

**TEACH - Talk about
Education Across
Communities in Helmholtz**

Report of Contributions

Contribution ID: 1

Type: **Talk**

Teaching Machine Learning Workshop - 2 years in, 2 or more thoughts out

Tuesday 7 December 2021 11:00 (30 minutes)

As a co-organizer of the Teaching Machine Learning Workshop at ECMLPKDD, I'd like to share our experience in striving to host a mixture of communities to share and discuss advances in teaching of ML to any level of prior knowledge.

What was thought of a small event on the European level, has now become an event at international scale. I'll distill essential outcomes that have relevance to Helmholtz.

Preferred time slot length

30 minutes

Primary author: STEINBACH, Peter (HZDR)**Presenter:** STEINBACH, Peter (HZDR)**Session Classification:** Tuesday**Track Classification:** Experience exchange

Contribution ID: 2

Type: **Talk**

Teaching An Introduction to Machine Learning to 40 or more students

Wednesday 8 December 2021 11:00 (30 minutes)

In this talk, I'd like to report on recent attempts to teach an introductory course to PhD students, master students and postdocs in order to teach them Machine Learning. I hope to summarize our approach and share insights based on empirical data from learner feedback surveys. We used an inverted classroom approach as pioneered by i2ml of Heidi Seibold, Bernd Bischl et al. For the introduction to Deep Learning that is part of this curriculum, we took inspiration from a carpentries' incubator project on the same topic.

Preferred time slot length

30 minutes

Primary author: STEINBACH, Peter (HZDR)**Presenter:** STEINBACH, Peter (HZDR)**Session Classification:** Wednesday**Track Classification:** Experience exchange

Contribution ID: 3

Type: **Talk**

Developing an Innovation & Entrepreneurship Program from Scratch

Tuesday 7 December 2021 11:30 (30 minutes)

In 2019, Forschungszentrum Jülich developed a comprehensive training program for young scientists to foster an innovation culture as well as to improve participants' skills regarding innovation, entrepreneurship and knowledge- & technology transfer.

In my talk I would like to share my experiences and discuss challenges we are still facing.

Preferred time slot length

< 30 minutes

Intended Audience

Contribution Language

English

Primary author: BRAUN, Daniel**Presenter:** BRAUN, Daniel**Session Classification:** Tuesday**Track Classification:** Experience exchange

Contribution ID: 4

Type: **Workshop**

First steps in Kotlin

Wednesday 8 December 2021 13:30 (1 hour)

Goal

Enable the participants to write their own scripts/programs/DSL/wrappers/building-tool-script in Kotlin.

Content

The course will introduce basic concepts of the language. Emphasis will be put on live coding (i.e. learners write their code along with the instructors) and overcoming the initial learning hurdles together. Hands-on exercises give the opportunity to test the newly acquired knowledge.

Preferred time slot length

60 minutes

Intended Audience

Scientists and researchers

Contribution Language

English

Primary author: BARBIERI, Giuseppe (Casus)

Co-author: NOZIK, Alexander

Presenters: BARBIERI, Giuseppe (Casus); NOZIK, Alexander

Session Classification: Wednesday

Track Classification: Collaboration

Contribution ID: 5

Type: **Workshop**

Formats out of the box

Wednesday 8 December 2021 09:00 (1h 30m)

In this workshop we want to discuss unconventional workshop formats and unconventional ways of approaching our target groups. Exemplary questions that we want to address within the workshop are:

- **Workshop Formats:** Which new and unconventional formats have you tried in the past? What worked best to get people involved? Which experiences do you have with (facilitated or peer) group coaching?

- **Communication:** Which unconventional formats are you using to invite to your events? What are good ways to reach leaders?

After an exchange on these two topics, ideas for new formats will be developed in small working groups.

Preferred time slot length

90 minutes

Intended Audience

All target groups (trainings coordinators, instructors and trainers, personnel developers)

Contribution Language

English

Primary authors: ZORELL, Sophia; MAZUGA, Anne

Co-author: VON HIRSCHHEYDT, Janine

Presenters: ZORELL, Sophia; MAZUGA, Anne

Session Classification: Wednesday

Track Classification: Experience exchange

Contribution ID: 6

Type: **Workshop**

Personas and learning paths for digitized research, non-computer scientists

Tuesday 7 December 2021 13:30 (3h 30m)

The digitization of research requires the development of researcher's digital skillset. However, most researchers are often not trained in these skills. Even worse, currently, we observe a lack of clear learning paths for obtaining these essential skills.

