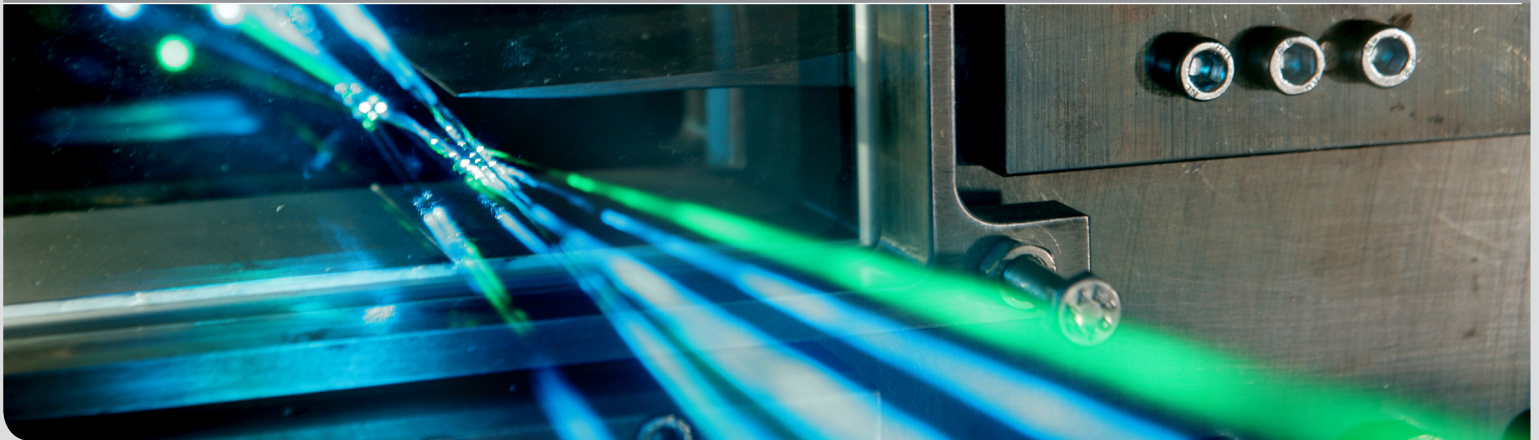


International Master and PhD Program in Optics & Photonics

Interdisciplinary Qualification in Cutting-edge Research at the
International Graduate School of the KIT

KARLSRUHE SCHOOL OF OPTICS AND PHOTONICS





RELEVANCE OF OPTICS & PHOTONICS FOR THE FUTURE

Directory Board Message

Since the year 2000, more than 10 Nobel Prizes directly linked to Optics & Photonics have been awarded. This includes not only basic research but also application oriented breakthroughs that facilitated the transformation of our society. Energy-efficient light sources, optical communication and digital camera systems are impressive examples. At the same time, the discipline is mobilizing innovation-driven branches of our economy, such as industrial automation and production, digitalization of the society, autonomous mobility as well as medical technologies and personal health monitoring.

The future progress and growth in this field rely on dedicated researchers and graduates trained in an interdisciplinary environment. In 2006 the Karlsruhe School of Optics & Photonics (KSOP) was founded as one of the first graduate schools within the scope of the German

„Excellence Initiative“ at the Karlsruhe Institute of Technology (KIT). KSOP brings together the best talents in engineering and natural sciences.

Comprising a Master's and a Ph.D. Program in Optics & Photonics, the educational concept is designed to qualify its graduates for accelerated careers at world leading academic institutions and in high-technology industries.

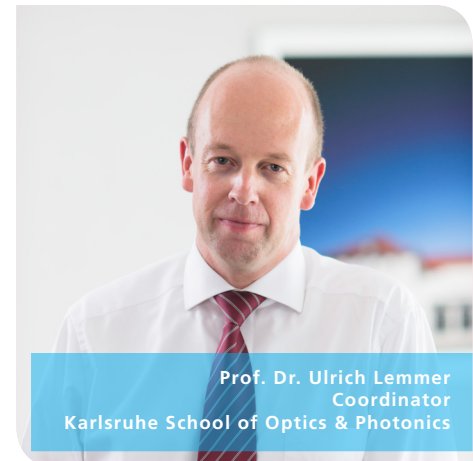
KSOP actively promotes the thesis work of its doctoral researchers by dedicated supervision, mentoring, networking as well as scientific and technical training. Concomitantly, KSOP augments the professional skills of its graduates by tailored personal and management training.

Currently, KSOP encompasses professors from 16 institutes and four different faculties, i.e. Physics, Electrical Engineering and Information Technology, Chemistry, and Biosciences, as well as Mechanical Engineering. Over 700 students, Ph.D. candidates and alumni have positioned

KSOP as a premium research and education hub.

Join us as a student, a doctoral researcher or as an academic or industrial partner.

We are looking forward to a rewarding collaboration.



Prof. Dr. Ulrich Lemmer
Coordinator
Karlsruhe School of Optics & Photonics



STRONG PARTNER FOR INDUSTRY

Qualification for Innovation

The KSOP prepares students and doctoral researchers for the labor market of the German and worldwide Optics & Photonics industry. The close cooperation to industry partners is of high value for industry on the one hand and KSOP students and doctoral researchers on the other hand.

Advantages for Industry

KSOP industry partners have an exclusive access to high potential and international junior staff. The research and teaching environment fosters innovations and empowers the industry partners to ensure their technological competitiveness.

On top of this, the challenge to solve social and technological problems can only be managed by cooperations between research, industry, and politics. Therefore, the initiative Promotion of Junior Researchers in Optics & Photonics was founded by KSOP. Industry partners can choose from a gold, silver &

platinum cooperation partnership with KSOP and profit from its network, e.g. recruit young professionals for practical training, a master's thesis or jobs.

Advantages for Students and Doctoral Researchers

By gaining experiences in well-known international companies via internships or master's thesis projects, students get in

contact with potential future employers and prepare for their professional careers.

KSOP Fosters the Interface Between Industry and Its Members Via:

- Internships & master's thesis projects
- Recruiting events, i.e. the KSOP Career Fair or company excursions
- Networking events between science & industry, i.e. the symposium Karlsruhe Days of Optics & Photonics (KDOP)



The KSOP Career Events: A Meeting Point Both for Industry & Future Employees

RA I
Photonic
Materials &
Devices

RA II
Advanced
Spectroscopy

RA III
Biomedical
Photonics

RA IV
Optical
Systems

RA V
Solar
Energy



Industry



Academia



MBA Fundamentals Program

Ph.D. Program (3 years)



Europhotonics Master Program

Master of Science Program (2 years)

KSOP

Karlsruhe School of Optics & Photonics

KSOP QUALIFICATION PROGRAMS

Master's & Ph.D. Programs

The KSOP educational concept is designed to qualify its graduates for accelerated careers at the world's best academic institutions and in optic & photonic high-technology industries.

