# SHAPES 1.0 – The Shape of Things

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Shape, Form, and Structure are some of the most elusive notions within diverse disciplines ranging from the humanities (literature, arts) to the sciences (chemistry, biology, physics etc.) and within these from the formal (like mathematics) to the empirical disciplines (such as engineering and cognitive science). Even within domains such as computer science and artificial intelligence, these notions are replete with commonsense meanings (e.g. in everyday perception and communication), and formalisations of the semantics and reasoning about shape, form, and structure are often ad-hoc. While several approaches have been proposed within the aforementioned disciplines to study the notions of shape, form and structure from different viewpoints, a comprehensive formal treatment of these notions is currently lacking and no real interdisciplinary perspective has been put forward.

To address this gap, the first interdisciplinary SHAPES workshop was held in Karlsruhe, Germany on the 27 September 2011, co-located with the Context 2011 conference and hosted by the Karlsruhe Technical University (KIT). It brought together researchers from diverse disciplines including philosophy, physics, computer science (including artificial intelligence, computer vision and computer art), biology and medicine. The workshop provided an interdisciplinary platform for the discussion of all topics connected to shape. The workshop was well attended with researchers representing a global perspective, with attendees from Australia, Austria, Brazil, Canada, France, Germany, Italy, Sweden, Switzerland, the United States of America, and the United Kingdom.

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## Invited Speakers

INGVAR JOHANSSON
  Professor Emeritus in Theoretical Philosophy
  Umea University, Sweden

FRIEDER NAKE.
  Professor for Computer Graphics
  University of Bremen, Germany

PAULO E. SANTOS.
  Associate Professor
  IAAA - Artificial Intelligence in Automation group
  FEI, Sao Paulo, Brazil

## SHAPES 1.0 Participants

1. Sven Bergmann
2. Mehul Bhatt
3. Stefano Borgo
4. Werner Ceusters
5. Luca Gammaitoni
6. Michael Gruninger
7. Janna Hastings
8. Ingvar Johansson
9. Oliver Kutz
10. Frederic Fol Leymarie
11. Frieder Nake
12. Mehdi Niknam
13. Robert Rovetto
14. Sylvan Rudduck
15. Paolo Santos
16. Stefan Schulz

# Workshop Organisation

## Organising Committee

Oliver Kutz,         Research Center on Spatial Cognition (SFB/TR 8),
Mehul Bhatt          University of Bremen, Germany

Janna Hastings       European Bioinformatics Institute, Cambridge, United Kingdom

Stefano Borgo        ISTC-CNR, Trento and KRDB, FUB Bolzano, Italy

## Programme Committee

- Colin Batchelor (RSC, Cambridge, UK)
- John Bateman (University of Bremen, Germany)
- Brandon Bennett (Leeds, UK)
- Thomas Bittner (Buffalo, USA)
- Simon Colton (Imperial College, UK)
- Bianca Falcidieno (Genova, Italy)
- Francesca Franco (Birkbeck College, Victoria and Albert Museum, UK)
- Christian Freksa (University of Bremen, Germany)
- Antony Galton (University of Exeter, UK)
- George Gkoutos (University of Cambridge, UK)
- Michael Grüninger (Toronto, Canada)
- Riichiro Mizoguchi (Osaka, Japan)
- Ian Pratt-Hartmann (Manchester, UK)
- George Stiny (MIT, USA)
- Achille Varzi (Columbia University New York, USA)

## Acknowledgements

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Oliver Kutz
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