SCHILLER & MERTENS

SCIENTISTS NEED MORE

OUR VISION

Work in a modern scientific environment requires advanced skills that are not part of the standard curriculum. Examples are project, time - and conflict management, communication, creativity, group dynamics, intercultural competence and written and oral presentation techniques.

These skills are ideally transferred to scientists by scientists. Our own experience as habilitated researchers and group leaders enables us to teach these topics focused on the needs of scientists and using examples from everyday life in the laboratory and the clinic. Topics are addressed pragmatically with outstanding quality of instruction and always within the context of (academic) research. Our participants feedback that they can directly apply what they learn in our courses.

This is a special feature and unique worldwide!

Dr. ès sc. habil. Alexander Schiller &
Dr. rer. nat. habil. Daniel Mertens

OUR PORTFOLIO

PORTFOLIO OF COURSES

ADVANCED SKILLS COURSES FROM NATURAL SCIENTISTS FOR NATURAL SCIENTISTS.

Taking the next step in your career requires more than just technical knowledge. We offer on-site courses that are ideally suited to complement research expertise at your institution. They can of course also be customized to meet your special requirements. The courses can be ideally implemented into individual personal development plans of scientists. We offer our courses in German or English language for PhD students, postdocs, group leaders and professors.

- ### SCIENTISTS NEED MORE

  Intended for PhD students at the beginning of their career, this comprehensive course covers (almost) everything from group dynamics, communication and presentation skills, project and time management.

- ### MAPPED

  Manage and plan your research project

- ### COMMUNICATION

  Efficient communication of information is key in science! Ask also for the "Show" for your retreat!

- ### EFFECTIVE PRESENTATION

  Main message, outline, present data concisely in talks, posters and manuscripts.

- ### HIGHER EDUCATION IN NATURAL SCIENCE

  Fast forward for your teaching qualities at the university.

- ### TEAMS & LEADERSHIP

  Team and leadership development in science

- ### PERSONAL DEVELOPMENT PLAN „PEP"

  Three consecutive courses for PhD students or Postdocs

- ### HOW TO START YOUR OWN LAB

  The toolkit for academics success: Funding, Science and People.
  In collaboration with Dr. P. Gramlich and Dr. K. Bodewits from

  NaturalScience.Careers

OUR COURSES

SCIENTISTS NEED MORE

INTENSIVE 2 - 3 DAYS COURSE

To provide graduate research students with an opportunity to build their understanding, skills and confidence in the key areas of communication, interpersonal relations, self-management, teamwork, decision-making and creative problem-solving in order to enhance their overall effectiveness as they pursue their research studies.

This will be achieved through:

- A safe, yet challenging course environment that will encourage participants to explore and identify the key elements of empathy, self-reflection, intercultural understanding and feedback by themselves
- A balanced and structured programme of exercises and review sessions that will provide a variety of life learning situations
- A range of group situations where participants will be encouraged to share feedback with their peers on their overall effectiveness
- A learning journal and course notebook to aid the learning process of participants into a professional development plan
- Encouragement to create an ongoing level of support from their learning groups that will enable continuing networking, coaching and further group interactions
- Program perfectly adoptable to the needs of Ph.D. students at your institution!

MAPPED

INTENSIVE 1 DAY COURSE

Manage and plan your research project: How to prioritize, how to collaborate and install a network, how to interact with your supervisor, project and time management and more! Most suited but not exclusive for PhD students and PostDocs.

In this challenging course, the following topics are covered:

- Priorization
- "Planning is everything": On the advantages of planning
- Project management
- Efficient interaction with your supervisor
- Planning meetings with colleagues
- How to do literature review
- Pitfalls to avoid
- Rights and duties of PhD students / PostDocs
- Options for stress management
- Group dynamics and motivation
- Research collaboration, networking
- Feedback

COMMUNICATION

2 - 3 DAYS OF COMPREHENSIVE TRAINING

Efficient communication of information is key in science! As science is all about information, getting the things across that are important is a central capability. Usually the data does not "speak for itself". Making your communication understandable and interesting will also promote your scientific success!

90 MIN SHOW

We offer also a show program in an entertaining manner. Ideally suited for retreats, summer schools or conferences.

Topics of this course include:

- Leadership in science
- Research collaboration
- Intercultural competence
- Feedback in science
- Management of laboratory staff
- Active listening
- The "art of questioning"
- Identifying and pointing out central themes
- Negotiation and conflict management

EFFECTIVE PRESENTATION

2 - 3 DAYS COURSE

Science is mostly production of high quality data. However, presentation of data is arguably of similar importance: after generation of results, you want to convey the information to your fellow scientists, be it in the form of manuscripts for publication, abstracts and posters at conferences and last but not least to convince reviewers to grant you additional funding for continuing your research!

