



Ben-Gurion University of the Negev  
The Jacob Blaustein Institutes for Desert Research

International Research Workshop of the Israel Science Foundation on

# Advances in Pattern Formation: New Questions Motivated by Applications

Celebrating Ehud Meron's 65<sup>th</sup> birthday

February 18-21 (2019), Sede Boqer campus of  
Ben-Gurion University of the Negev, Midreshet Ben-Gurion, Israel

The workshop aims to address cutting-edge advances and future prospects in a wide range of research fields where pattern formation phenomena play or are expected to play essential roles, such as:

- **Inanimate matter:** nematic elastomers, electrolytes, fluid dynamics, elasticity and buckling, granular media, wetting and thin films, spintronic nanowires
- **Systems biology:** Bacteria, cancer, hearing, cellular networks, actin oscillations and waves, somitogenesis, morphogenesis
- **Ecology:** Vegetation patterns and fronts, desertification, early-warning signals, restoration, biodiversity, vegetation-climate interactions
- **Analytical and numerical methods:** Bifurcation theory, localized states, nonlinear waves and fronts, dynamics near fast-slow manifolds, synchronization, gradient flow, stochasticity and fluctuations, numerical continuation

## Organizing Committee:

Arik Yochelis, Ben-Gurion University of the Negev, chair  
Erez Gilad, Ben-Gurion University of the Negev  
Ehud Meron, Ben-Gurion University of the Negev  
Yair Mau, Hebrew University  
Hannes Uecker, University Oldenburg  
Arjen Doelman, Leiden University

## Workshop administrator:

Lilian Naaman, lilianna@bgu.ac.il

## Confirmed invited speakers:

Alain Pumir, École Normale Supérieure Lyon  
Alexander Nepomnyashchy, Technion  
Arjen Doelman, Leiden University  
Avraham Be'er, Ben-Gurion University of the Negev  
Bernd Blasius, University of Oldenburg  
Carsten Beta, Potsdam University  
Damia Gomila, University of Balearic Islands  
David Bensimon, École Normale Supérieure Paris  
Dolores Bozovic, University of California Los Angeles  
Eckehard Schöll, Technical University Berlin  
Edgar Knobloch, University of California Berkeley  
Emilio Hernandez-Garcia, University of Balearic Islands  
Eran Sharon, Hebrew University  
Gemunu Gunaratne, University of Houston  
Hannes Uecker, University of Oldenburg  
Herbert Levine, Rice University  
Igor Aronson, Penn State University  
Itamar Procaccia, Weizmann Institute of Science  
Jens Rademacher, University of Bremen

Jost von Hardenberg, ISAC-CNR Torino  
Katharina Krischer, Technical University Munich  
Len Pismen, Technion  
Mario Feingold, Ben-Gurion University of the Negev  
Markus Bär, PTB and Technical University Berlin  
Mary Silber, University of Chicago  
Mogens Jensen, University of Copenhagen  
Moshe Shachak, Ben-Gurion University of the Negev  
Nadav Shnerb, Bar-Ilan University  
Nir Gavish, Technion  
Stanislav Shvartsman, Princeton University  
Tasso Kaper, Boston University  
Ulrike Feudel, University of Oldenburg  
Uwe Thiele, University of Münster  
Walter Zimmermann, University of Bayreuth  
Yair Zarmi, Ben-Gurion University of the Negev  
Yasumasa Nishiura, Tohoku University

## Further information, registration & fellowships:

<https://ehudmeron.wixsite.com/patterns2019>