The **2-year Master's Program** spans the bridge between undergraduate classes in natural and engineering sciences and the required in-depth knowledge that is essential for cutting-edge research. It qualifies for a further career in the industry as well as in research. For those who would like to continue their careers in research, KSOP established an exclusive **Ph.D. Program**. KSOP also is a member of the **European Erasmus Mundus Master's Program EUROPHOTONICS**.

Advantages for Students, Doctoral Researchers & Industry

By fostering a strong industry partner program, KSOP identified the requirements of O&P companies on its graduates. Those demands and specifications were integrated,

e.g., within the M.Sc. program including laboratory courses, research projects, industry internships, and German courses tailored to the qualification of international students.

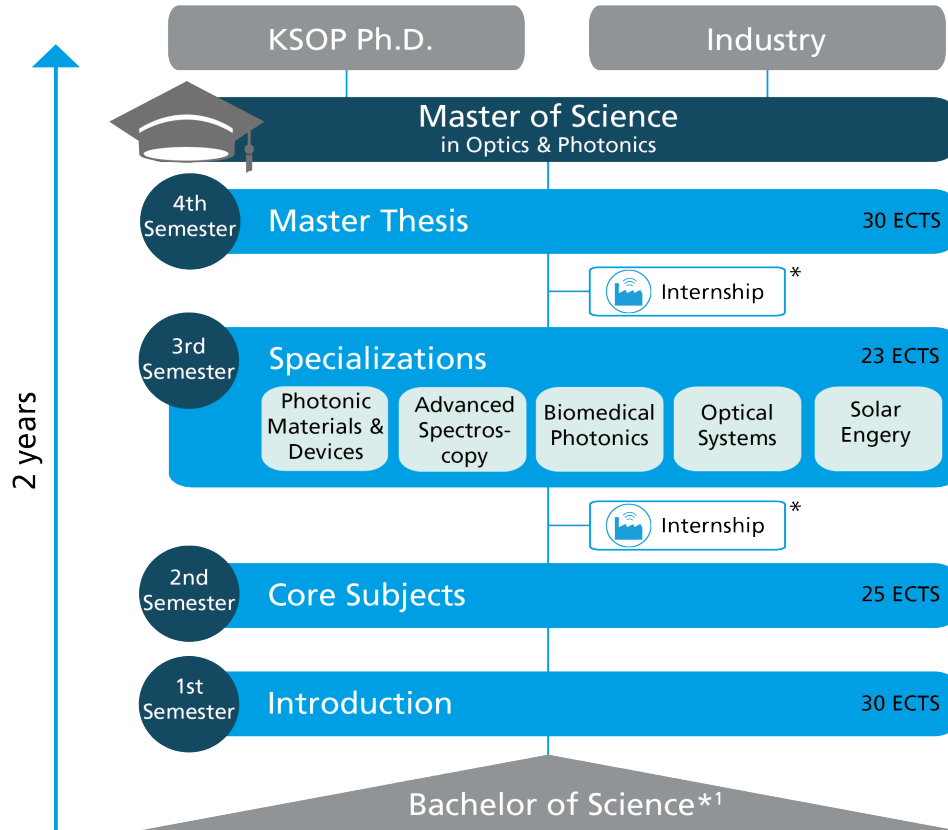
A strong pillar of the Ph.D. qualification concept is the individual coaching and supervision of its doctoral researchers by the research area mentors. On top of this, KSOP actively promotes the thesis work of its doctoral researchers by scientific and technical training.

Concomitantly, the professional skills of the graduates are enhanced by tailored personal and management training, e.g., in the MBA Fundamentals Program.



The KSOP Success Story: Over 700 Master, Ph.D. Students & Alumni From 40 Different Countries

KSOP QUALIFICATION PROGRAMS



*An eight-week internship will take place either between the 2nd & 3rd semester or between the 3rd & 4th semester. This internship is credited with 12 ECTS.

***1 Suitable B.Sc.:** Physics, Chemistry, Electrical Engineering, Mechanical Engineering, Mathematics, Optics & Photonics, Computer Science, Biology, Biotechnology, Biomedical Engineering

MASTER'S PROGRAM

Interdisciplinary Approach

The KSOP M.Sc. Program aims at educating excellent students in Optics & Photonics worldwide. The interdisciplinary research structure of the international graduate school forms the basis for this outstanding Master's program






Completely taught in English, the program is developed for 40 students each year who apply with a completed Bachelor's degree in natural or engineering sciences.

What's Unique About the Program?

- **Industry Network:** The studies include an elaborated industry internship program with partners from the Optics & Photonics industry. Furthermore, company visits and career events are offered regularly to all students.
- **Scholarships:** For outstanding students who are among the best 10% students of their class, scholarships are offered.
- **International Student Community:** Students from all over the world convey an

international studying atmosphere to the Master's program. KSOP students also have the opportunity to join the worldwide OSA and SPIE network through the OSKar student chapter at KIT.

Keyfacts:

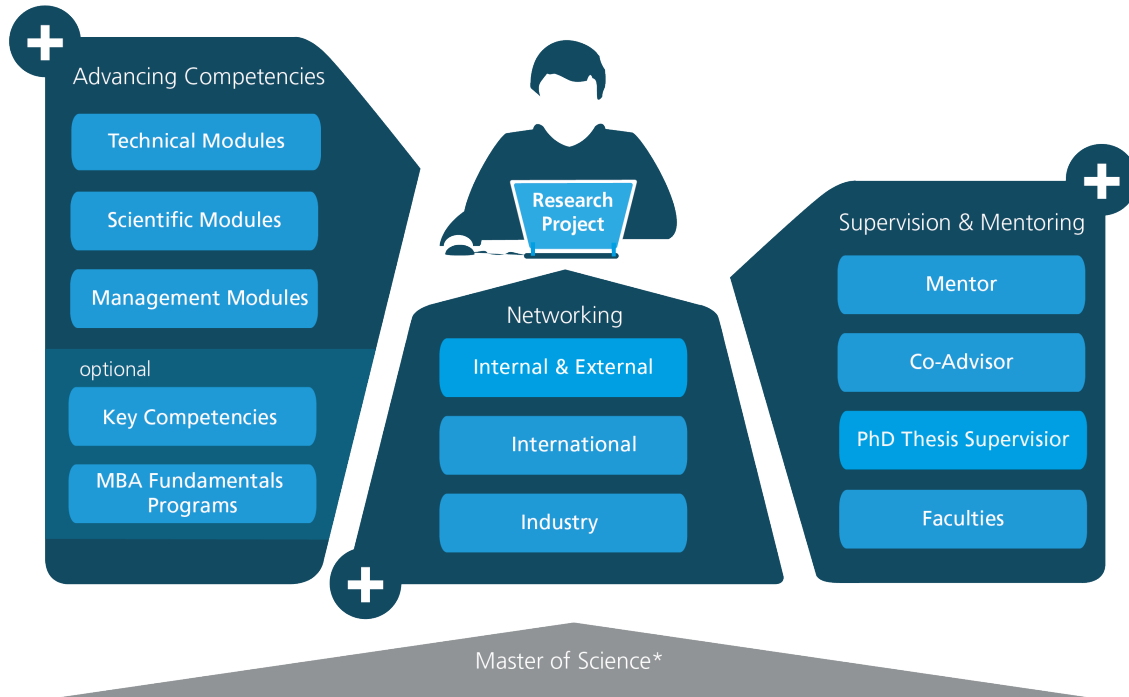
-  2-year Master's Program in Optics & Photonics
-  Prerequisites: B.Sc. Degree in natural or engineering sciences
-  Specializations: Photonic Materials & Devices, Advanced Spectroscopy, Biomedical Photonics, Optical Systems, Solar Energy
-  Industry internship program & networking
-  Intensive lab training, language courses, business etiquette training



