



**All courses also available as  
LIVE ONLINE TRAININGS**

**SCHILLER & MERTENS**

SCIENTISTS NEED MORE









# OUR VISION

Work in a modern scientific environment requires advanced skills. 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.

PD Dr. ès sc. habil. Alexander Schiller &

PD Dr. rer. nat. habil. Daniel Mertens

AS SCIENTISTS WE FOCUS ON  
THE RESULTS,

AS COACHES WE FOCUS ON  
THE PROCESS.







OUR CONCEPT



# SCIENTISTS LEARN WITH SCIENTISTS

## ADVANCED SKILLS COURSES AND COACHING FROM SCIENTISTS FOR SCIENTISTS.

Since 2011, Schiller & Mertens focus on what our participants want: a toolbox of straightforward essentials for research.

Our courses are ideally suited to complement your research expertise. Our rich experience as professors, researchers and group leaders enables us to focus on the real needs of scientists. Moreover, we use examples from everyday life in the laboratory and the clinic. From our courses given so far, graduate students, PostDocs, junior group leaders, lecturers, professors, and directors feedback that they can directly apply in everyday life what they learned in our courses.

In addition, we offer personal performance coaching and consulting.

### ● CONTENT

We offer the full range of transferable skills courses, e.g. Communication, Presentation, Leadership & Teams, Negotiation, Conflict & Collaboration, Creativity, Academic Teaching, Career Development, Train-the-trainer ... see next pages!

### ● ENTHUSIASM

John Hattie says: „The teacher makes the difference!“ We believe that trainers have to be enthusiastic and contagious with their joy in teaching and learning transferable skills. Our background as pianist, actors and director in theater influences our training performance.

### ● EXPERIENCE

We are experienced researchers in natural science and habilitated group leaders. We are still producing outstanding scientific output with great impact.

[www.schiller-chemistry.de](http://www.schiller-chemistry.de)

[www.mertens-lab.de](http://www.mertens-lab.de)

### ● METHODOLOGY

As “certified facilitators” we are also working with the amazing (online) training and facilitation strategies of one of the best trainers in the world: Dr. Sivasailam “Thiagi” Thiagarajan ([www.thiagi.com](http://www.thiagi.com)).





# OUR PORTFOLIO

# PORTFOLIO OF COURSES

## ADVANCED SKILLS COURSES

We offer **on-site** and **live online courses** and individual **coachings** that are ideally suited to complement research expertise at your institution. Workshops can of course also be customized to meet your special requirements. We offer our single- and double-trainer courses in German, English and French language for scientists on every level of experience. Ask for our **shows**: take-home lessons within 90 min.

- **SCIENTISTS NEED MORE**

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

- **PROJECT, TIME & SELF-MANAGEMENT**

Manage and plan your research projects

- **NEGOTIATION & CONFLICT MANAGEMENT**

Negotiation with Harvard Principles in conflicts

- **INTERACTIVE TRAINING & TEACHING STRATEGIES**

for trainers, teachers, professors, and managers



- **GOOD SCIENTIFIC PRACTICE**

Codes & values, publishing, leadership & teams, misconduct

- **CREATIVITY IN SCIENCE**

Activities for intuitive and rational approaches in creativity

- **COMMUNICATION**

Communication with your peers is key

- **EFFECTIVE PRESENTATION & GRANT WRITING**

Talks, posters, publications, proposals, grants

- **HIGHER EDUCATION IN NATURAL SCIENCE**

Fast forward for your teaching qualities at the university.

- **TEAMS & LEADERSHIP**

Team and leadership development in science, team building events

- **PERSONAL DEVELOPMENT PLAN „PEP“**

Consecutive courses for scientists to develop successful careers

- **HOW TO START YOUR OWN LAB**

The toolkit for academic success: Funding, Science and People.

NaturalScience.Careers



A photograph of two men standing on a sandy beach with the ocean and a clear blue sky in the background. The man on the left is wearing a black t-shirt and dark sunglasses. The man on the right is wearing a white short-sleeved button-down shirt, light-colored trousers, and reflective sunglasses. A dark grey horizontal bar is positioned across the lower third of the image, containing the text 'OUR COURSES' in a light blue, sans-serif font.