In this workshop, we want to discuss avenues to improve this situation. First, we want to identify personas for researchers. On this basis, we discuss which learning topics are relevant for these groups and outline learning paths.

Preferred time slot length

90 minutes

Intended Audience

researchers with and without software development experience and personnel developers

Contribution Language

English

Primary authors: Mrs LAUTZ, Carolina (DLR e.V.); KREBS, Florian (DLR e.V.); Mrs BÜLAU, Hilke (DLR e.V.); SCHLAUCH, Tobias (DLR)

Presenters: Mrs LAUTZ, Carolina (DLR e.V.); KREBS, Florian (DLR e.V.); Mrs BÜLAU, Hilke (DLR e.V.); SCHLAUCH, Tobias (DLR)

Session Classification: Tuesday

Track Classification: Experience exchange

Contribution ID: 7

Type: **Workshop**

Creating GatherTown Rooms from Scratch

Wednesday 8 December 2021 15:30 (1h 30m)

GatherTown is a video-conferencing platform with many possible interactions among participants and between participants and content elements.

This, combined with intuitive interactions and spontaneous formation of breakout rooms makes the platform a good choice for online workshops or conferences.

In this Workshop we will explore design considerations, tools and workflows to create custom workshop rooms from scratch, as well as the interaction possibilities offered by *GatherTown*

Preferred time slot length

90 minutes

Intended Audience

Educators, Workshop Organizers

Contribution Language

English

Primary author: ERXLEBEN, Fredo (Helmholtz-Zentrum Dresden-Rossendorf)

Presenter: ERXLEBEN, Fredo (Helmholtz-Zentrum Dresden-Rossendorf)

Session Classification: Wednesday

Track Classification: Collaboration

Contribution ID: 8

Type: **Other**

Teaching AI to teenagers

Tuesday 7 December 2021 12:00 (30 minutes)

We, researchers from HZDR/Helmholtz AI, recently opened three hacking-labs in Dresden, Görlitz and Freiberg: we are teaching teenagers to program AI. These hacking-labs are backed by a program called “Jugend hackt”. It’s an easy way to get in touch with AI and it increases the visibility of Helmholtz AI.

Our principles for teaching are: having fun, explorative learning, individual responsibility and making the world a better place. That means for us to place the participants in the focus of the lab. Not our goals, but the goals of the teenagers lead us the way. But how to realize that in practice? We tried different methods, organized workshops and open labs and gained a lot of experience. As the teenagers are getting better in programming we are getting better at supporting them.

Preferred time slot length

< 30 minutes

Intended Audience

Contribution Language

English

Primary author: HOFFMANN, Helene**Co-authors:** HOFFMANN, Nico (HZDR); PEREIRA, Lucas; TOLOSANA DELGADO, Raimon; SEIFERT, Holger**Presenter:** HOFFMANN, Helene**Session Classification:** Tuesday**Track Classification:** Experience exchange

Contribution ID: 9

Type: **Talk**

The PIER Education Platform as a Cross-institutional Qualification Program for Early Career Scientists

Wednesday 8 December 2021 11:30 (30 minutes)

PIER is the strategic Partnership for Innovation, Education and Research between DESY and Universität Hamburg. Since 2013 the core of the Education section is the PIER Helmholtz Graduate School. The rapid growth of the Science City Hamburg Bahrenfeld leads to an increasing number of researchers, institutions and graduate schools on Campus. Thus, in 2020, we founded the PIER Education Platform to expand our qualification program to PhD students from other schools and most recently also to postdocs from partner institutions. We offer to share our experience in integrating needs, interests and limits of multiple stakeholders in a cross-institutional qualification program.