Fatemeh Hosseini
Optical Engineer, Robert Bosch GmbH
KSOP Alumna

"For a person like me who is fascinated by every aspect of Optics and Physics, the broad study plan of KSOP was definitely an eye-catching parameter. In addition, the cooperation of KSOP with the industry and its emphasis in acquiring additional soft skills were what motivated me to apply for this program. Although I am working as an Optical Engineer, I can use my experience and knowledge from other divisions proposed by KSOP and be more innovative. I guess most of KSOP students agree on the fact that studying at KSOP is not just about having great courses with sophisticated professors and being exposed to leading industries. It was also about people who were always there to support you. The different backgrounds of my classmates gave me a great opportunity to get to know other cultures and broaden my view towards the world and life. Overall, KSOP had everything that I could ask from a Master's program and then some."

KSOP QUALIFICATION PROGRAMS



+ Additional Benefits

***Suitable M.Sc.:** Physics, Chemistry, Electrical Engineering, Mechanical Engineering, Mathematics, Optics & Photonics, Computer Science, Biology, Biotechnology, Biomedical Engineering

PH.D. PROGRAM

Research+ Concept for Success

The Ph.D. candidates are embedded in the excellent research environment of KIT. Integrated into the international graduate school, the doctoral researchers pursue their projects autonomously within one of the KSOP research areas.

One of the core elements of the KSOP Ph.D. program forms the specific modular training, which includes units from a catalog of technical, scientific as well as management and personal key competence modules. Since successful careers in the industry or academia often require leadership and interdisciplinary knowledge, emphasis is laid on management skills, which are taught as mandatory management modules at the HECTOR School of Engineering & Management, the Technology Business School of KIT.

Supervision & Mentoring

A Ph.D. advisor, a co-advisor, and a mentor accompany the research work of each doctoral

researcher by meetings on a regular basis. This supervision concept ensures both rapid progress and the successful completion of a thesis.

Management Plus

The optional MBA Fundamentals Program offers the opportunity to deepen the keenly demanded knowledge within six units of five days. The certificate and the corresponding

credit points gained in the program are recognized in any international MBA program.

Keyfacts



3-year Ph.D. Program



Scholarship Program



Supervision & Mentoring



Additional Management Skills, Technical, Scientific & Key Competence Modules, Networking



PD Dr.-Ing. Timo Mappes
Senior Vice President Innovation
Carl Zeiss Vision Care International

"I was heading an independent (junior) research group between 2007 and 2012 on integrated optofluidic systems for biophotonic applications. All of the Ph.D. students within my group joined KSOP, especially appreciating the scientific networking within KSOP. It is essential for your future career to address challenging scientific questions in cross-disciplinary teams, no matter if you stay in academia or if you join the industry - this is exactly what I am experiencing in my daily business. Today, I am the head of global R&D and IT for ZEISS Vision Care. There are about 170 employees on four different continents working jointly on new and novel solutions for spectacle lenses - pushing technology beyond limits by combining internal expertise with external knowledge."

KSOP QUALIFICATION PROGRAMS



EUROPHOTONICS MASTER'S PROGRAM

Photonics in Europe

Next to its own Master's program, KSOP is also a member of the European Erasmus Mundus Master's Program EUROPHOTONICS.

The EUROPHOTONICS Master's offers excellent teaching at top-level universities and individual study mobility throughout Europe. An extensive two-year master-level teaching program focused on advanced and applied research topics that will constitute the near and extended future scientific goals in the field of Photonics Engineering, Nanophotonics, Biophotonics, and their interdisciplinary applications.

Partner institutions of EUROPHOTONICS are the Karlsruhe Institute of Technology (KIT in Germany), the Aix-Marseille University (AMU in France), and the Universities of Barcelona (UPC, ICFO, UB, UAB in Spain).

Program & Mobility Structure

Semester 1: Fundamentals (AMU)

Semester 2: Core Subjects & Industry Internship (KIT or AMU)

Semester 3: Specialization (KIT, AMU or Barcelona)

Semester 4: M.Sc. thesis (KIT, AMU or Barcelona)

Depending on the personal mobility structure, graduates will receive a Master of Science degree awarded with 120 credits by at least 2 universities. The language of instruction is English.

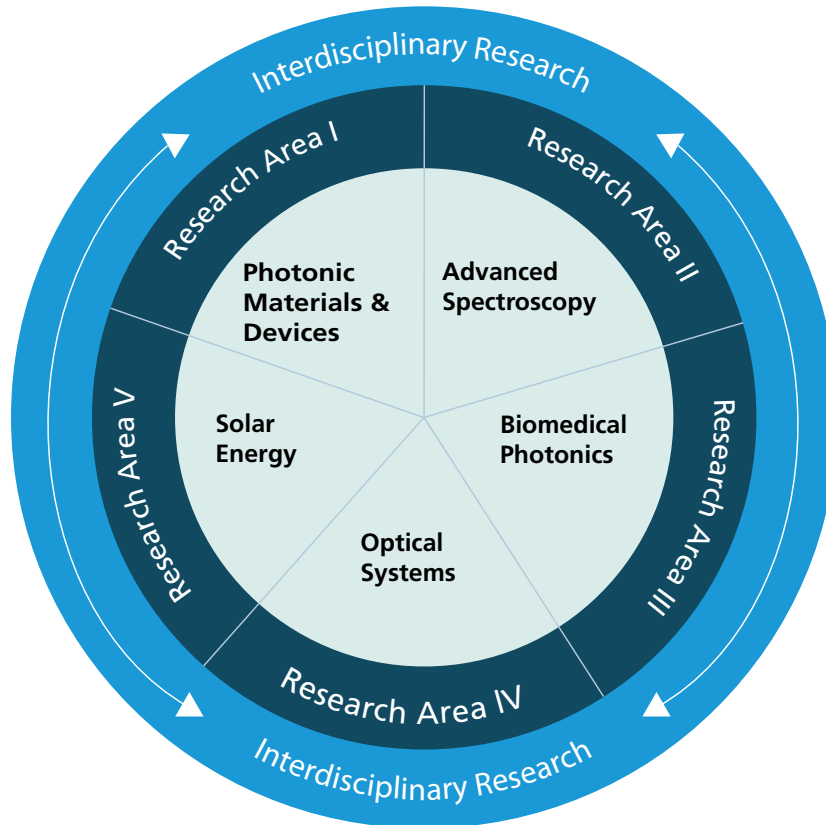
Keyfacts

-  2-year M.Sc. in Europhotonics
-  3 M.Sc. Degrees
-  3 Different European Countries
-  Scholarships Available
-  Support in Accommodation, Relocation & Administration