In a very practical compact course we will address these issues and discuss examples from participants on a point-by-point basis:

- Focusing the key message for a title
- Presenting data in figures: common errors
- Writing a concise and informative abstract
- Producing an outline
- Text: improving clarity
- How to please reviewers and how to displease them
- Identifying a journal for publication
- Making a poster that attracts interest
- Writing a successful grant application

HIGHER EDUCATION IN NATURAL SCIENCE

3 DAYS COURSE FOR BEGINNERS AND ADVANCED LECTURERS

The Compact Course is a brief introduction into the basics of teaching in higher education. You learn how to plan and conduct a course, and you acquire a basic knowledge of teaching methods, exam designs, and ways of giving feedback to students. It is designed for instructors with little or no teaching experience.

This will be achieved through:

- Selecting content for courses: criteria and strategies
- Designing a syllabus for an entire semester and organizing the individual sessions (didactics)
- Using specific teaching methods to convey subject matter (methodology)
- Conducting courses
- Teaching in a student- and research-oriented manner
- Dealing with difficult situations
- Presentation skills
- Assessing and examining students, observation errors
- Rethinking the role of the teacher
- Activities in teaching: design the activity not the content!

TEAMS & LEADERSHIP

2 - 3 DAYS COURSE FOR PHD STUDENTS, POSTDOCS AND GROUP LEADERS

Team and leadership development in science: scientists with extensive experience as group leaders will train your impact to be a good leader and how to create a successful team in science.

In this challenging course, the following topics are covered:

- Leadership principles in science
- Personality models
- Feedback and active listening
- Conflict handling styles
- How to build a laboratory
- Personal development plan
- Group forming processes
- Self- and time-management
- Intercultural and interdisciplinary competence
- Rethinking the role of the leader

PERSONAL DEVELOPMENT PLAN "PEP"

3 CONSECUTIVE COURSES FOR PHD STUDENTS AND POSTDOCS

Within 2-3 years, participants will develop a "PeP" via analysis of their skills, interests and values. They will receive training and reassessment in transferable skills and finally evaluated to establish a sound career plan.

Scientists should start early with their career development in order to identify their goals and also attain them more successfully! We offer a **modular program of three courses**. First, the skills, interests and values of participants are assessed by themselves and by their peers using activities selected to address communication, conflict management, teamwork and leadership abilities. As a next step, the participants develop a plan of skills they want to acquire, the "Personal Development Plan", the "PeP". After undergoing specifically adjusted training and reassessment of their skills, the final step is plan their next career steps. This comprehensive "PeP" package enables the participants to identify their career needs and to develop them.

HOW TO START YOUR OWN LAB

SCHILLER & MERTENS

NaturalScience.Careers

2-4 DAYS COURSE FOR POSTDOCS AND GROUPLEADERS

The toolkit for academic success

Funding

Will show you how to pick the right funding type for your plans and how to effectively write applications and proposals.

- Funding opportunities in Germany, Europe and worldwide
- Planning and managing my start and my career

Science

Will enable you to structure your own group and position it within the environment at your institute and beyond.

- How to get independent from your supervisor, how to find mentors
- How to perform in interdisciplinary research

People

Is all about leading, yourself and your team.

- Leadership and team structures, hiring and firing staff
- Feedback, negotiation and conflict management

ABOUT US

ALEXANDER SCHILLER

JUN.-PROF. DR. ÈS SC. HABIL., INSTITUTE FOR INORGANIC AND ANALYTICAL CHEMISTRY, UNIVERSITY JENA

Dr. Schiller holds a Junior Professor position from the Carl Zeiss foundation (schiller-chemistry.de). Since 2015, he is supported with a Heisenberg fellowship from the DFG. He is a trainer for transferable skills and "Certified Facilitator" (thiagi.com).

Alexander Schiller has authored more than 33 publications (624 times cited, h-Index 15). He was granted more than € 1,75 Mio funding and is currently involved in several DFG projects, e.g. research unit FOR 1738 "Heme and heme degradation products" (hhdp.uni-jena.de).

RESEARCH AREAS

In our research group we are investigating chemical models for the signaling process in the nervous system. There are three main processes in neuronal signaling: the **generation** of small signaling molecules, such as glutamic acid, acetylcholine, or nitric oxide. These neurotransmitters transport information over the synaptic cleft. The second part deals with **detection** and **sensing** of these molecules in the postsynaptic side. The third part reveals signal **processing** and relaying. In our group, we are addressing all three parts with materials, bioinorganic and supramolecular analytical chemistry concepts.

Research thrusts include:

- Photo-inducible nitric oxide and carbon monoxide-releasing molecules and materials & remote controlled delivery
- Sugar sensing at physiological conditions (fluorescence, ^{19}F NMR) and analyte discrimination (chemometrics and acousto-visual discrimination concepts)
- Molecular logic and computing with sensors and light

IMPORTANT PUBLICATIONS

Fluorinated Boronic acid-appended Bipyridinium Salts for Diol Recognition & Discrimination via 19F NMR Barcodes, J. Axthelm, H. Görls, U. S. Schubert, A. Schiller, *J. Am. Chem. Soc.* **2015**, *137*, 15402-15405.

Sugar-based molecular computing via material implication, M. Elstner, J. Axthelm, A. Schiller, *Angew. Chem. Int. Ed.* **2014**, *53*, 7339-7343.

Molecular Logic with a Saccharide Probe on the Few-Molecules Level, M. Elstner, K. Weisshart, K. Müllen, A. Schiller, *J. Am. Chem. Soc.* **2012**, *134*, 8098-8100.

