

Nonlinear Localization in Lattices

18-22 JUNE 2018

Anargyreiou and Korgialeneios
School of Spetses

HOME

COMMITTEE

REGISTRATION

CONTACT



+ INVITED SPEAKERS

+ PROGRAMME

+ PARALLEL SESSIONS

+ INFORMATION

+ TRAVEL

+ SPONSORSHIP

+ LINKS

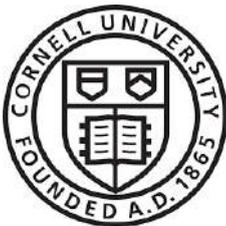


Mo	Tu	We	Th	Fr	Sa	Su
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

June 2018

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Nonlinear Localization in Lattices

18-22/06/2018

The International Conference on Nonlinear Localization in Lattices – NLL 2018, comprises a 5-day Conference (June 18–22, 2018) taking place at the island of Spetses, Greece.

Organized by QCN (Advanced Physics Lab - Center for Quantum Complexity and Nanotechnology, Physics Department, University of Crete) and Labyrinth Technologies IKE (a University of Crete spin-off company), the “NLL 2018” is hosted at the premises of the Anargyreiou and Korgialeneios School of Spetses.

The Conference will provide a unique thematic forum to share the latest results of nonlinear localization in lattices research in Europe and worldwide. It will bring together the physics, material science, and engineering communities working on nonlinear phenomena in extended systems. The conference marks the thirty year anniversary of the pioneering paper of Al Sievers and Shozo Takeno that directed the attention of the nonlinear community to intrinsic localized modes in lattice systems. This opportunity will enable us to look into the thirty year history of the topic, present contemporary work and look towards the future. Topics to be addressed in the conference include fundamental theory and mathematics of nonlinear localization, statistical and dynamical properties of localization in lattices, thermalization and Fermi-Pasta-Ulam relaxation, discrete breathers in condensed matter, biological physics and materials science, applications in optics and metamaterials, quantum breathers, nonlinearity and disorder, many-body effects and other relevant subjects. Additional topics that will be covered in the conference include Non-Hermitian Wave Physics, an area of intense current theoretical, technological as well as practical interest with multiple applications in optical physics and condensed matter physics. We will attempt to present the more recent results in non-Hermitian physics, PT-symmetric Photonics and look into the future.

Finally, since multiple applications from data science and machine learning are finding their way into physics and materials science, we will also have some representation of this area with the hope to be able to interface it with nonlinear as well as non-Hermitian physics. These topics will be included in the main body of the conference as well as through more specialized parallel session.

Nonlocal solitary waves in a model for a layered silicate

**Juan FR Archilla, Group of Nonlinear Physics,
Universidad de Sevilla, Spain**

Experiments in mica muscovita:

F. Michael Russell, Universidad de Sevilla, Spain

Formerly: head of the High Energy Group at RAL, UK

Nonlocal breathers

Yusuke Doi , Osaka University, Japan

Masayuki Kimura, Kyoto University, Japan

Kinks and non local kinks:

Yaroslav Zolotaryuk, BITP, Kiev, Ukraine

Yuriy A Kosevich, Semenov ITP of RAS, Moscow, Russia

**Víctor Sánchez-Morcillo, Lluís García-Raffi and Noé Jiménez,
Universidad Politécnica de Valencia**

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