Dr. Radwanul Hasan Siddique
Postdoctoral Scholar at Caltech, USA
KSOP Alumnus

"I thank Europhotonics/KSOP for accepting me in their organization, allowing me to train under their state-of-the-art facilities and most importantly shaping my personal and professional identity beyond my limitations. Its unique and interdisciplinary scientific and management programs educated me in physics, chemistry, math, biology, and business of optics and provided an exposure to world-class research, to top-notch institutions and industries. Above all, it made me who I am – confident, broad-minded, and passionate, which facilitates the working process in every aspect of my life and career. I wish the whole team all the best to keep encouraging the bright young minds and enlightening us with next-generation innovation and technologies!"



KSOP RESEARCH AREAS (RAs)

Key Technology Research

Optics & Photonics are key technologies of the 21st century. They form, e.g., the basis for today's optical communications, environmental sensing, biomedical diagnostics in the life sciences, energy efficient lighting and solar energy harvesting.

Future progress and growth rely on dedicated research and graduates trained in an interdisciplinary environment. Consequently, the KSOP RAs were set up to cover many important aspects of Optics & Photonics.

The research and educational concept of KSOP has been established to optimally reflect the spirit of multidisciplinary research among scientists and engineers. Therefore, all RAs are strongly interlinked and most institutes feature research projects in more than one of the RAs.

The RAs I - IV were already established in 2006. Meanwhile, sustainable energy supply has become an even more urgent global challenge. Thus, RA V Solar Energy was set

up in the next funding period in 2011.

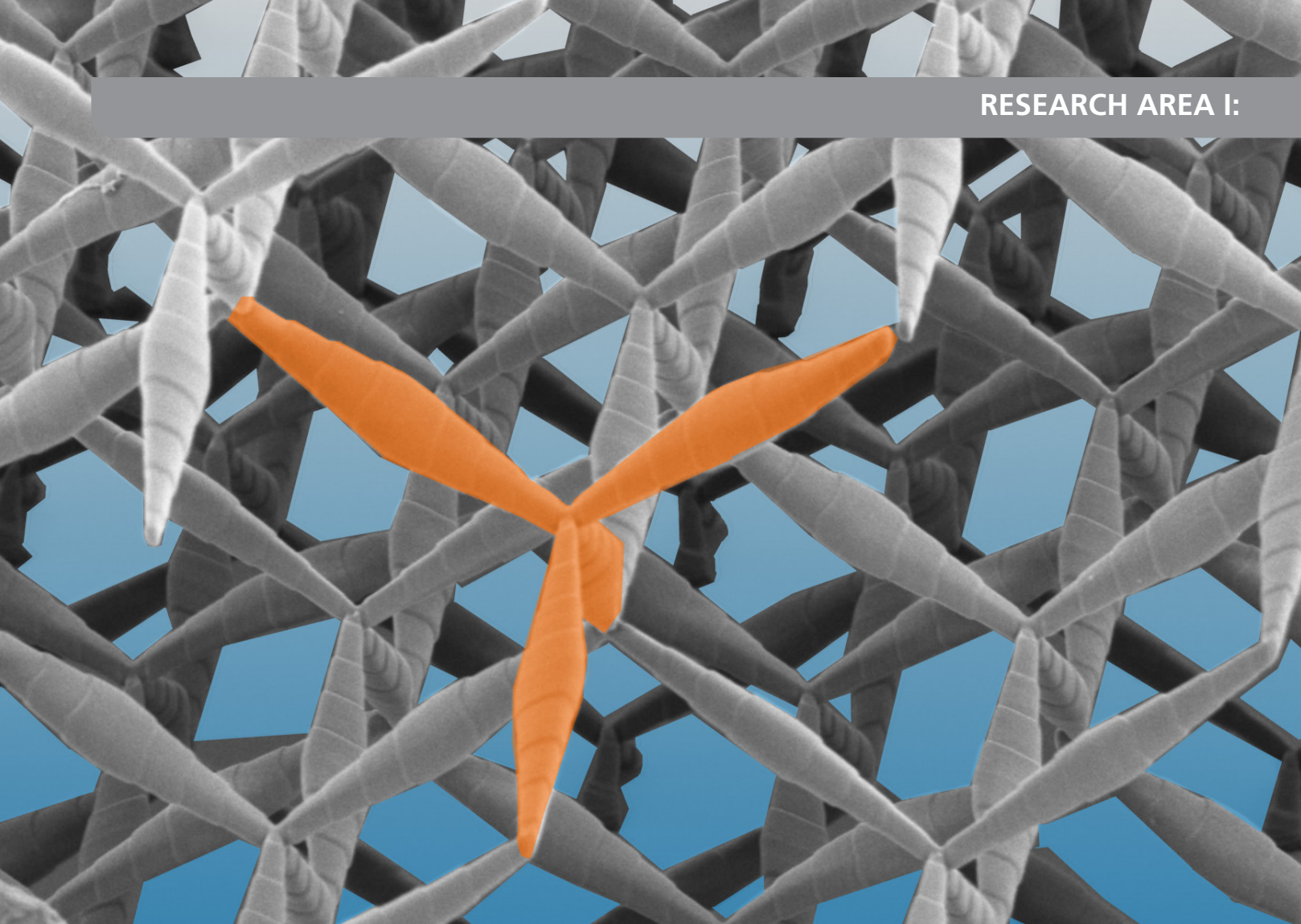
In what follows, the most significant advances in these five RAs, recent KSOP research highlights, and future KSOP measures concerning the research strategy are summarized.



Dr.-Ing. Judith Elsner
Managing Director
Karlsruhe School of Optics & Photonics

"The vision of KSOP is to develop solutions for the major challenges of our society. The excellent interdisciplinary research in our five research areas leads, e.g., to new technology solutions in the area of efficient and sustainable energy generation. Therefore, the structure of KSOP actively promotes exchange and collaboration among international researchers and students across classical disciplines."

