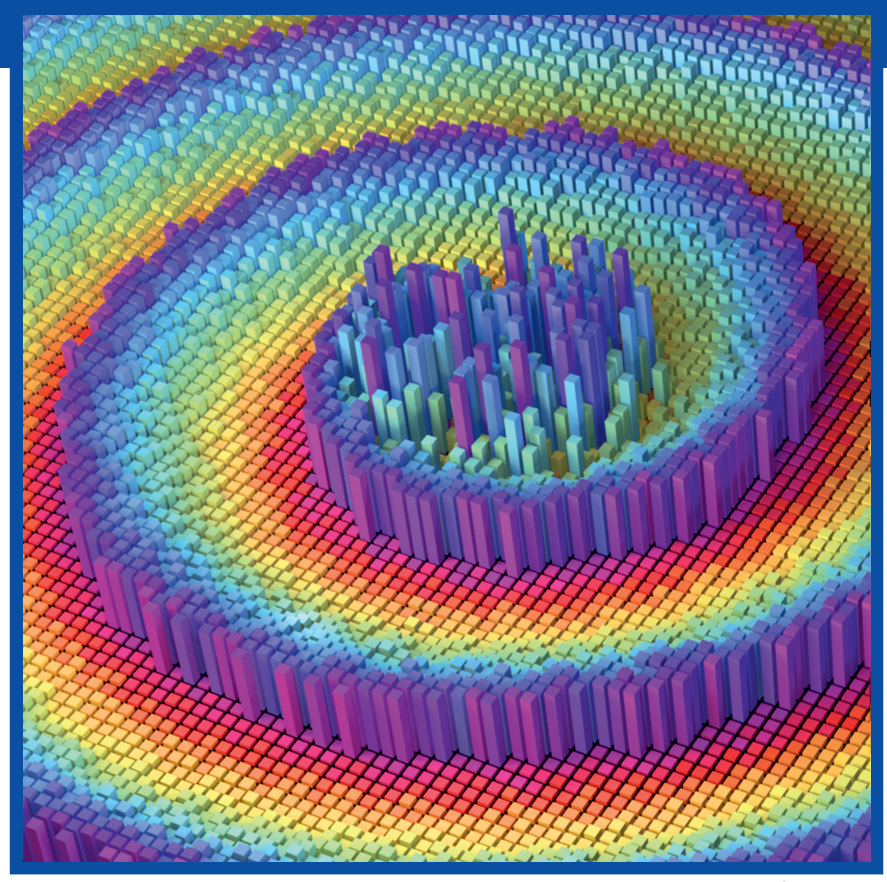

Image by Jan Totz

Key questions:

- Do chimera states control biological and/or cognitive functions?
- Do chimera states play any significant role in natural biochemical mechanisms?
- In which natural and experimental systems does an effective nonlocal coupling naturally arise?
- Do chimera states exist all the way down to the quantum scale?
- What technological advantages do chimera states offer?
- Which experimental systems are most promising to study chimera states in three dimensions?
- How can we establish the existence of chimera states in continuum systems experimentally?

Invited speakers:
K. Bansal (US)
V. M. Bastidas (JP)
C. Bruder (CH)
H. Engel (DE)
D. Ghosh (IN)
F. Hellmann (DE)
T. Kapitaniak (PL)
I. Kiss (US)
E. Knobloch (US)
H. Koeppl (DE)
K. Krischer (DE)
Y. Lai (US)
C. Laing (NZ)
H. Lau (HK)
E. A. Martens (DK)
S. Olmi (IT)
A. Pikovsky (DE)
R. Roy (US)
E. Schöll (DE)
J. Totz (US)
G. Tsironis (GR)
A. Zakharova (DE)

Scientific coordinators:
Jörn Davidsen
Calgary, Canada

Yuri Maistrenko
Kyiv, Ukraine

Kenneth Showalter
Morgantown, USA

Organisation:
Maria Voigt
MPIPKS Dresden

We plan for a **hybrid workshop** with a number of participants on-site and the others connected remotely. Online attendance will be possible in any case.

For on-site participation the registration fee is 140 Euro; costs for accommodation and meals will be covered by the Max Planck Institute. Limited funding is available to partially cover travel expenses.

No fee for remote participation.

For further information please contact:
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We also offer individual fellowships (phd, postdoc, sabbatical). Applications are accepted continuously. For details, please check www.pks.mpg.de/visitors