A Fluorescent Sensor Array for Saccharides Based on Boronic Acid Appended Bipyridinium Salts, A. Schiller, R. A. Wessling, B. Singaram, *Angew. Chem. Int. Ed.* **2007**, *46*, 6457-6459.

DANIEL MERTENS

PD DR. RER. NAT., HEAD OF THE COOPERATION UNIT „MECHANISMS OF LEUKEMOGENESIS" DKFZ HEIDELBERG, UNIVERSITY HOSPITAL ULM

Daniel Mertens heads a junior group at the German Cancer Research Center (DKFZ) and a Max-Eder Group at the University Hospital Ulm. He is also a trainer for transferable skills.

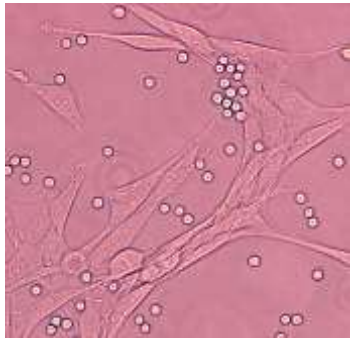
Daniel Mertens has authored 63 publications that have been cited 1593 times (Thompson & Reuters, h-index 21). He was granted more than €4 Mio funding from third parties and currently coordinates two international research networks (cancerepisys.org and leukemia-resistance.de).

RESEARCH AREAS

We are interested in the molecular mechanisms that cause leukemias and lymphomas. The scope of our research projects ranges from the elucidation and diagnostic applications of epigenetic oncomechanisms to the characterization of leukemia-specific signal transduction pathways in the malignant cells and the interaction with the nonmalignant microenvironment.

Modern oncology shifts in paradigm towards personalized medicine, where treatment is matched to the individual tumor. Such a targeted therapy requires understanding of the underlying pathomechanism of the disease entity: not only is the isolation of biomarkers needed in order to stratify single patients into prognostic subgroups, but also for the identification of central genes and pathways that can be targeted in therapies. The scientific focus of the cooperation unit is therefore to uncover the mechanisms of leukemogenesis and to translate this knowledge towards clinical application.

The pathomechanism of malignant cells need also be viewed as an interplay of intracellular aberrations and their impact on the interaction of the tumor cells with their microenvironment. Inside the cell, genetic aberrations are complemented by epigenetic defects. These defects change the phenotype of the cell and its interaction with the surrounding nonmalignant cells, the microenvironement. It is becoming increasingly clear how much the malignant cells form their microenvironmental niche that supports them. The dependency of the tumor cells on this niche for pro-survival support and protection makes this interaction a target that can be therapeutically exploited.



Leukemic cells (small) need the support from non-malignant bystander cells. DIE ZEIT: Research in Baden Württemberg, 13.7.2013

OUR REFERENCES

CLIENTS

German Cancer Research Center

University Hospital Jena, Center for Sepsis Control and Care

Institute for Meteorology and Climate Control

Helmholtz Association, Berlin

Max Planck Institutes for BioGeoChemistry and Chemical Ecology, Jena

LMU Munich, Center for NanoScience

Friedrich Schiller University Jena, Graduate Academy

tecis Finanzdienstleistungen AG, Jena

Gesellschaft der Deutschen Naturforscher und Ärzte

Gesellschaft Deutscher Chemiker, Jungchemiker Jena

DFG Research Training Group 1715

Max Planck Society, Munich

CLIENTS

COST Action 1202 PERSPECT-H2O

EuCheMS Chemistry Congress Istanbul 2014

ACS Pacifichem Hawaii 2015

Bauhaus-Universität Weimar

Eurocan Platform, Summer School Portugal

Deutsches Konsortium für Translationale Krebsforschung

University Bielefeld

Göttingen Graduate School for Neurosciences, Biophysics, and Molecular Biosciences

DFG Research Unit FOR 1738

Institute for Cancer Research, Oslo University Hospital

German Centre for Integrative Biodiversity Research

Max Planck Institute for Ornithology

FEEDBACK from over 1 000 trained scientists…

"I learned a lot from my tutor. He liked to share his experiences as a scientist, which helped me a lot for my everyday life."

"For me it was great and very enriching to share those three days. Thanks again to all!"

„The course was challenging, but offered good mentoring and opportunities to improve. It was an excellent balance between activities and presentations."

"Thanks again to Alex and Daniel for their enthusiastic work and the helpful discussions."

"High value and impact. The course was very demanding and a challenging atmosphere. The tutors were a very good team. Overall evaluation: Very good!"

"I got useful advice and feedback concerning personal and academic questions."

"Thanks to everyone for this really inspiring workshop. I learned a lot of new things that will improve my teaching in the future."

"Great course! It was perfect for the 1st year of PhD. My objectives have been more than met!"

"This course is also pure fun! You can look forward to a very lively and rewarding day!"

"One word: Brilliant!"

"Be open and enjoy the great day! Very funny & very interesting"

"I left the course with many good ideas and I hope now that my teaching will improve!"

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SCIENTISTS NEED MORE

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