



Fraunhofer

IPA

FRAUNHOFER-INSTITUT FÜR
PRODUKTIONSTECHNIK UND AUTOMATISIERUNG IPA

STUTT GART | 21. APRIL 2015

ELECTROACTIVE POLYMERS HOW TO LINK SCIENCE AND INDUSTRY



INTRODUCTION

During the last decade enormous growth in basic research and the start of commercial products has led to a worldwide reaction to electroactive polymer (EAP) technology and their potential. EAP are essential to satisfy the constantly growing demand for sensors, actuators and energy storage systems due to industry 4.0.

On behalf of Fraunhofer IPA and AIST Kansai, the largest Japanese institute of applied sciences, we would like to cordially invite you to attend and contribute to the symposium "Electroactive Polymers: how to link science and industry" at the Commundo Conference Hotel Stuttgart, Germany.

Talks from top-level researchers in the field of EAP are awaiting you. This event is intended to provide a platform for exchange on how the industry and research can symbiotically work together, trigger dialogue, provide enriching experience and offer opportunities for co-operation.

Topics

- EAP ionic / electronic
- Potential applications of EAP
- R&D needs for EAP development
- Industry needs for EAP development
- Material development: trends and possibilities
- State of the art system integration / stretchable electronics
- State of the art sensors / energy harvesting
- Cyber physical systems: EAP in industry 4.0

GOAL OF THE SEMINAR

Participants will receive an overview of the current state of EAP-science as well as its importance to the industry. Representatives from the industry and scientists will have the opportunity to discuss the possibilities of co-operation. Interesting experiences, contacts and topics are on the agenda.

TARGET AUDIENCE

Those interested in cutting-edge technology who would like to consult with experts from industry and science in the field of EAP-research. Developers from, amongst others, mechatronics, medical technology, communication technology and technology scouts are welcome.

PROGRAMM FOR TUESDAY, APRIL 21, 2015

- 9.00 am **Entry and registration**
- 9.20 am **Welcome and opening remarks**
Mr. Ivica Kolaric, Head of Functional Materials, Fraunhofer IPA, Co-Director of Fraunhofer Project Center for Electroactive Polymers at AIST Kansai in Japan (FPC)
- 9.50 am **Keynote speech**
Thirty years without moving a finger – a personal stance on artificial muscle research in bionics and robotics
Prof. Dr. Danilo de Rossi, Professor of Bioengineering, Director of Research Center „E.Piaggio“, University of Pisa
- 10.30 am **Ionic electroactive polymer actuators with various electrode materials**
Dr. Kinji Asaka, Group Leader Hybrid Actuator Group, AIST (Japan), Director of FPC
- 11.00 am **Coffee break**
- 11.20 am **FPC partnership – collaboration as a means to link science to industry**
Mr. Ivica Kolaric, Head of Functional Materials, Fraunhofer IPA, Co-Director of FPC
- 11.50 am **3D printed customizable actuators**
Mr. Steve Rommel, Group Leader, Additive Manufacturing, Fraunhofer IPA
- 12.10 pm **EAP Research at AIST – nano carbon polymer actuators**
Dr. Takushi Sugino, Senior Researcher, AIST (Japan), FPC Project Leader
- 12.30 pm **Alternative production technologies for EAP materials**
Mr. Carsten Glanz, Group Leader, Application Functional Surfaces, Fraunhofer IPA
- 12.50 pm **Lunch**
- 1.50 pm **Topics questions and answers – how to link science and industry**
Mr. Ivica Kolaric, Head of Functional Materials, Fraunhofer IPA, Co-Director of FPC
- 3.00 pm **Panel discussion**
- 4.00 pm **Closing remarks**
Mr. Ivica Kolaric, Head of Functional Materials, Fraunhofer IPA, Co-Director of FPC
- 4.30 pm **End of symposium**

GENERAL INFORMATION

CONTACT AND REGISTRATION

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Please fill out the enclosed registration form and send a scan back to Ms. Hellstern or Mr. Addinall.

SUPPLEMENTARY COSTS

The supplementary costs are **€ 79,-** per person.

The participation is free, supplementary costs are mandatory and apply for services such as catering, technical support and conference material.

VENUE

COMMUNDO TAGUNGSHOTEL STUTTGART

Universitätsstrasse 34 | 70569 Stuttgart (Vaihingen) | Germany