Preferred time slot length

< 30 minutes

Intended Audience

Contribution Language

English

Primary author: Dr SCHREDELSEKER, Theresa (PIER - strategic partnership between DESY and University of Hamburg)

Co-authors: Mr SIEMSEN, Mirko (PIER - strategic partnership between DESY and University of Hamburg); Ms SEIDL, Sinikka (PIER - strategic partnership between DESY and University of Hamburg); Dr STANGE, Marion (PIER - strategic partnership between DESY and University of Hamburg); Ms TEPASS, Stefanie (PIER - strategic partnership between DESY and University of Hamburg)

Presenters: Dr SCHREDELSEKER, Theresa (PIER - strategic partnership between DESY and University of Hamburg); Mr SIEMSEN, Mirko (PIER - strategic partnership between DESY and University of Hamburg); Ms SEIDL, Sinikka (PIER - strategic partnership between DESY and University of Hamburg); Dr STANGE, Marion (PIER - strategic partnership between DESY and University of Hamburg); Ms TEPASS, Stefanie (PIER - strategic partnership between DESY and University of Hamburg)

Session Classification: Wednesday

Track Classification: Experience exchange

Contribution ID: 10

Type: **Talk**

An integrated R Markdown pipeline for the creation and efficient maintenance of technical teaching materials

Thursday 9 December 2021 11:00 (30 minutes)

At the Helmholtz Zentrum München we frequently run courses. Our courses consist of a mix of lectures and hands-on exercise sessions, often requiring the use of statistical programming software, such as R or Python, and exemplary datasets. Lecture slides are prepared as pdf documents, and exercises as both pdf and html format. Each file has a version for the instructor and one for participants. For each course, we therefore must manage multiple files in multiple formats and versions. The manual maintenance of such a high volume of files is impractical, time-consuming, and error-prone. Our solution is an integrated R Markdown pipeline: at the press of a button all the various formats and versions of our files are produced and compressed into a single ZIP-folder ready for distribution.

Preferred time slot length

30 minutes

Intended Audience

Trainers of courses in the field of statistics and programming

Contribution Language

English

Primary authors: SPIEGEL, Elmar (Helmholtz Zentrum München); JIMENEZ MUNOZ, Marina**Presenters:** SPIEGEL, Elmar (Helmholtz Zentrum München); JIMENEZ MUNOZ, Marina**Session Classification:** Thursday**Track Classification:** Experience exchange

Contribution ID: 11

Type: **Workshop**

Attracting talent to the middle of nowhere: internship programs for international master students

Thursday 9 December 2021 09:00 (1h 30m)

Scientists based at Helmholtz institutes often do not have direct access to local master students as university colleagues do. Therefore, many Helmholtz institutes are very open to accepting international applicants for doctoral projects, and good visibility in the international community is vital.

We present two internship programs for MSc students regularly offered in Jülich that reliably help us attract new Ph.D. students. Furthermore, we provide insights that we gained by running our programs and opportunities for you to share experiences and exchange ideas around (a) organizing an in-person program, (b) advertising the program, and (c) dealing with alumni. Furthermore, we would like to discuss new opportunities and pitfalls with virtual and hybrid formats triggered by teleworking.

Preferred time slot length

90 minutes

Intended Audience

colleagues interested in outreach to master students, colleagues involved in recruiting students, research school coordinators, organizers of internship programmes

Contribution Language

English

Primary authors: KABADSHOW, Ivo (Forschungszentrum Jülich); AUTH, Thorsten (Forschungszentrum Jülich)

Presenters: KABADSHOW, Ivo (Forschungszentrum Jülich); AUTH, Thorsten (Forschungszentrum Jülich)

Session Classification: Thursday

Track Classification: Experience exchange

Contribution ID: 12

Type: Other

Fortbildungsangebote für Trainer im Bereich Digitale Lehre / E-Learning

Wednesday 8 December 2021 14:30 (30 minutes)

Folgende digitale Fortbildungsangebote für Trainerinnen *im Bereich Digitale Lehre / E-Learning* werden vorgestellt (*Inhalte, Zeitaufwand, Kosten*):

- *Medienkompetenz in der Lehre*
- *Lehren und Lernen mit digitalen Medien*
- *Die digitale Praxis für Erwachsenenbildnerinnen*
- *Erwachsenenbildung im Online-Raum*
- *E-Learning für Bibliotheken*

