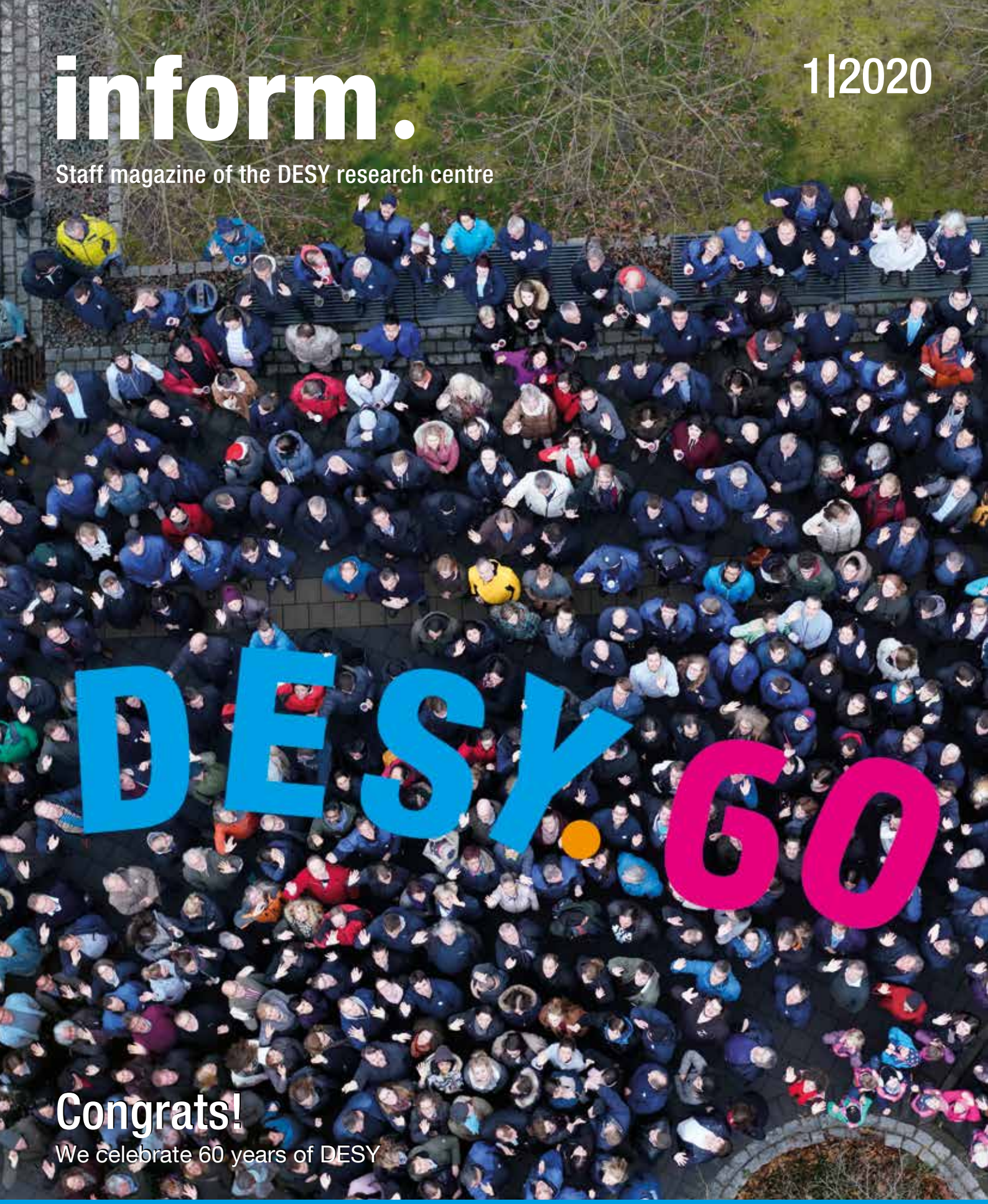
inform.

1|2020

Staff magazine of the DESY research centre



Congrats!