RESEARCH AREA I:



PHOTONIC MATERIALS & DEVICES

Optics & Photonics are all about generating, controlling, and harvesting light – which is simply not possible without linear/nonlinear optical materials. Thus, RA I explores new materials-, synthesis-, and deposition technologies for, e.g., luminescent nanoparticles, organic films, or photoresists.

In addition, novel concepts like plasmonics, photonic crystals, photonic metamaterials, and transformation optics have emerged throughout the last decade, providing completely new conceptual opportunities regarding the design of photonic materials and devices. Furthermore, two-dimensional and three-dimensional lithography as well as chemical synthesis approaches have improved considerably such that photonic structures previously believed to be inaccessible have come into reach. This research is, for example, driven by the quest for ever faster and smaller devices for telecommunications, by biomedical material requirements, or by the need for more efficient and/or less expensive solar-energy conversion. By developing key

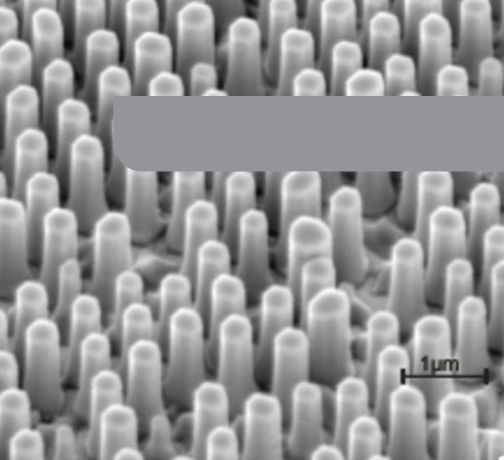
technologies like three-dimensional direct laser writing (DLW), RA I also provides the basis for parts of RA III 'Biomedical Photonics'.

Future Aims & Goals

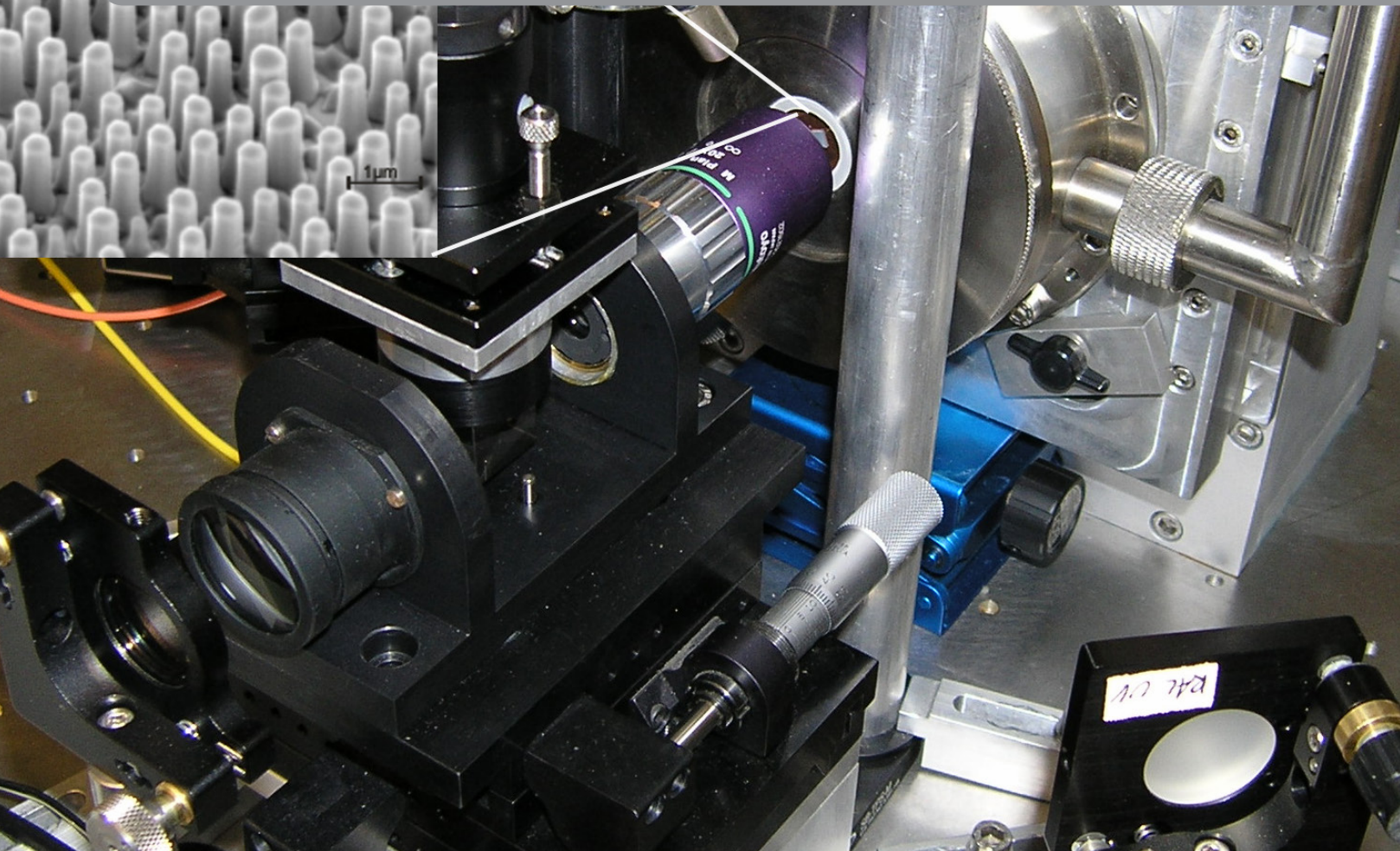
Future aims in this RA are the design and realization of novel material functionalities and of ever smaller and/or faster devices. To achieve this goal experimentally, serious lithography challenges have to be tackled, especially regarding three-dimensional structures. Furthermore, theory has to progress towards quantitative modeling of complex photonic nanostructures with predictive power.



Prof. Dr. Martin Wegener
Scientific Speaker of RA I
Institute of Applied Physics/
Institute of Nanotechnology, KIT



RESEARCH AREA II:



ADVANCED SPECTROSCOPY

Modern science and technology would be inconceivable without advanced spectroscopic methods that can probe sample composition and properties over length-scales from nanometric to astronomic. Spectroscopy also plays a crucial role in helping uncover and characterize novel quantum and nonlinear phenomena in many fields ranging from molecular photophysics to atmospheric chemistry.

At KIT, we develop and apply methods for ultrafast, remote sensing, and highly spatially resolved spectroscopy. Such advanced spectroscopic techniques are essential for expanding research horizons, e.g., in material sciences and nanotechnology. Often a novel spectroscopic technique is the method of choice for new sensor systems, which can in turn be part of a bigger optical system (see RA IV).