# 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 course is perfect for e.g. an introduction week for beginning PhD students. Features can be adapted.

- A safe, yet challenging course environment that will encourage participants to explore and identify the key elements of project, time and self-management, communication with supervisor and peers, intercultural understanding and feedback by themselves
- A balanced and structured program of exercises and review sessions that will provide a variety of life learning situations
- A script "Management in Science" (170 pages PDF) to aid the learning process of participants into a professional development plan





# PROJECT & TIME MANAGEMENT

## INTENSIVE 1-2 DAYS 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 among others are covered:

- Project, time and self-management: tools, roles, controls
- Realistic self-awareness of your competencies
- SMART goals for your life, work-life balance, options for stress management, strategic planning
- Efficient interaction with your supervisor, meetings with colleagues
- Research collaboration, networking, administration of literature

### Four Laws of Project Management:

- Project management is a way of thinking and behaving, rather than just analyzing and presenting data and graphs
- Attempting to control all aspects ensures success, but not everything can be controlled
- People, not numbers and graphs, create successful projects
- Prioritize Urgency and Importance with the Eisenhower principle



# NEGOTIATION & CONFLICT MANAGEMENT

## INTENSIVE 2-3 DAYS COURSE

While working hard on scientific output keeping an eye also on good communication is sometimes difficult. The aim is to provide researchers with an opportunity to build their understanding, skills and confidence in negotiating and communication with their supervisor, their colleagues and peers. Most suited but not exclusive for PostDocs and group leaders.

In this challenging course, the following topics among others are covered:

- Conflict analysis models and tools, conflict prevention and escalation
- Principled negotiation: conflicts and resolution strategies
- Constructive outcomes through the use of collaborative processes
- Efficient interaction with your supervisor, meetings with colleagues
- Reflective communication (four sides of a message, active listening)
- Case studies, communication problems, group coaching

## Four Laws of Negotiation (Harvard Principles):

- Separate people from the problem
- Focus on interests not on positions
- Invent the options for mutual gain
- Insist on using objective criteria





# INTERACTIVE TRAINING STRATEGIES

SCHILLER & MERTENS



## INTENSIVE 3 DAYS COURSE

This course is designed for general educators who want to improve the effectiveness and engagement of the courses they teach.

The activities in this workshop include board games, card games, improv games, instructional puzzle, simulation games, interactive stories, teamwork activities, and roleplaying.

- *Day 1 – An Introduction to the Design and Delivery of Learning Activities:* Experience, select, create, and modify these types of training games – Use flexible facilitation techniques that creatively blend such opposites as playfulness and seriousness, competition and collaboration, and action and reflection.
- *Day 2 – How To Design and Use Different Types of Training Games and Learning Activities:* Explain the key characteristics, advantages, and limitations of games and activities – Experience, explore, design, develop, evaluate, revise, and conduct types of training games.
- *Day 3 – How To Design and Use Different Types of Simulation Games:* Experience, explore, design, develop, evaluate, revise, and conduct types of simulation games: 1. Cash Games; 2. Interactive Stories; 3. Production Simulations; 4. Reflective Teamwork Activities; 5. Roleplaying; 6. Simulations with Playing Cards

[Get a short video of the Workshop in Chorin 2017](#)

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[www.schillermertens.de](http://www.schillermertens.de)

# GOOD SCIENTIFIC PRACTICE

## 1 - 2 DAYS COURSE

Good scientific practice embraces all the procedures and practices that are necessary for planning, conducting and reporting research. By providing common values, good practice facilitates the vital, external processes of peer review, verification and repeatability. The interactive course provides graduate research students with an opportunity to build their understanding, skills and confidence in good scientific practice.

## Features of the interactive course:

- A safe, yet challenging course environment that will encourage participants to explore and identify the key elements of good scientific practice: codes & values, publishing, leadership & teams, and misconduct.
- A balanced and structured program of real cases, exercises and review sessions that will provide a variety of learning situations
- Based on the novel DFG guidelines from 2019



## Four Laws of Good Scientific Practice:

- Develop investigative strategies/procedures/processes that take account of relevant scientific and other sources of information
- Critically evaluate data, draw conclusions from it, formulate actions and recommend further investigations where appropriate
- Beware of confirmation bias in planning, pursuing and analyzing experiments
- Provide clear reports using appropriate methods of analyzing, summarizing and displaying information



# CREATIVITY IN SCIENCE

## 1 - 2 DAYS COURSE

“Never stop with the first idea. Find always alternatives.”