We celebrate 60 years of DESY

Onwards

Visiter centre DESYUM in the making

Secret

Geocaching on the DESY site

Contest

High-school students take over DESY test beam

Picture: DESY, Rüdiger Nehmzow, Düsseldorf

Dear DESY colleagues,

"Bleibt alles anders" (Everything stays different) – this is the title of a song by Herbert Grönemeyer. It deals with the changes in life that can be mastered if you trust in your roots and values – but at the same time look forward courageously. We look back on 60 years of DESY and forward to our future challenges.

More than 60 years ago, Willibald Jentschke set out in search of a suitable site for his ring tunnel and found the perfect foundation here in Bahrenfeld. On 18 December 1959, the founding document for "Deutsches Elektronen-Synchrotron" was signed at Hamburg City Hall. At that time, the idea of a national centre for particle physics was being considered, a common roof for perhaps two to three hundred specialists. The founding fathers were very modest! Today DESY is an internationally active, interdisciplinary and innovative research centre with over 2600 employees who proudly call themselves "DESYaner." More than 3000 scientists from all over the world regularly come to Hamburg and Zeuthen as guest researchers.

DESY has grown steadily since its foundation – in size, experience, competence and international validity. Like a time machine, we look back on the various epochs – from the modest beginnings in the 1960s to the construction of the giant accelerator HERA in the 1980s, to PETRA III, the most brilliant storage ring X-ray source, and the European XFEL, the research facility of superlatives in the 2000s. The ensemble of light sources and DESY's decades of expertise in research with synchrotron radiation are unique worldwide and give DESY a leading international position in X-ray research.

Our two locations in Hamburg and Zeuthen have brilliant perspectives:
together with our partners, we are developing them into "world ports of science". DESY's plans for the coming years include the construction of the world's best 3D X-ray microscope ("PETRA IV"), the development of new compact particle accelerators, the expansion of our astroparticle physics section and the further strengthening of innovation. DESY has set an important course for the future in order to fulfil its mission: "deciphering matter."

Best regards,

Helmut Dosch

Front page:
They're got the whole logo in their hands...
DESY staff and guests on 18 December
Picture: DESY, Heiner Müller-Elsner

Imprint

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6

4

18

20

On our own behalf

Our 60th anniversary wouldn't be the same without a proper Open Day to share our passion and projects with neighbours and fans. On 20 June from 10-18 h we will open our centre together with our research partners on campus in Hamburg. As always, we need many committed volunteers and helpers for this. At the beginning of February a circular letter will provide detailed information about DESY60 DAY, registration of helpers and registration. If you already have ideas, please contact us at: **tdot@desy.de**

60 years of DESY

A festival year full of highlights

Hamburg, 18 December 1959. A small but important ceremony takes place in the town hall: Siegfried Balke, Federal Minister of Atomic Energy and Water Management, and Hamburg's mayor Max Brauer solemnly sign a state treaty, sealing the foundation of DESY.

DESY foundation: Siegfried Balke (left) and Max Brauer (right) sign the State Treaty. Picture: DESY

Same location, some 60 years later: Katharina Fegebank, Hamburg's Second Mayor and Senator of Science, Research and Equalities holds a festive senate reception. Shortly before 16 h on 16 January, the Great Festival Hall was filled with some 500 guests from science and politics, among them 300 DESY staff.

"My wish to DESY: may you continue to not rest on your laurels and to look boldly into the future."

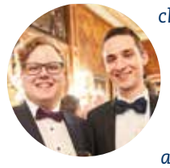
Albrecht Wagner, former DESY Director

"As a world-class research centre, DESY has significantly influenced Hamburg as a science location in the past," Fegebank praised DESY's merits. And DESY will continue to play an important role in the future – as a driver of innovation as well as an elementary component of Science City Hamburg Bahrenfeld. "Like our city, DESY stands for cosmopolitanism, courage and innovative ideas for the world of tomorrow."

"We wish DESY sustainable further development, significance and impact in the world..., and more women on the stage. Women who dare!"