Links zu diesen und weiteren digitalen Fortbildungsangeboten für Trainerinnen *sammeln wir anschließend z.B. in einem Etherpad zur Nachnutzung für alle Teilnehmerinnen.*

Preferred time slot length

< 30 minutes

Intended Audience

Instructors and Trainers

Contribution Language

German

Primary author: WITZLER, Gudrun (AWI)**Presenter:** WITZLER, Gudrun (AWI)**Session Classification:** Wednesday**Track Classification:** Experience exchange

Contribution ID: 13

Type: **Talk**

H^3: The Helmholtz Herbst Hackathon

Thursday 9 December 2021 14:00 (30 minutes)

In September 2021, we organized the Helmholtz Herbst Hackathon, a data science hackathon targeting PhD students and PostDocs in the Helmholtz Association. 45 participants mostly from the six Helmholtz Information and Data Science Schools (HIDSS) worked on data science challenges from various scientific domains. Especially after the long isolation due to the pandemic, we focused the program on personal interaction, exchange, and collaboration and created a more collaborative than competitive atmosphere. The data challenges were based on the Jülich Data Challenge platform 1. Science to Physical Analytics. All participants were offered an introductory course to the HAICORE compute resources beforehand and were guided throughout the hackathon by a team of Helmholtz AI consultants.

Preferred time slot length

30 minutes

Intended Audience

Organizers of teaching events

Contribution Language

German

Primary authors: KESSELHEIM, Stefan (FZ Jülich); HENKEL, Daniela (GEOMAR); PRIGGE, Enno (GEOMAR Helmholtz Centre for Ocean Research); KLOSS, Ramona (Forschungszentrum Jülich); EHRMAN-NTRAUT, Sophie (HIDA - Helmholtz Information & Data Science Academy @ Helmholtz Association of German Research Centers); WENZEL, Susanne (Forschungszentrum Jülich GmbH)

Presenter: KESSELHEIM, Stefan (FZ Jülich)

Session Classification: Thursday

Track Classification: Experience exchange

Contribution ID: 15

Type: **Discussion**

Discussion on a joint H-Platform communication strategy in the area of training

Friday 10 December 2021 09:00 (1h 30m)

All Helmholtz Incubator Platforms and many Helmholtz Institutions offer training formats aimed at the Helmholtz community. Some of these courses are intended for a wider target group while other training formats are intended for narrower, more selected groups such as experts in a specific field. Since a common Helmholtz-wide communication system such as a training platform or a cross-center email list is missing, we would like to discuss how the platforms can cooperate and support each other in order to achieve a joint, target group-oriented promotion of training formats. This communication strategy should be well coordinated, reach as many centers and as many target groups as possible. For the joint discussion we will prepare miroboards to summarize ideas and possible solutions.

Preferred time slot length

90 minutes

Intended Audience

This discussion round is orientated to all who are involved in development and promotion of training events.

Contribution Language

English

Primary authors: TRÖSCH, Mirl (Geomar Helmholtz Research Center); STEFFEN, Jan (Geomar Helmholtz Research Center)

Presenters: TRÖSCH, Mirl (Geomar Helmholtz Research Center); STEFFEN, Jan (Geomar Helmholtz Research Center)

Session Classification: Friday

Track Classification: Collaboration

Contribution ID: 16

Type: **Discussion**

Training "FAIR data management, guidelines and tools". Planning the pilot course at Helmholtz Metadata Collaboration - Hub Matter

Thursday 9 December 2021 11:30 (30 minutes)

The Helmholtz Metadata Collaboration (HMC) calls for the transfer of knowledge to the community. In the context of HMC Hub Matter we have developed a workflow for delivering training which is supported by cyclic quality control, and guidelines and templates on how to implement this training offering ensuring its value beyond a single training instance. This is reflective of how the training service is tailored to the researchers specific needs: it is modular, flexible and in continuous development and review.

Within the Hub tools for data curation are developed (Guenther 2021) and our training offer is fully integrated with it. We present here work from our pilot course including: didactic units, didactic plan, and evaluation rubric.