There are presently at least four areas of advanced spectroscopy in which further instrument/method development is required and will translate directly into progress in 'spectroscopy dependent' research fields: (i) transient measurements, e.g., of energy

flow in molecules, (ii) optical probes of matter under extreme physical conditions, e.g., in low-density ion clouds, (iii) single nanostructure and single molecule studies using spatially and often also temporally resolved approaches, and (iv) remote spectroscopic sensing, e.g., in the context of climate science.

Future Aims & Goals

Recent advances in super-resolution microscopy suggest that routine spectroscopic imaging on sub-30 nm length scales is within reach. Also, multidimensional transient spectroscopy has advanced to the stage that the full relaxation and reorientation dynamics of a small number of matrix-embedded macromolecules might conceivably be accessed following femtosecond laser excitation.

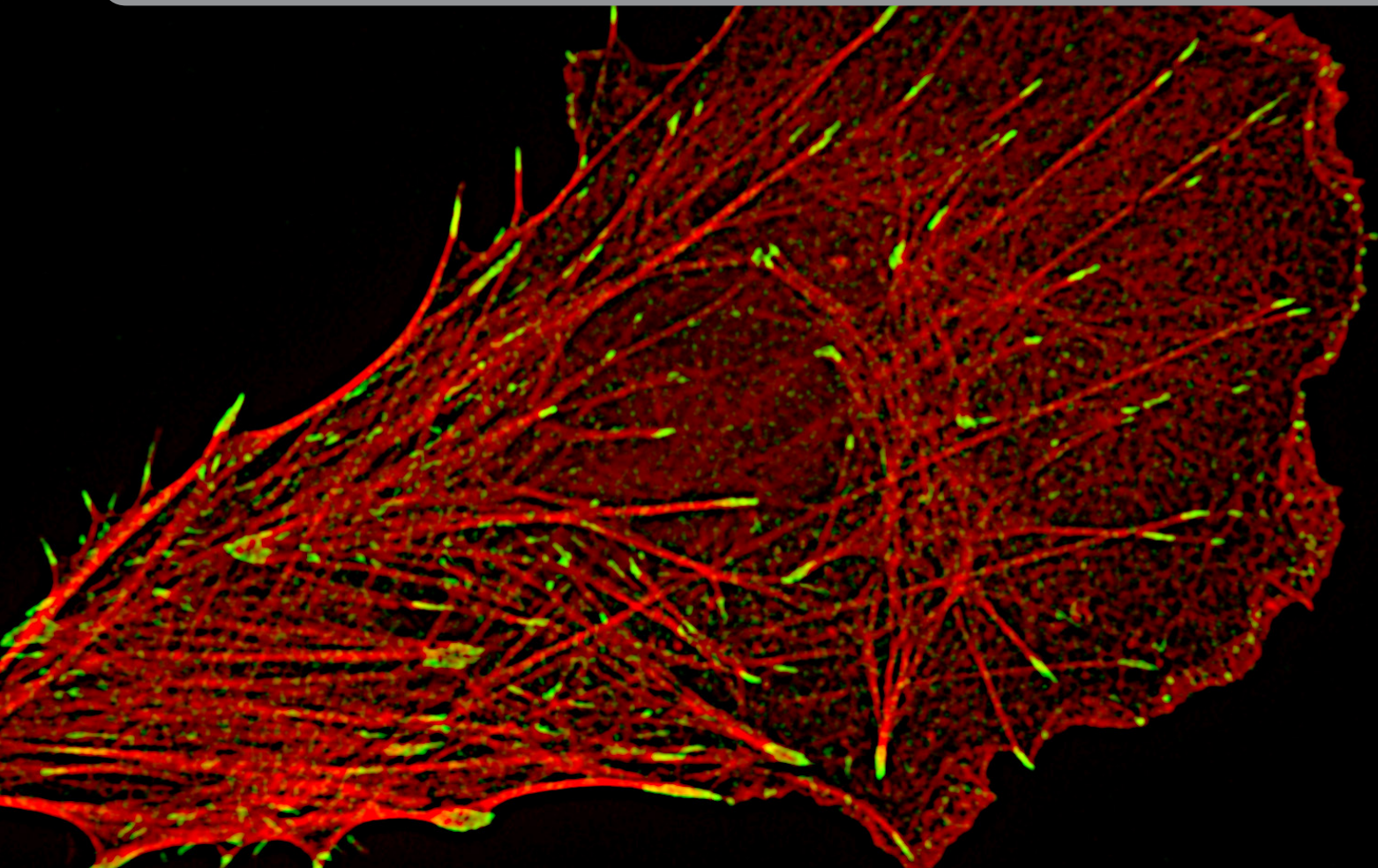
Based on these and other methods, RA II will continue to develop spectroscopic and multi-spectroscopic tools for molecular sensing with significantly enhanced spatial- and temporal

resolution. Well-defined applications for such high-resolution nanochronoscopic tools also require parallel improvements in sample quality. Here, ion- and neutral particle traps offer interesting perspectives for spectroscopic probes of mass- and isomer-selected species, e.g., for controlled gas adsorption, molecular orientation, and ultralow vibrational temperatures.



Prof. Dr. Manfred Kappes
Scientific Speaker of RA II
Institute of Physical Chemistry, KIT

RESEARCH AREA III:



BIOMEDICAL PHOTONICS

Advances in Optics & Photonics have always driven progress in many areas of biology and medicine. For example, biomedical photonic technologies are crucial for non-invasive clinical monitoring, molecular diagnostics, or imaging of physiological parameters in living cells, humans, and whole organisms. In addition, new optics-based tools have been engineered to manipulate biological systems by, e.g., laser tweezers or light-switchable dyes and proteins for optogenetics. Regarding microscopy, several fluorescence-based microscopic techniques have been further developed and applied to image biological samples with sub-diffraction resolution. These techniques include pointillism approaches, like photoactivation localization microscopy (PALM), stochastic optical reconstruction microscopy (STORM), and structured illumination microscopy (SIM).

Research activities within KSOP span from advanced microscopy to the development of optics-based personal health monitoring. Super-resolution microscopic techniques are further developed into live-cell imaging

modes. In addition, intelligent high-content screening microscopes for biological samples, e.g., of zebrafish, are engineered. Furthermore, several optical methods for the detection and quantification of biomolecules are developed. These include ultra-sensitive microdisk resonators and other bio-functionalized nanophotonic structures for parallel detection in lab-on-a-chip applications (see RA IV). Moreover, non-invasive monitoring of essential human blood parameters, such as pressure and glucose levels, are developed. Finally, direct laser writing (see RA I) is applied to fabricate three-dimensional 'designer petri-dishes' to study cell behavior and stem-cell differentiation.