Susanne Ebenritter and Anna Faour, DESY Purchasing Management

Following the speeches of Wolf-Dieter Lukas, State Secretary of the Federal Ministry of Education and Research, and Helmholtz President Otmar D. Wiestler, DESY Director Helmut Dosch revealed a glimpse into the future of the research centre with his speech and a film. The stage programme was completed by DESY's Director of Accelerators Wim Leemans. In his gripping keynote speech he presented his vision of the future for DESY's research on novel compact accelerators.



"Entertaining lectures, top-class research and cool staff – DESY has a lot to be proud of. We hope DESY will always stay curious and never retire."

Marius Hoffmann and Florian Christie, young scientists at DESY

Festive Senate reception on DESY's birthday: In front of 500 guests from science and politics, Science Senator Katharina Fegebank held the opening speech in Hamburg City Hall. Picture: DESY, Claudia Höhne

Celebrations kicked off in December

But the anniversary year did not start with the Senate reception. The staff kicked off the birthday celebrations on 18 December with a staff assembly. Bent over his mobile phone, Helmut Dosch asked "What does Wikipedia write about 18 December 1959?" and read out a few historical highlights, including the fact that DESY was founded on that day, thus opening a special staff meeting. Dosch took the staff in the auditorium on a journey of 60 years of research excellence up to the milestones of 2019.

He then honoured birthday boys and girls: DESY staff who, like DESY, have their birthday on 18 December or whose year of birth is 1959. Together with the children of an ad-hoc DESY kindergarten choir, all 350 guests in the lecture hall sang "Happy Birthday."

Happy Birthday: kids and teachers from DESY's kindergarten paid a musical tribute in the lecture hall. Picture: DESY, Sinje Hasheider

The musical highlight was followed by a culinary highlight: equipped with cooking aprons and cake knives, all directors cut an enormous anniversary cake.

Birthday bake off: the directors handed out the birthday cake. Picture: DESY, Sinje Hasheider

Outside, DESY demonstrated crowd intelligence and team spirit: a huge photo drone hung humming in the air, ready for a group photo. The cluster of hundreds of DESY people balanced huge wooden letters above their heads, forming the logo "DESY 60." A logistical challenge for the participants, the drone pilot and the choreographer Matthias Kreuzeder, who called his instructions from a cherry picker crane. After ten minutes, the anniversary photo was in the box, and everyone flocked to the punch bar or lined up for a piece of birthday cake.

A year full of highlights

Many more events will follow in the anniversary year: in January, "Wir wollen's wissen!" started, a joint project by DESY and the University of Hamburg. From 20 to 24 January, DESY researchers and their university colleagues went to Hamburg schools to explain the world of science in a fun way.

The special issue "femto" has also just been published: sixty years of research competently and compactly summarised in a new edition of the successful DESY research magazine.

On 23 April, experts from DESY and University of Hamburg will again explain scientific topics in bars and pubs of the Hanseatic city in an understandable way at "Wissen vom Fass." The DESY Science Photowalk 2020 will open up new perspectives. In spring, amateur photographers at DESY will be able to take their own look at the scientific world.

Cheers DESY: staff toasted to the birthday on 18 December. Picture: DESY, Sinje Hasheider

As part of the DESY dialogue offensive, talks and discussion rounds on the topics of sustainability and gender roles in science are planned for the anniversary year. Last year, the dialogue offensive was kicked off by the panel discussion "Freedom of science in danger" with moderator Ranga Yogeshwar, at which Helmut Dosch promised: "We will act more decisively."

On 20 June 2020, DESY will then host an open day on the Hamburg campus: the DESY60 DAY.

And we already have a date for the summer party: 24 September. If you would like to help organise it, please contact matthias.kreuzeder@desy.de.

Text: Miriam Huckschlag
DESY Relation Management

Room for everybody

A building for DESY and for the public: DESYUM

It is just model now, but from 2023 on it will be a focal point for a broad public: the DESYUM visitor centre. Picture: DESY, Marta Mayer

At the moment it is just a model in a box tucked under Jörg Niderehe's arm: DESYUM, DESY's planned new visitor centre. By 2023, the preliminary design with its golden façade is to become a "Landmark Building", an attractive multi-purpose building on the DESY campus in the future Science City Bahrenfeld that will be, above all, a meeting point for visitors, guest researchers and DESY staff. For Niderehe from the DESY construction department and Christian Mrotzek from PR, the project is a matter close to their hearts. Together they are planning, organising and implementing the concept for the new building.