For more than 20 years, we have been researching, applying and teaching creativity techniques in chemistry and biochemistry. Our approach was driven by reading scientific literature. The essence of this approach is playfulness. Thus, we use highly interactive games and activities to activate the participants' creativity. We train people to eliminate problems and profit from opportunities.

### Features of the interactive course:

- Certified Facilitators using the innovative LEGO®SeriousPlay® method
- Convergent, divergent and lateral thinking, flow, process model of creativity
- Brain storming, mind mapping, thinking in- and outside of the box
- Creativity in science: synthesis, real examples, literature
- Creative visualization

### Four Laws of Creativity:

- Beware of assumptions
- Exploit the driving force of boredom
- Side projects and hobbies help to de- and refocus
- Creativity arises from limitation and subtraction



# COMMUNICATION

## 2 - 3 DAYS OF COMPREHENSIVE TRAINING

Efficient communication of information and emotions is key in leadership! Usually the “data” does not “speak for itself”. Making your communication empathic, understandable and interesting will also promote your scientific success!

## COMMUNICATION 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 and feedback in science, negotiation and conflict management, research collaboration
- Communication models, feelings and emotions
- Intercultural and interdisciplinary competence, small talk
- The “art of questioning”, active listening, negative listening behaviors

## Four Laws of Reflective Communication:

- If you are anticipating how good you are going to feel after you say something (especially if it is critical or sarcastic), DON'T SAY IT!
- Always expect that a criticism or attack of an idea or data will be felt as a criticism or attack of the person.
- 95% of anything anyone does or says in your presence has nothing to do with you.
- When active listening, look also for non-verbal as well as verbal cues that confirm or deny the accuracy of your paraphrasing.



# EFFECTIVE PRESENTATION

TALKS, POSTERS, PUBLICATIONS, GRANTS, ...

## 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:

- Presentation skills that make a difference, managing unclear questions, how to express "I don't know", body language
- Focusing the key message for a title, producing an outline, writing a concise and informative abstract, improving clarity in text
- Presenting data in figures, making a poster that attracts interest, writing a successful thesis
- Real examples of the publication: cover letter, response to reviewers, how to handle rejection and rebuttal

### Four Laws of Presentation:

- Adapt to your audience
- Maximize signal-to-noise ratio
- Use effective redundancy on multiple channels
- Tell a story



# GRANT WRITING

## 2 - 3 DAYS COURSE

One of the most challenging tasks in science is getting continuously funded with creative and convincing proposals. Therefore, organizational and writing tools have to be learned early in a scientists' career. This workshop enables you to write successful proposals for your scientific career.

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

- Grant writing skills that make a difference, abstract, objectives & work packages, outline, reference list
- Writing style, storytelling in grant writing, implementing preliminary data, contingency plans, financials and budget
- Presenting data in figures, making a scheme that attracts interest, writing a successful grant application
- Real examples of the grant process: successful proposals, cover letter, communication with agencies, evaluation

### Four Laws of Funding:

- Get informed: funding agency, calls, requirements, deadlines
- Initiate collaboration and networking; integrate into coordinated programs
- In networks start as 'diplomat', merge into a 'gatekeeper'
- Use project planning and management tools



# HIGHER EDUCATION IN NATURAL SCIENCE

## 2 - 3 DAYS COURSE FOR BEGINNERS AND ADVANCED LECTURERS

The Compact Course is an 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; rethinking the role of the teacher
- Designing a syllabus for an entire semester and organizing the individual sessions (didactics)
- Using specific teaching methods to convey subject matter (methodology), dealing with difficult situations
- Conducting courses, teaching in a student- and research-oriented manner, assessing and examining students, observation errors
- Activities in teaching: design the activity, not the content!

