

SONS

Self-Organized NanoStructures

Self-Organized NanoStructures (SONS) are complex supramolecular structures that build up through competing interactions between their components. By exploiting the hierarchy of these interactions, SONS researchers can actually design materials that assemble themselves into complex, finished structures, thus leading to a great range of potential breakthroughs in multiple scientific and technological areas.

Whilst many European countries have well-established disciplinary research programmes in nano-sciences, a strong research effort across disciplines and countries is still required to achieve further global developments at an internationally competitive level. The EUROCORES Programme on SONS seeks to meet this challenge by promoting truly interdisciplinary research by multinational collaborations at the highest level of scientific relevance, quality and excellence.

The SONS Programme gives priority to the following key 'targets':

- molecular self assembly
- mechanisms, functions and fabrication of SONS

After the Call for Proposals, sixteen Collaborative Research Projects (CRPs) were selected for funding, with a total budget of 12 Mio Euros. Each Collaborative Research Project is typically funded for 3 or 4 years.

List of funded Collaborative Research Projects (CRPs)

Bio-organics nanostructuring for molecular electronics (BIONICS)

(DFG, NWO, CNR, FWO, EPSRC)

Project Leader: Dr. Klaus Müllen

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Afd. Fotochemie & spectroscopie, Department of Chemistry, University of Leuven, Heverlee, Belgium

Structure elucidation of shear oriented ionic self-assembled materials (SISAM)

(DFG, AKA, NWO)

Project Leader: Professor Markus Antonietti

Markus Antonietti

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Nanochemical patterning combining selective molecular assembly systems and colloidal lithography (NANO-SMAP)

(SNF, VR, NWO, DFG)

Project Leader: Professor Marcus Textor

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System for photonic adjustment of nano-scale aggregated structures (SPANAS)

(VR, FNU, DFG, EPSRC)

Project Leader: Professor Dag Hanstorp

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Stefan Sinzinger

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(Supra)-self-assemblies of transition metal nanoclusters (SSA-TMN)

(CNR, CEA)

Project Leader: Dr. Alessandro Fortunelli

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Taking steps towards “molelectronics”: a venture encompassing nanotechnology and synthetic methodology (NANOSYN)

(SNF, FNU, CSIC/MEC, EPSRC)

Project Leader: Professor Silvio Decurtins

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Single-atom and single-molecule electronic components (SASMEC)

(CSIC/MEC, NWO, FNU)

Project Leader: Professor Nicolás Agraït

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Novel optical methods for self-assembled nanostructures (NOMSAN)

(EPSRC, CSIC/MEC)

Project Leader: Dr. Kishan Dholakia

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Surfactant-polyelectrolyte nanostructure self-assembly (SPENSA)

(EPSRC, CEA)

Project Leader: Dr. Karen Edler

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Assembly and manipulation of functional supramolecular nano-architectures at surfaces (FUN-SMARTs)

(DFG, FNU, SNF, CSIC/MEC, CNR, NWO)

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Nanoscale electronic devices via templating supramolecular polyelectrolytes (NEDSPE)

(DFG, FNRS)

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Self-organized amphiphilic block copolymer nanostructures (AMPHI)

(GAČR, CEA)

Project Leader: Professor Petr Stepanek

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One-dimensional molecular self-assembly on vicinal surfaces (MOL-VIC)

(CSIC/MEC, DFG)

Project Leader: Professor Jose Enrique Ortega

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Nanoscale electrical transport in self-organized molecular assemblies (NETSOMA)

(EPSRC, NWO, FNU, SNF)

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Self-assembled low-dimensional semiconductor nanostructures (SALDSON)

(SNF, EPSRC)

Project Leader: Professor Eli Kapon

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Higher levels of self-assembly of ionic amphiphilic copolymers: strategies based on multiple molecular interactions (SONS-AMPHI)

(DFG, NWO, CEA)

Project Leader: Professor Axel Müller

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The aim of the European Collaborative Research (EUROCORES) Scheme is to enable researchers in different European countries to develop collaboration and scientific synergy in areas where European scale and scope are required to reach the critical mass necessary for top class science in a global context.

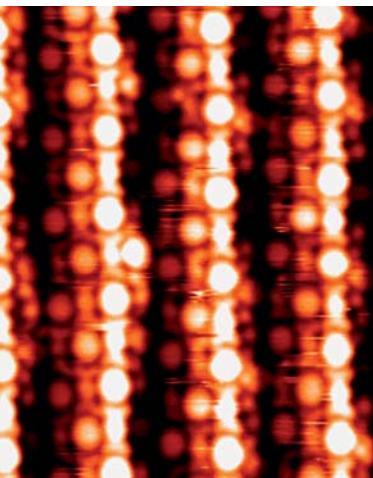
The scheme provides a flexible framework which allows national basic research funding and performing organisations to join forces to support excellent European research in and across all scientific areas.

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www.esf.org/eurocores

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National Fund for Scientific Research, Belgium
- Fonds voor Wetenschappelijk Onderzoek (FWO)
Fund for Scientific Research – Flanders, Belgium
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Czech Science Foundation, Czech Republic
- Forskningsrådet for Natur og Univers (FNU)
Natural Science Research Council, Denmark
- Suomen Akatemia/Finlands Akademi (AKA)
Academy of Finland, Finland
- Commissariat à l'Energie Atomique / Direction des Sciences de la Matière (CEA)
Institute for Basic Research of the Atomic Energy Commission, France
- Deutsche Forschungsgemeinschaft (DFG)
German Research Foundation, Germany
- Országos Tudományos Kutatási Alapprogramok (OTKA)
Hungarian Scientific Research Fund, Hungary
- Magyar Tudományos Akadémia (MTA)
Hungarian Academy of Sciences, Hungary
- Enterprise Ireland, Ireland
- Consiglio Nazionale delle Ricerche (CNR)
National Research Council, Italy
- Nederlandse Organisatie voor Wetenschappelijk Onderzoek (NWO)
Netherlands Organisation for Scientific Research, Netherlands
- Norges Forskningsråd (NF)
Research Council of Norway, Norway
- Polska Akademia Nauk (PAN)
Polish Academy of Sciences, Poland
- Fundação para e Ciência e a Tecnologia (FCT)
Foundation for Science and Technology, Portugal
- Slovenská Akadémia Vied
Slovak Academy of Sciences, Slovak Republic
- Consejo Superior de Investigaciones Científicas (CSIC) / Ministerio de Educación y Ciencia (MEC)
Council for Scientific Research / Ministry of Education and Science, Spain
- Vetenskapsrådet (VR)
Swedish Research Council, Sweden
- Schweizerischer Nationalfonds (SNF)
Swiss National Science Foundation, Switzerland
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The Scientific and Technological Research Council of Turkey, Turkey
- Engineering and Physical Sciences Research Council (EPSRC), United Kingdom



STM image of BDG+ NTCDI assemblies on Au(344). Group of Prof. Jose Enrique Ortega, Universidad del Pais Vasco, Spain (MOL-VIC Project)

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