In September 2019, architectural firm HPP Architekten was chosen as winner among the participating architects. The current model is a cube, with vertical struts installed on the curved facade. The architects describe it as a cube on which anyone who looks closely can find the circular paths of classical electron accelerators.

The DESYUM will be built near the main entrance to Notkestraße at the roundabout. The building will be entered via open staircases, which are modelled on an amphitheatre and also invite visitors to sit and linger. A forecourt with a café is also located here. The large foyer provides a ground-level connection to the neighbouring building with the DESY auditorium.

"It will be a luminous building," says Niderehe, "but not necessarily in gold." Niderehe and Mrotzek point out that the design is a proposal of the architectural office. "It won't be 1:1 like this." The central idea of the architects will now be further developed together with DESY and the specialist planners and a final construction concept will be created.

It is an exciting and ambitious project: "DESY has never built a building like this before," says Niderehe. "A building for DESY – but also for the public." DESYUM will house the administration, ITT and PR as well as a café and sports rooms. And of course the heart of the building: the visitor centre.

The contract for the agency that is to plan the exhibition is currently being awarded. On about 1000 square metres on two floors, the exhibition will provide an insight into DESY's fundamental research. Visitors are led to understand the importance of DESY research for science, possible industrial applications and people's lives. One challenge: to make the complex DESY research topics accessible to a broad audience, from children to experts. Mrotzek has chosen an exciting didactic approach for this: he wants to create different levels of explanation to give visitors an individual approach to the topics, depending on their previous knowledge and interests. "We don't just want to serve the mainstream; we want to arouse everyone's curiosity and grab their attention."

In order to achieve this, the two DESY colleagues have brought in another professional: Achim Englert, Director of the science center Phänomenta in Flensburg. With his wealth of experience, he advises Mrotzek and Niderehe on the concept and the search for suitable agencies. The first steps have been taken. In summer 2019, the design of the HPP architectural office was selected, and now experts have to be found for many special topics: building services, acoustics, energy. "We are now starting work with the experts," says Niderehe. The core team should be in place by February, and in the following six months, the requirements for the exhibition will be determined. The goal is to start construction in the second quarter of 2021, so that by 2023, DESYUM will no longer be stuck in a box but will be shining on the campus. ***khü***

Another 15 million euros for DESY

DESY will receive a further 15 million euros in federal funding to upgrade its non-scientific infrastructure. This was decided by the Budget Committee of the German Bundestag last November. Until 2022, the money is to be invested in the refurbishment, modernisation and construction of buildings that are important for the operation of the research centre. The funds will supplement federal funding of more than 110 million euros already provided in previous years.

In addition to the visitor centre DESYUM, which is currently being planned, the money will be used to create space for other planned buildings - such as the Centre for Accelerator Research CAST, the Wolfgang Pauli Centre for Theoretical Physics and the Technicum. This new building will contain laboratory and assembly areas to create the necessary conditions for the future project PETRA IV. The funds will also be used to finance renovations.

From classroom to control room

High-school students take over the DESY testbeam with Beamline for Schools

For two weeks in October, the winning teams of high schoolers from the 2019 Beamline for Schools competition performed experiments at the DESY test beam. The two teams won the CERN-organised international competition, wherein high-school students propose their own particle physics experiments and perform them if they win.

Beamline for Schools (BL4S), which started in 2014, is a competition wherein teams of high school students from around the world propose experiments that require a particle beam to be performed. For this year's competition, 178 teams from 49 countries submitted proposals, which consisted of a written proposal as well as a video. Usually, the winners of BL4S perform their work at CERN in Geneva, Switzerland. However, since the Large Hadron Collider at CERN is undergoing upgrades and all accelerators are therefore shut down, CERN teamed up with DESY so the students could run their experiments here.