### Four Laws of Teaching at University:

- Write down SMART learning goals
- Integrate Fink's and/or Bloom's taxonomy
- React on different learning styles of the students
- Use the Harvard principles for conflict management



# TEAMS & LEADERSHIP

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

Team and leadership development in science: scientists with extensive experience as group leaders will train your impact to be a good leader, develop your co-workers and how to maintain a successful team in science.

In this challenging course, the following topics are covered:

- Leadership tasks, styles and values in science, personality models
- Situational leadership, delegation, feedback and active listening
- SMART strategies and goals, conflict handling styles, negotiation
- Group forming processes, interaction with group members
- Behavioral and lateral leadership in science, communication in collaborations, social awareness and intercultural competence

### Four Laws of Leadership in Science:

- Adopt a situational leadership style
- Structure your job interviews by anticipating strengths/weaknesses
- Prevent, resolve, deescalate and escalate conflicts
- Write your lab's "constitution"





# CAREERS IN- AND OUTSIDE OF ACADEMIA

## 2 - 3 DAYS COURSE

This course is aimed at PhD or post-doctoral researchers considering careers in- and outside universities or academic institutions. Many PhD students opt for further careers in higher education. The reality is that PhDs are enjoying successful careers in a broad range of organizations also beyond academia.

This will be achieved through:

- Introspection: What do I want? Who do I want to work for? Where do I want to work?
- Individual career development plan, SMART goals, mentoring
- Career options, academic portfolio, differences job applications academia vs. private sector, job interviews in- and outside of academia
- Recruiters, job ads and open applications, 'Repair shop' for your personal CV and application documents

Four Laws of Career Development:

- Project plan your career (e.g. PISPAR) and network
- Writing down your SMART goals is the first thing to make it happen
- Self-knowledge is an important component of finding the right career
- Create contingency plans: Plan A & B with matching skills, values, interests

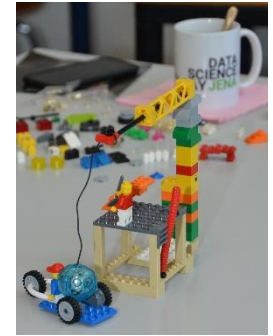
# DECISION-MAKING LEGO®SERIOUSPLAY®

## 1 - 3 DAYS COURSE FOR SCIENTISTS OF ALL LEVELS

Making clever decisions is a fundamental life skill. Especially scientists shape their careers with a lot of challenging decisions. And these skills can be learnt. This course offers a straightforward, clever process designed to improve the way scientists make professional and private decisions via LEGO®SeriousPlay®

This will be achieved through:

- Certified Facilitators using the innovative LEGO®SeriousPlay® method
- Objectives and alternatives: how to clarify what you are really trying to achieve with your decision
- Consequences and tradeoffs: how to describe how well each alternative meets your objective and how to make tough compromises
- Reflecting about uncertainty, risk tolerance and psychological traps



### Four Laws of Smart Choices:

- Work on the right decision problem and specify your objectives
- Create imaginative alternatives and understand the consequences
- Grapple with your tradeoffs and clarify your uncertainties
- Think hard about your risk tolerance and consider linked decisions



# CAREER DEVELOPMENT FOR POSTDOCS

## 2 CONSECUTIVE COURSES FOR POSTDOCS

Within 6 months, participants will develop a “Career Development Plan” via analysis of their skills, interests and values. They will receive training and reassessment in transferable skills and finally motivated 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 two 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 for their next jobs, the “Career Development Plan” (CDP). After undergoing specifically adjusted training and reassessment of their skills, the final step is to plan their next career steps. The outstanding program is currently running at Deutsches Krebsforschungs Zentrum DKFZ (Heidelberg), GeoForschungsZentrum GFZ (Potsdam) and at the universities Freiburg and Düsseldorf.



# HOW TO START YOUR OWN LAB



## 2-4 DAYS COURSE FOR POSTDOCS AND GROUPEADERS

The toolkit for academic success

### Funding

SCHILLER & MERTENS

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

- Funding strategies and opportunities in Germany 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

NaturalScience.Careers

Is all about leading, yourself and your team.

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



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# COACHING



# COACHING FOR SCIENTISTS BY SCIENTISTS

**"IF IT DOES NOT CHALLENGE YOU,  
IT DOES NOT CHANGE YOU."**

We believe that problems may exist and scientists may not always know how to solve them. Our job is to facilitate the problem-solving process — not fix a person's dysfunctional behaviors.