Future Aims & Goals

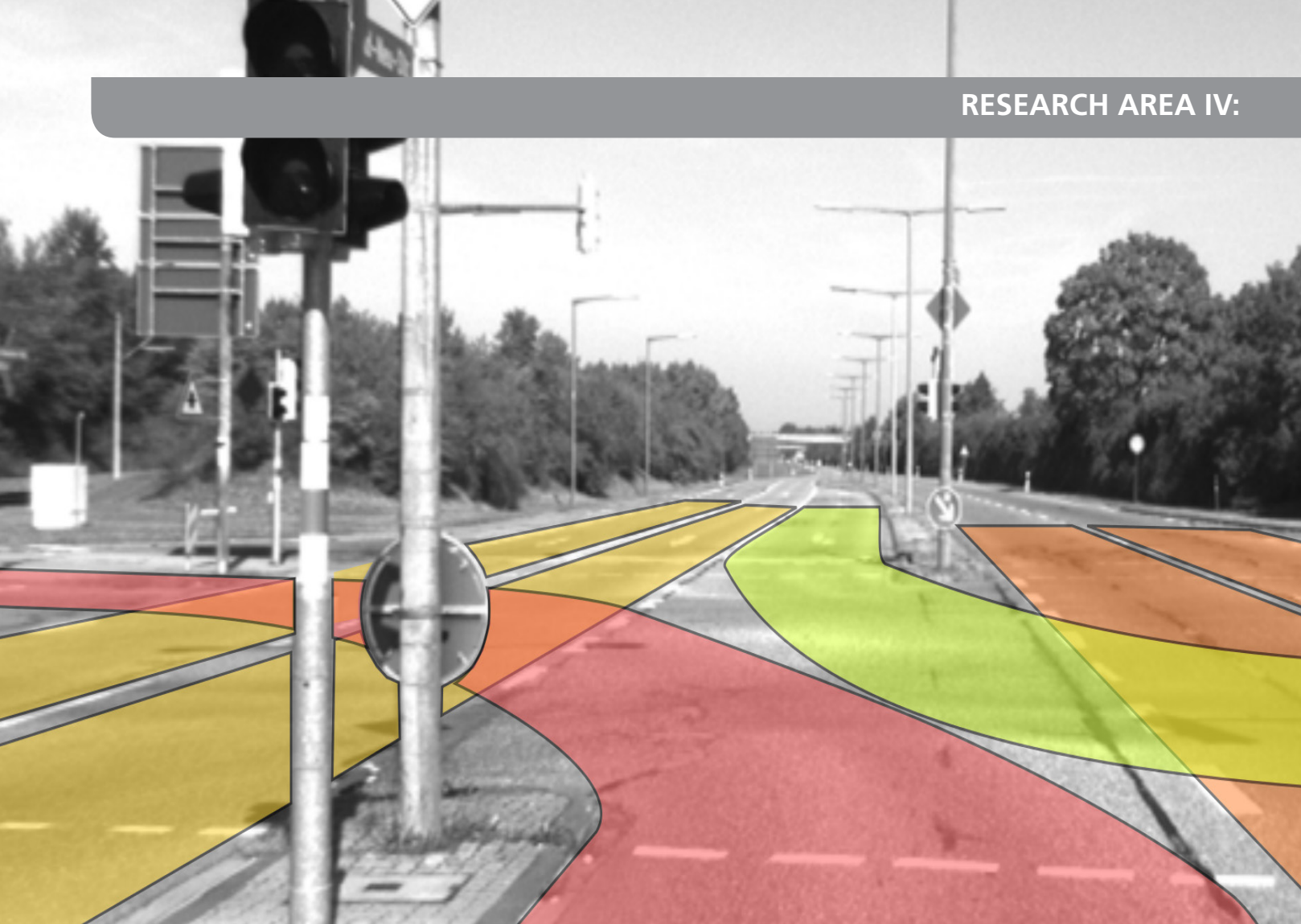
With these novel multifunctional substrates, the effects of spatial ligand distributions and mechanical scaffold stiffness on cell behavior and stem-cell differentiation can now be systematically studied in three-dimensional environments. Further work in

RA III aims at developing light microscopy super-resolution methods into live-cell imaging modes to study biomolecular interactions in living systems at the highest achievable spatial and temporal resolutions. The basic research activities on biomolecular sensing techniques shall be targeting the ultimate goal of label-free single-molecule detection.



Prof. Dr. Martin Bastmeyer
Scientific Speaker of RA III
Institute of Zoology, KIT

RESEARCH AREA IV:



OPTICAL SYSTEMS

In real-world applications, optical materials, devices, and spectroscopic approaches are integrated into optical systems. Examples are sensing and machine perception systems, laser-based manufacturing, optical metrology for production monitoring, and optical communications.

KSOP research in this area addresses a wide variety of optical systems with a broad spectrum of applications. For example, partly automation has significantly reduced accidents of automobiles and fully automated driving is expected in the not so far future. The development of three-dimensional visual perception systems for automated vehicles is one of our long-term goals. Similar approaches form the basis for cognitive machines and robots. Furthermore, our research addresses the ever increasing demand for more energy efficient, ultra-high bandwidth optical communication systems. This requires novel architectures and data-transmission schemes that take advantage of newly emerged linear and non-linear photonic devices (see RA I). In addition, novel optical

sensor systems for visual inspection as well as optical lab-on-a-chip systems for biomedical purposes are investigated within KSOP.

Future Aims & Goals

Future research in the field shall investigate Bayesian techniques for robust three-dimensional optical scene perception and scene understanding for mobile machines. We aim at fully autonomous navigation of robots and vehicles. The long-term impact of such technological advances can hardly be overestimated. Accident-free automobiles and fully automated multimodal logistics are two innovations enabled through optical scene perception. Furthermore, we will further increase the energy efficiency and band-width of optical communication systems by the integration of novel photonic signal processing concepts that combine the advantages of energy-efficient passive photonic circuits with FPGA-based digital techniques. The third field offering unprecedented innovations is addressed by lab-on-a-chip optical systems. The

integration of optical and fluidic functions on one chip and an increased sensitivity by applying both fluorescent and label-free biomedical detection with efficient read-out schemes will be in the focus of future research in this field.



Prof. Dr.-Ing. Christoph Stiller
Scientific Speaker of RA IV
Institute of Measurement & Control Systems, KIT

RESEARCH AREA V:



SOLAR ENERGY

The direct conversion of solar radiation into electrical energy is expected to cover a growing fraction of the electricity supply in the upcoming decades. While solar-panel installations have impressively increased throughout the last decade, further breakthroughs are necessary. Optics & Photonics research can contribute in various ways to further reduce the costs of solar electricity: Light management by means of tailored nano- and microstructures can reduce the costs since it allows for higher efficiencies and a thickness reduction of the solar cells. We explore bio-inspired anti-reflection films as well as 3D cloaking structures for rendering contact grids invisible. Another central aspect are novel materials with improved photovoltaic properties. Cost reduction can be achieved by improved efficiencies and by reduced deposition costs. KSOP has already established a strong collaborative research program on solution processable and thus printable solar cells and on inorganic thin film photovoltaics. As an important partner, the Center for Solar Energy and Hydrogen

Research Baden-Württemberg (ZSW) in Stuttgart has participated in KSOP from the very beginning.