One of the winning teams, DESY Chain from Salt Lake City in the USA, tested the sensitivity of special materials called scintillators, which fluoresce when they interact with particles such as electrons or positrons. Scintillators are key components of nearly every particle detector in use.

Particle Peers, the winning team from Groningen in the Netherlands, compared particle showers from electron and positron beams. When accelerated electrons or positrons collide with a target, the energetic scatters that result can transform into various different particles. The Particle Peers collected data to see if they could detect any difference between the scatters originating from matter and those from antimatter.

On 28 October, the teams presented their preliminary results. "In our data, we're definitely seeing interesting energy losses in the scintillators," says Charles Bonkowsky, a member of the DESY Chain team. "It's going to take a little bit of time to put it all together and see what the energy loss is, and see how it corresponds to the rest of the data."

"We didn't expect to have such big datasets, and so many different datasets," said Isabelle Koster from Particle Peers. "That was a real bonus. We did everything we wanted to do. And we made so many friends along the way!"

Living the life of a researcher: the young people conducted their experiments at the test beam in Hall II. Picture: DESY, Marta Mayer

US Consul General Darion Akins addresses students at the BL4S VIP day. Picture: DESY, Marta Mayer

The two teams collaborated closely during their experiment runs, sharing materials and data-processing techniques. Both teams aim to publish their results in scientific journals.

The organisers are hoping for even more contestants next year In 2020, CERN will once again invite DESY to host two of the winning teams, and discussions are under way to invite a third winning team to a different laboratory in Europe. BL4S is

Photo session in the HERA tunnel: the DESY Chain and Particle Peers teams visited many places at DESY. Photo: DESY, Barbara Warmbein

an Education and Outreach project funded by the CERN & Society Foundation and supported by individual donors, foundations and companies.

Text: Joseph Piergrossi
TU Dresden / DESY

On Her Majesty´s Science Service

Nobel laureates speak at Brian Foster's retirement from DESY and the University of Hamburg

Two themes run though particle physicist Brian Foster's life: the connection between science and music, and the connection between the UK and Germany. He retired from DESY and his professorship at the University of Hamburg in autumn with a big symposium in DESY's auditorium that featured a talk by Nobel laureate Barry Barish, humorously titled "The (ILC) Life of Brian".

Brian Foster has nurtured an almost lifelong connection with Germany. He first came to Hamburg in 1978 as a postdoc from the Rutherford Appleton Lab to work on the TASSO experiment – the one that discovered the gluon – and has kept close professional and personal ties (he met his wife in Hamburg) ever since. He was spokesman of the ZEUS collaboration, Chair of the European Committee for Future Accelerators, European Director for the International Linear Collider and became Humboldt professor in 2011.

Foster is quick to point out that the UK-German connection won't end "just because I am retiring from DESY and the University of Hamburg." He is still a member of faculty at the University of Oxford, keeps an office on campus in Hamburg and will continue his involvement with accelerator technologies in the FLASHForward collaboration, where he chairs the International Science Partnership. So not really retiring then? "Well, I do hope I will find more time to research and write the book I have been working on for several years," he smiles.

The topic of Foster's book is the other theme that runs through his life and has played a major role during his professorship in Hamburg: physics and music, in particular Einstein and music. When Foster was awarded the Humboldt professorship in 2011, it came with a budget for outreach. Foster used his good connections to the classical music scene and created a highly popular series of lecture concerts in destinations like the Hamburg Laeiszhalle and the Elbphilharmonie. The last concert of this series also featured a lecture in honour of his retirement by another Nobel laureate, Sir Venki Ramakrishnan, president of the UK's renowned Royal Society, of which Foster is a fellow and a former vice president. ***baw***

Farewell for Brian Foster (left): In honour of the 66 year old, there was a concert in the small hall of the Elbphilharmonie. Picture: DESY, Nick Walker

Five times successful

Awards for DESY and four trainees

No fewer than four DESY trainees completed their training last year as the best in their federal state or region and were honoured for this by the Hamburg and South Brandenburg Chambers of Commerce.