**Dr. habil. Alexander Schiller is a "Certified Advanced Coach" by The Thiagi Group Inc.**

Our coaching practice is unique for the following reasons:

- We identify goals and develop paths for getting to it. Topics include performance, motivational and scientific issues and interpersonal dynamics
- Our background as habilitated group leaders help to connect rapidly with our scientific clients, ask for our "Coaching Concept"
- We share a mindset that is self-aware and sensitive to diversity
- We help to consider alternative perspectives from differing views (supervisor, coworkers, etc.)
- We work toward reaching constructive outcomes through the use of collaborative processes in science



CERTIFICATE  
This certifies that  
Dr. Alexander Schiller  
has successfully completed the  
advanced coaching education  
(80 units). The Thiagi Group  
grants the above holder as  
Advanced Coach.

June 6, 2018  
the thiagi group  
learning performance practice

Dr. Siranilam  
Thiagarajan



Practical Advice Cards  
**How to start  
your own lab**

Lab

Practical Advice Cards  
**How to start  
your own lab**

Funding

Practical Advice Cards  
**How to start  
your own lab**

People

Practical Advice Cards  
**How to start  
your own lab**

Science

Natural Science  
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Natural Science Careers  
**SCHILLER & MERTENS**  
SCIENTISTS NEED MORE

**MATERIALS**

# PRACTICAL ADVICE CARDS

“Don’t read hefty books and count the number principles that you have mastered. Instead, master a few principles and make them count.”  
Thiagi

The PAC require the players to take a piece of advice and analyze it, apply it, challenge it, discuss it, evaluate it, explain it, identify its essence, plan its application, predict consequences of applying it, anticipate negative consequences of implementing it, use it to solve problems, relate it to the workplace, view it from different perspectives, summarize it, find supporting evidence for it, and teach it to others. In other words, the card games encourage in-depth understanding of important guidelines and mindful planning for their implementation.

We develop continuously Practical Advice Cards (PAC) for our courses:

- “How to start your own lab: Funding, Science, Lab and People”
- “Doing Science: Project management”, “Good scientific practice”
- “Career development for scientists”, “Introspection Cards”
- “Academic teaching”, “Grant writing” & “Effective Presentation”
- “Four Laws of ... ”  
A collection of 26 topics, such as presentation, self-awareness, leadership, project management, reflective communication, feedback, academic teaching, recharge, flow, etc.
- Further Practical Advice Cards are available from The Thiagi Group
- Manual for playing with Practical Advice Cards  
<http://thiagi.net/PAC/pacGameBooklet.pdf>





# ABOUT US



# ALEXANDER SCHILLER



TRAINER & FACILITATOR, SCHILLER & MERTENS  
PD DR. ÈS SC. HABIL., UNIVERSITY JENA

A chemist from LMU Munich and PhD in bioinorganic chemistry from EPF Lausanne, Dr. Schiller is a now full-time trainer for transferable skills with Schiller & Mertens. He facilitates effective communication for scientists, engineers, physicians and other rational minds as trainer and coach. He is a "Certified Facilitator and Advanced Coach" from The Thiagi Group Inc. He has a 20-years teaching experience at LMU Munich, EPF Lausanne, UC Santa Cruz, and FSU Jena (Lehr-Zertifikat Advanced, Habilitation in 2015, *Venia legendi* in Inorganic Chemistry).



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## RESEARCH AREAS

The former Heisenberg fellow Dr. Schiller was a junior professor from 2009 to 2017. He has authored more than 40 publications (1200 times cited, h-Index 20). He was granted more than € 1.75 Mio funding and was involved in several DFG projects, e.g. research unit FOR 1738 "Heme and heme degradation products" (hhdhp.uni-jena.de). Dr. Schiller received the prestigious MSMLG Czarnik Emerging Investigator Award 2017 & 2018.

In the research group biomimetic signal transduction is investigated with materials, bioinorganic and supramolecular analytical chemistry concepts ([www.schiller-chemistry.de](http://www.schiller-chemistry.de)).