Future Aims & Goals

We have extended our facilities for the fabrication and the characterization of novel photovoltaic materials and cells and have implemented several new laboratories over the last years. With regard to novel materials, we are ramping up activities in solution processable materials (perovskite and organic semiconductors) and are covering all aspects from novel materials over device architectures towards module fabrication and building integration. RA V has furthermore started significant activities on tandem solar cells combining perovskite semiconductors with silicon and CIGS solar cells. The development of low-cost, high efficiency all printed foils for light and spectrum management will be an important goal of our research.



Prof. Dr. Ulrich Lemmer
Scientific Speaker of RA V
Light Technology Institute/
Institute of Microstructure Technology, KIT

KARLSRUHE - A GREAT PLACE TO LIVE AND STUDY

FIGURES OF INTEREST



Frankfurt Airport as Europe's 4th largest airport is only one hour away by train.



The Technology Region Karlsruhe is one of the leading commercial and innovation regions in Europe.

WEATHER

25,5°C



Max. average monthly temperature (July)

1,935

Hours of sunshine
per year

One of the
warmest & sunniest
places in Germany



TECHNOLOGY REGION WITHIN A LEISURE PARADISE

Karlsruhe offers direct access to the world-renowned Black Forest, it is surrounded by numerous lakes for swimming, the Rhine, one of Europe's most important rivers, runs through it, and it has a direct view of the French Alsace region.

Students therefore enjoy a high quality of living with a wide variety of leisure activities and are surrounded by nature.

EXTENSIVE CULTURAL & SPORTS OFFERING

Karlsruhe offers something for everybody's taste with its academic centers of excellence in music, art, design, media, and technology.

Museums & Galleries

The world-famous Center for Art & Media Karlsruhe called "ZKM" is located there.

Music Festivals

"DAS FEST" in July each year is, for example, one of Germany's largest open-air festivals.

Sports

Karlsruhe has more than 1.500 sport clubs that offer 60 different kinds of sport. A wide variety of sport clubs are also based within KIT for students.



High frequency tram network
for a car-free city center

Bicycle friendly city

Comfortable & fast to reach via
train: Paris 2 ½ hrs, Amsterdam 5
½ hrs, London 6 hrs, Prague 7 hrs.

DID YOU KNOW...?

City's population: *300,000*

Students in Karlsruhe: *43,000*

Karlsruhe has a unique fan-shaped city architecture which was the role model for Washington DC in the USA.

Karlsruhe is also called "the city of justice" since the German Federal Constitutional Court and Federal Court of Justice are seated there.

Study With the Best

The Karlsruhe Institute of Technology (KIT) is one of the leading technical universities in Germany and Europe. Outstanding rankings and evaluations vouch for the standard of research and education at KIT*. This is without a doubt the most beneficial result of the 2006 merger of the Karlsruhe Research Center and the former University of Karlsruhe, which dates back to 1825. Currently, KIT is one of the largest research and teaching institutions in the world. The student satisfaction in Karlsruhe is among the top in Germany due to a systematic, balanced curriculum and excellent teaching staff.

KIT Infrastructure

KIT offers a very comprehensive university infrastructure. Young scientists get a fascinating framework for their explorations at projects, experiments and plants in major research institutions. Furthermore, there is a 24/7 library and a diverse culture, music, and sport offerings. KIT has numerous student organizations where

students can, for example, put the theory from their lectures into practice. There is, for instance, a group working on autonomous model cars (KITcar) or a team for innovative field robots (KaMaRo Engineering e.V.).

Optic Students Karlsruhe (OSKar)

OSKar is part of a worldwide network of student chapters of the Optical Society (OSA) and of SPIE and comprises a group of

enthusiastic students coming from different academic and cultural backgrounds, united by the common interest in sharing Optics & Photonics knowledge. The combination of Engineering, Physics, and Optics students in the team gives rise to diverse and complementary ideas that are materialized in different projects and events.



"When I started my Master's degree in KSOP, I found the opportunity in OSKar to achieve one common vision: To meet passionate students who want to spread knowledge about Optics & Photonics. OSKar has focused on participating in outreach activities of KIT and KSOP and provides a great opportunity to integrate in the local community. Additionally, activities like company excursions, invited lectures, "Stammtisch", and many more provide academic, industrial, and networking spaces to further advance our careers. My key takeaway from OSKar is the network it has built: OSKar alumni give an unparalleled advantage at the beginning of our professional careers. From all this, I highly recommend joining the group and sharing the love of optics with everyone."

OUR PREMIUM INDUSTRY PARTNER



ASSOCIATION PARTNER



WHAT ARE THE BENEFITS OF BEING A PARTNER?

+ Influence the selection of scholarship holders: KSOP finances the study and the additional qualifications of numerous scholarship holders through its sponsoring contributions. Through a partnership, you can influence the selection of suitable scholarship holders and thus contribute to the training of potential junior staff for your company.

+ Get a personal impression: Get to know students at networking events and the career fair and start recruiting early during their studies.

+ Present Your Company To Future Employees: Sharpen your employer branding through excursions to your company.

+ Educate young talent at an early stage according to your needs & link it to your company: Gain future employees through internships and master's theses.

+ Employer Branding through the professional marketing of the KSOP: Benefit from the communication channels of the KSOP and place your company with future talents.

+ Become a sponsor and enable the training of international junior staff for the Optics & Photonics industry!

Job profiles of our Alumni:



Technical Sales, Research & Development, Optics Design, Software Development & System Architecture, Application & Service, Product Management, Image Processing, Quality Management, International Project Management, Construction.

The Sponsoring Packages*

	PLATIN	GOLD	SILVER	START-UP
	24.900 €	15.900	9.900 €	2.500 €
Selection of scholarship holder (advisory vote)	✓	✓	✓	✓
Company Excursion & Networking Events	✓	✓	✓	
KSOP Career Fair (Booth & company presentation)	12 m ²	6 m ²		
Basis Package KSOP Communication Channels (Company profile on the KSOP website, sharing / liking your social media network posts, distribution of job postings)	✓	✓	✓	✓
Premium Package KSOP Communication Channels (Basic package plus naming of your company on all KSOP promotional materials, active KSOP Social Media promotion, advertisement in our newsletter)	✓	✓		
Exclusive target group/country specific recruiting measures	✓			

*The sponsoring packages are all tax deductible.

Magnify Your Summer!

Join the
KSOP
Summer School
on Optical Technologies!

SIGN
UP
ONLINE!

September 4 - 6, 2018
Bad Herrenalb, Germany

www.ksop.kit.edu/SummerSchool.php



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Karlsruhe Institute of Technology (KIT)

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