Andreas Brundtland trained as a mechatronics technician in Hamburg, Alina Denecke is a qualified electronics technician for devices and systems, and Caroline Brademann and Maximilian Schäfer completed their apprenticeships in industrial mechanics with outstanding results.

DESY itself also received the title "Excellent Training Company 2019" from the Hamburg Chamber of Commerce for the third time in a row.

Award ceremony in Cottbus (v.l.): IHK president Peter Kopf, Caroline Brademann und trainer Jürgen Grote. Picture: IHK Cottbus

DESY apprentices and trainers (from left): Maximilian Schäfer, Dirk Kornmüller, Meike Johannsen, Andreas Brundtland, Benjamin Behm, Alina Denecke and Alexander Kim. Picture: Ulrich Perrey, Hamburg Chamber of Commerce

The success is rounded off by Jonah Wocken from the DESY carpentry workshop, who took second place in his category. ***tz***

Work hard, train hard

Sakura Pascarelli, a successful researcher and manager from ESRF, joins European XFEL as new Scientific Director

Picture: Chantal Argoud _ESRF

Sakura Pascarelli has been Scientific Director of the European XFEL since 1 September. The Italian physicist comes from the European Synchrotron Radiation Facility ESRF in Grenoble, France. As one of three scientific directors at the European XFEL, she is responsible, among other things, for four of the six experimental stations working in the field of short-wave hard X-rays. Pascarelli was born in Japan and studied physics at the University of Sapienza in Rome, before earning her doctorate at the University of Grenoble. At ESRF, she worked in various positions as a senior scientist. Rosemary Wilson from the European XFEL press team spoke to the 55-year-old about her career, her new role and her love of swimming.

How did you get into science?

Even as a child I liked to see things explode and break into pieces. And I wanted to understand why that happened. Later I studied physics – not because I was especially talented, but because I enjoyed it.

You came to ESRF when the facility was still under construction. What parallels do you see between then and now here at European XFEL?

I went to ESRF to build one of the first beamlines there. Back then, we didn't know what we would be able to discover or measure with this new machine. Here at European XFEL, it's similarly exciting. But it's more complicated now. Back then, it was possible to build a beamline with solid knowledge in physics, X-ray optics or experimental design. Today we need professionals for X-rays, lasers, electronics and detectors. To operate these instruments, we need group leaders who are really good managers. We need to make sure that the groups are well structured and well managed, and that people are happy.

What appealed to you about your role as Scientific Director at European XFEL?

Management, teaching and mentoring have been important parts of my daily work since 1997. I wouldn't say that I love management. But I love solving problems and creating a collegial atmosphere, and then seeing how results are produced and published. Having led several groups and beamlines at ESRF, it is very exciting to use my skills and experience to shape the future of European XFEL.

What do you do to relax?

I swim. Last year I even won two medals in my age group at the French Championships! Here I have already found a team with which I swim several times a week. Competitions are not the most important thing for me, but I like to train hard.

Text: Rosemary Wilson
European XFEL

TERMINE
EVENTS

02 | 2020

Jugend forscht
Schüler experimentieren

Regional competition Hamburg Bahrenfeld

20 - 21 February 2020

Public access:

21 February, 9:30 - 11 h

jugend forscht
schüler experimentieren

03 | 2020

Staff meeting Hamburg

17 March, 9:30 - 12 h

Auditorium build. 5 & auditorium foyer,
SR4a/b & CSSB auditorium / FLASH

Staff meeting Zeuthen

31 March, 10 - 12:30 h

Seminar room 3

03 | 2020

GESUND BLEIBEN

Information event by company doctor

Dr. med. Hans Klose, Chief Physician
of Dep. of Pneumology UKE Eppendorf

Dangers of E-cigarettes

– Current state of knowledge (in German)

24 March 2020, 16:30 - 17:30 h,

Hamburg, BAH 1

03 | 2020

Future day in Hamburg

Girls' and Boys' Day

26 March 2020

Future day for girls and
boys in Brandenburg

Girls' and Boys' Day

26 March 2020

04 | 2020

Social Hour in Hamburg

Co-Host: China

24 April 2020, 15 - 18 h

Canteen annex

06 | 2020

DESY GO.