Research thrusts include:

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

## IMPORTANT PUBLICATIONS

**HOT PAPER** Two-Photon Induced CO-Releasing Molecules as Molecular Logic Systems in Solution, Polymers and Cells, R. Vadde, G. U. Reddy, J. Liu, P. Hoffmann, R. Sollapur, R. Wyrwa, S. Kupfer, C. Spielmann, S. Bonnet, U. Neugebauer, A. Schiller, *Chem. Eur. J.* **2019**, *25*, 8453-8458.

Red light-triggered CO release from  $\text{Mn}_2(\text{CO})_{10}$  using triplet sensitization in polymer non-woven fabrics, S. H. C. Askes, U. R. Gandra, R. Wyrwa, S. Bonnet, A. Schiller, *J. Am. Chem. Soc.* **2017**, *39*, 15292-15295.

Fluorinated Boronic Acid-Appended Pyridinium Salts and  $^{19}\text{F}$  NMR Spectroscopy for Diol Sensing, J. Axthelm, M. Elstner, G. U. Reddy, H. Görls, P. Bellstedt, A. Schiller, *J. Am. Chem. Soc.* **2017**, *139*, 11413-11420.

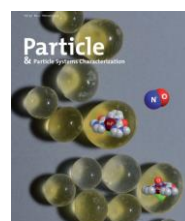
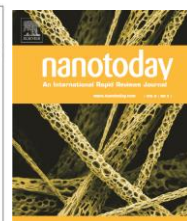
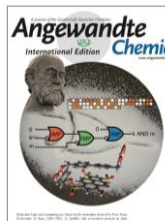
Light-responsive paper strips as CO-releasing material with a colourimetric response, G. U. Reddy, J. Liu, P. Hoffmann, J. Steinmetzer, H. Görls, S. H. C. Askes, S. Kupfer, U. Neugebauer, S. Gräfe, A. Schiller, *Chem. Sci.* **2017**, *8*, 6555-6560.

Co-Registered Molecular Logic Gate with a CO-Releasing Molecule Triggered by Light and Peroxide, G. U. Reddy, J. Axthelm, P. Hoffmann, N. Taye, S. Gläser, H. Görls, S. L. Hopkins, W. Plass, U. Neugebauer, S. Bonnet, A. Schiller, *J. Am. Chem. Soc.* **2017**, *139*, 4991-4994.

Fluorinated Boronic acid-appended Bipyridinium Salts for Diol Recognition & Discrimination via  $^{19}\text{F}$  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.





# 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 with Schiller & Mertens.

Daniel Mertens has authored 67 publications that have been cited 2226 times (Thompson & Reuters, h-index 27). He was granted more than € 5 Mio funding from third parties and currently coordinates two international research networks (cancerepisys.org and leukemia-resistance.de).

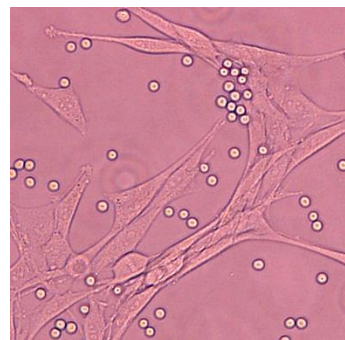


## RESEARCH AREAS

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 microenvironment. 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 COLLABORATORS



# THIAGI

## TRAINER & FACILITATOR, THE THIAGI GROUP

Dr. Sivasailam "Thiagi" Thiagarajan is the CEO of Thiagi, Inc ([www.thiagi.com](http://www.thiagi.com)). He is helping professionals improve their performance effectively and enjoyably. Internationally recognized as an expert in active learning, Thiagi has conducted training workshops in 24 countries. He has worked with more than 50 different organizations in high-tech, financial services, and management consulting areas. Thiagi has published 40 books, 90 games and simulations, and more than 200 articles. Thiagi is the Grand Master of interactive learning worldwide.

This is what an expert has to say about Thiagi's special talents in designing and delivering training games and learning activities:

Glenn Parker, author of *Team Players* and *Teamwork*: "Quite simply, Thiagi is the most prolific and creative designer of games and simulations in the world."



