SCHILLER & MERTENS

SCIENTISTS NEED MORE

Workshop
“Writing Success“

English or German
2 days

Trainer: Dr. habil. Alexander Schiller

Venue:
Center for Materials Research (ZfM/LaMa)
of Justus Liebig University Gießen
Chemistry Lecture Hall Building
Heinrich-Buff-Ring 19, 35392 Gießen
Seminar Room C 106

Date:
31.1. and 1.2.2018
9:00 – 17:00

Target group:
14 Ph.D. students from the research groups organized in the ZfM/LaMa

Setting:
Workshop includes two full days (8 hours per day) with one trainer

Registration:
via e-mail to Martin Güngerich (martin.guengerich@materialwiss.uni-giessen.de)

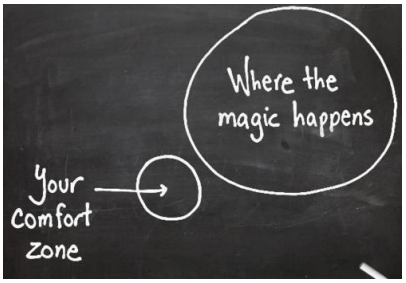
www.schillermertens.de

COURSE AIM AND FORMAT

Science is mostly generation of high quality data and ideas. However, presentation of data and ideas is arguably of similar importance: after generation of data and ideas, you want to convince the reviewers, be it in the form of papers or grants!

AIM – To provide Ph.D. students with an opportunity to build their understanding, skills and confidence in writing good papers and grants. This will enhance their overall effectiveness as they pursue their research studies and maximize success of their future careers.

METHOD – Participants will experience interactive lectures, moderated group discussions and perform activities in order to learn from first-hand experience. We will safely move them outside of their "comfort zone" to the "learning zone" (Gerald Hüther) to enhance acquisition of novel skills. In addition, we will apply the "invoked insufficiency" to enhance learning. The shortcoming experienced by participants will be resolved in carefully moderated and focused review sessions, using peer-to-peer feedback as powerful tool. The aims of this flexible format will be achieved through:



- Trainers who work as active scientists and group leaders in chemistry and biochemistry
- Since 1998, Dr. Schiller and Dr. Mertens publish regularly in the best journals possible in leukemia and chemistry: *Nature*, *Nature Genetics*, *Leukemia*, *Chemistry – An European Journal*, *Angewandte Chemie*, *Journal of the American Chemical Society*, etc.
  www.schiller-chemistry.de
  www.mertens-lab.de
- A safe, yet challenging course environment that will encourage participants to reflect the key elements of effective communication. Ground rules and feedback rules will be established by the participants to ensure course ownership and a respectful attitude.
- A balanced and structured program of plenaries, challenging activities and review sessions that will provide a variety of learning situations allowing participants to identify and take away relevant lessons
- Hands-on optimization of presentation of participants after establishment of common fundamental rules for effective communication
- A range of group situations where participants will be encouraged to share feedback with their peers on their overall effectiveness
- A learning handout which will be offered to aid the training process of participants
- Encouragement to create an ongoing level of support from their learning groups that will enable continuing networking, coaching and further group interactions
- Program adoptable to the needs of the Ph.D. students and will be created in close cooperation with the coordinators of the Center for Materials Research (ZfM/LaMa)

MODULES

A) How to write a scientific text (thesis, manuscript, grant application)

a. Focusing on your central message
b. Identifying a good title
c. Writing a focused abstract / summary
d. How to draft an outline
e. Developing an effective first draft

f. Writing an introduction
g. Writing the results
h. The discussion section
i. Materials and Methods
j. Informative Tables and Figures
k. Use of numbers and statistics
l. Selecting a journal for publishing, cover and response letter
m. Journal Submission Checklist

B) How do I read and manage literature? Suggestions from professionals.

C) Examples How to / How not to

n. improving a text
o. improving a figure
p. improving a table

BASIC TOOLS IN COMMUNICATION

Here we will focus on psychological backgrounds and theory of clear communication in science. The concept of the "Four Laws of Presentation" will be introduced:

1. Adapt to the audience!
2. Maximize signal-to-noise ratio!
3. Use effective redundancy!
4. Tell a story!

KEY MESSAGE

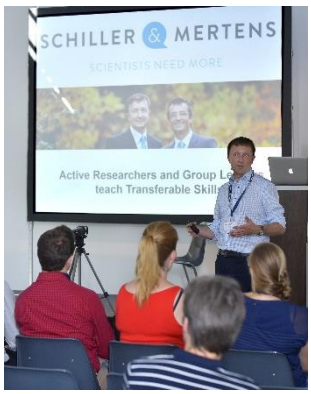
Arguably, the most important part of communication, be it in talks or posters, is identifying the key message. While this may be obvious, it is striking how frequently the key message is not well defined. To make this clear to the participants we start with the activity "Pass the Message" as an effective icebreaker that is filmed and reviewed. Here, loss of information and the major issues of ineffective communications are impressively visualized. Even though we scientists believe that we are capable of communicating effectively, this hands-on experience of the participants shows how fast information can be lost or even falsified.

DATA VISUALIZATION

As a transition to oral and poster presentation, we will interactively optimize visualization of data of participants. This discussion will be initiated by a brief lecture on how much impact the proper presentation of numbers has on our peers: processing of numbers, types of graphs, arrangement of sample order, use of colours, visualization of standard deviation are key in conveying the message hidden in our data: unfortunately, the data does not speak for itself. This will lead into a discussion of examples of sets of data from participants, whose ideal presentation will be discussed in the plenary under our moderation.

At the end of the course, the participants will dispose of a personal toolbox that will allow them to communicate efficiently as scientists (writing a good paper or PhD thesis), a skill that is key to success!

Why working with "Schiller & Mertens"?



Work in a modern scientific environment requires advanced skills that are currently not part of the standard curriculae of (german) universities and research institutions. Examples of these advanced skills are project-, time- and conflict management, communication, creativity, group dynamics, interdisciplinary collaboration and written and oral presentation techniques. These skills are ideally transferred to scientists by scientists. Our courses are ideally suited to complement research expertise at the home institution of participating scientists and medical doctors. Our own experience as researchers enables us to teach these topics focused on the needs of scientists and using examples from everyday life in the laboratory and the clinic. The complementary expertise of Alexander Schiller (university) and Daniel Mertens (public research institution and clinic) leads to a synergistic training experience for participants ("1+1=3"). Courses are customized to meet the special requirements of the customers. Topics are adressed pragmatically in learning-by-doing and always within the context of scientific research. From our courses given so far, graduate students, PostDocs and lecturers feedback that they can directly apply what they learn in our courses in everyday life.

References

Universitätsklinik Ulm
Master Advanced Oncology
PACIFICHEM 2015
GDNÄ Die Wissensgesellschaft
Max Planck Institut für chemische Ökologie
HELMHOLTZ GEMEINSCHAFT
Max Planck Institut für Evolutionäre Anthropologie
Max Planck Institute for Biogeochemistry
EurocanPlatform
iDiv
KIT Karlsruhe Institute of Technology
Deutsches Konsortium für Translationale Krebsforschung
European Commission
zwm
Fraunhofer
dkfz.
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Molecular Signatures of Adaptive Stress Responses