Preferred time slot length

< 30 minutes

Intended Audience

Colleagues expert in didactics and course planning

Contribution Language

English

Primary author: CRISTIANO, Luigia (HZB)**Presenter:** CRISTIANO, Luigia (HZB)**Session Classification:** Thursday**Track Classification:** Collaboration

Contribution ID: 17

Type: **Discussion**

Forming Federal Communities

Thursday 9 December 2021 12:00 (30 minutes)

Leisure Walk-In Walk-Out Hackathon/Bazaar of ideas on the topic of how to support PhD students and scientific staff with programming skills to enhance their research efficiency.

We will be designing approaches towards long-term learner retention and forming communities as an additional goal of the teaching events.

Also, we will collect ideas how to promote isolated teaching events to a solution which can be easily adapted Helmholtz-wide and how to interconnect the resulting communities.

Preferred time slot length

< 30 minutes

Intended Audience

Instructors

Contribution Language

English

Primary author: LOKAMANI, Mani (HZDR)**Presenter:** LOKAMANI, Mani (HZDR)**Session Classification:** Thursday**Track Classification:** Collaboration

Contribution ID: 18

Type: **Discussion**

The Grant Writing Bootcamp: An internal boost funding program for DZNE postdocs

Thursday 9 December 2021 13:30 (30 minutes)

The “Grant Writing Bootcamp” provides postdocs at DZNE with the opportunity to work on a grant proposal and receive pilot funding (10,000€) for their own innovative research idea, particularly those with novel hypothesis and the potential for transformative results. Over a period of 4 months (consisting of two workshops and individual work), the 10 participants learn and apply methods how to refine their own research idea and write a convincing grant proposal. The idea refinement workshop uses different approaches from idea selling, business model innovation, and creativity techniques to assess and improve the research idea. ... see file

Preferred time slot length

30 minutes

Intended Audience

Education Coordinators, PostDocs

Contribution Language

English

Primary authors: THUL, Silke (DZNE); LÜCKE, Janine (DZNE)**Presenters:** THUL, Silke (DZNE); LÜCKE, Janine (DZNE)**Session Classification:** Thursday**Track Classification:** Resource exchange

Contribution ID: 19

Type: **Talk**

The Carpentries: Software, Data and Library Carpentry

Wednesday 8 December 2021 12:00 (30 minutes)

The Carpentries: Software, Data and Library Carpentry

Preferred time slot length

30 minutes

Intended Audience

Researchers, Instructors, Education Coordinators

Contribution Language

English

Primary author: MÜLLER, Rabea (The Carpentries)

Presenter: MÜLLER, Rabea (The Carpentries)

Session Classification: Wednesday

Track Classification: Resource exchange

Contribution ID: 22

Type: **Other**

Welcome to TEACH

Tuesday 7 December 2021 09:30 (1 hour)

Opening words to the conference, organizational details and introduction to the involved platforms and offices.

Contribution Language

Intended Audience

Preferred time slot length

Presenters: ERXLEBEN, Fredo (Helmholtz-Zentrum Dresden-Rossendorf); FERGUSON, Lea Maria (Helmholtz Association, Helmholtz Open Science Office); EHRMANNTRAUT, Sophie (HIDA - Helmholtz Information & Data Science Academy @ Helmholtz Association of German Reserach Centers)

Session Classification: Tuesday

Contribution ID: 23

Type: **Other**

Closing Event

Friday 10 December 2021 11:00 (30 minutes)

Contribution Language

Intended Audience

Preferred time slot length

Presenters: ERXLEBEN, Fredo (Helmholtz-Zentrum Dresden-Rossendorf); EHRMANNTRAUT, Sophie (HIDA - Helmholtz Information & Data Science Academy @ Helmholtz Association of German Research Centers)

Session Classification: Friday

Contribution ID: 24

Type: **Other**

Arrival

Tuesday 7 December 2021 09:00 (30 minutes)

Get started with the GatherTown session. Opportunity to check technical setups, ask organizational questions and to get to know the location.

Contribution Language

Intended Audience

Preferred time slot length

Primary authors: ERXLEBEN, Fredo (Helmholtz-Zentrum Dresden-Rossendorf); EHRMANNTRAUT, Sophie (HIDA - Helmholtz Information & Data Science Academy @ Helmholtz Association of German Research Centers)

Session Classification: Tuesday