# NATURALSOURCE. *CAREERS*

## DR. KARIN BODEWITS & DR. PHILIPP GRAMLICH

Similar to Schiller & Mertens, NaturalScience.Careers is run by natural scientists. Karin has a PhD in biochemistry from the University of Edinburgh, while Philipp holds a PhD in chemistry. On top of that, both have gained industry experience: Philipp held two positions in the chemical industry, eventually leading 22 staff in three teams. They give trainings, talks and write texts on the four main topics: career development, gender in science, leadership and communication. They have written a [career guide for female scientists](#) with Wiley, Karin published the [novel "You must be very intelligent – A PhD delusion"](#) with Springer. They are regularly writing articles and short stories for journals like naturejobs, Chemistry World, Nachrichten aus der Chemie and Laborjournal.



NaturalScience.Careers



Beobachtungsfehler bei mündlichen Prüfungen

- Fehler, die in Beobachtungsprotokollen auftreten können.
- Verzerrungen der Wahrnehmung, die in der mangelnden Objektivität und damit in der Person des Beobachters begründet sind.
- Bitte ausgesuchte „Fehler“ paragrafieren.

### Primacy-Effekt

Beim **Primacy-Effekt** wirkt sich der erste Eindruck nachhaltig auf die Wahrnehmung aus.  
Beispiel: Eine sehr gute Antwort auf die Frage kann dazu beitragen, dass man da weniger gute Beiträge nicht mehr so be-  
wachtet.

# OUR REFERENCES



# PROGRAMS


MARIE SKŁODOWSKA-CURIE (H2020 – EU): 2019 – 2023

[HTTP://LOGICLAB-ITN.EU/](http://LOGICLAB-ITN.EU/)

LOGIC LAB (Molecular logic lab-on-a-vesicle for intracellular diagnostics) builds a multi-faceted and multi-sectoral research network with the aim to establish a novel type of molecular logic sensors that reliably operate in biological media – a crucial requirement for their application as rapid and easy-to-handle tools for intracellular diagnostics. With excellent cross-disciplinary scientific and complementary training, we will educate highly-skilled young scientists in the fields of chemistry, physics and biology.



## Key clients with innovative training programs:

- DKFZ (PhD Introduction Week, Career Development with Postdocs)
- Forschungszentrum Jülich (Judocs PhD training) 
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- EMBL (Training for PhD and Postdocs)
- Max Planck Society (Training for Postdocs and PhD)
- Training at 20 Max Planck institutes, PhDnet, Leadnet
- Member of the coaching pool of the Planck Academy
- Universities Freiburg, Düsseldorf (Career Development with Postdocs)

# CLIENTS



German Cancer Research Center



University Hospital Jena, Center for Sepsis Control and Care



Institute for Meteorology and Climate Control



Helmholtz Association, Berlin



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LMU Munich, Center for NanoScience



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tecis Finanzdienstleistungen AG, Jena; Rotary Club Jena Ernst Abbe



Gesellschaft der Deutschen Naturforscher und Ärzte



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COST Action 1202 PERSPECT-H2O



Deutsches Konsortium für  
Translationale Krebsforschung  
DKTK



EuCheMS Chemistry Congress  
Istanbul 2014, ACS Pacificchem  
Hawaii 2015



Max Delbrück Center for Molecular  
Medicine



Eurocan Platform, Summer School  
Portugal



Forschungszentrum Jülich



**Bauhaus-Universität Weimar**

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Gießen, Göttingen, Halle, Karlsruhe, Leipzig,  
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Paderborn. Weimar



Göttingen Graduate School for  
Neurosciences, Biophysics, and  
Molecular Biosciences & GAUSS



heme and heme degradation products  
alternative functions and signaling mechanisms

DFG TRR 48, 89, 142  
SFB 475, 655, 823, 1102, 1143, 1176  
FOR 1738



Institute for Cancer Research,  
Oslo University Hospital



German Centre for Integrative  
Biodiversity Research



Chemical Ecology, Biogeochemistry, Biology of Ageing, Science  
of the Human History, Structure and Dynamics of Matter, Heart  
and Lung Research, Human Cognitive and Brain Sciences,  
Evolutionary Anthropology, Ornithology, Gravitational Physics,  
Astrophysics, Extraterrestrial Physics, Experimental Medicine,...



# FEEDBACK

from over 7 000 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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