Open Day

20 June, 10 - 18 h,

Hamburg

06 | 2020

Long Night of the Sciences

6 June 2020, 17 - 24 h

Berlin Adlershof

02–04 | 2020

Science Café DESY

every 4th Wednesday of the month
at DESY bistro

26 February, 18 h (in English)

Carl A. Lindstroem

Space Weather: Explosions on the Sun and how they break our communication systems

25 March 18 h (in German)

Ilja Bohnet

Die 42 größten Rätsel der Physik

22 April, 18 h (in German)

Lennart Huth

Verboten oder einfach nur selten? – Die Suche nach neuer Physik in Teilchenzerfällen

http://sciencecafe.desy.de

Experiments – discoveries – experience

15 years of the physik.begreifen school lab at DESY in Zeuthen

Last year, the school laboratory physik.begreifen celebrated its 15th anniversary. In May 2004, it was also opened in Zeuthen because DESY wanted to enhance the attractiveness of science outside school in the Brandenburg region as well. Since its opening, more than 40 000 children have investigated fundamental phenomena of physics in the school laboratory. In addition, DESY offers advanced training courses for teachers.

From the very beginning, the one-day practical courses “Air Pressure and Vacuum” were particularly popular. Here, young people learn about and understand everyday phenomena through independent experimentation. In the “Measuring Cosmic Particles” programme, pupils deal intensively with current scientific issues while experiencing everyday research.

The experience gained in the first years was also incorporated into new projects. Since the end of 2016, DESY has been conducting advanced training courses for more than 500 teachers in cooperation with the Brandenburg Ministry of Education, Youth and Sports (MBJS) and has designed teaching materials for introducing natural sciences in classes 5/6 in Brandenburg. In Zeuthen DESY celebrated the anniversary of physik.begreifen with the largest advanced training course so far, with about 170 teachers.

Demonstration of the experiment “Body and Health - Detection of Protein in Food”
Picture: DESY, Gesine Born

In the field of “Measuring Cosmic Particles”, the tool “Cosmic@Web” for online data analysis was developed. It offers young people another tool for exploring cosmic particles themselves. Without any programming knowledge and conveniently from their home laptop, they can work with it like astroparticle physicists. (http://www.desy.de/schule/schuelerlabore/standort_zeuthen/kosmische_teilchen/cosmicweb). ***ub***

School lab in Zeuthen:
http://physik-begreifen-zeuthen.desy.de
Experimental collection natural sciences Kl. 5/6:
www.desy.de/nawi

DESY loves lab tourism

“FH Behind the Scenes” event was a surprise hit

“What is the DESY II test beam, is it worth it?” “Have you visited the Detector Assembly Facility yet? You absolutely have to go!” The foyer by the seminar rooms in building 1 is buzzing. Scientists stand in front of about 50 posters explaining what they are up to all day, some of them have brought exhibits with them. Again and again, tour groups meander their way through the crowds on their way to one of the nine laboratories and research locations that are usually only seen by those who work there. The “theory lab” – a lecture room – is well-filled for every short ten-minute lecture, and coffee and cookies are already gone after half an hour. On 20 November, there was a small internal open day in the FH sector, and it was obviously exactly what DESY world had been waiting for.

“There were way more than 500 visitors,” estimates Ingrid Gregor, ATLAS group leader and part of the organising team of “FH Behind the Scenes.” “We hadn't expected so many – it's great that everyone is so interested in our labs and work.” This was exactly the intention of the event: to show the many facets of the field of “High Energy Physics Research” at DESY, to give a look behind the scenes and to create synergies between groups. There have been similar events in the FS sector. FH includes not only the theory and particle physics groups ALPS, ATLAS (in Hamburg and Zeuthen), Belle, CMS and FLC, but also the library, the IT department, the IPP process experts, the accelerator developers of FLA, the service centre electronics and the electronics development.

“I’m sure we haven’t done this for the last time,” says Gregor. By the way, one exhibit can still be admired in the upper corridor of Building 1: a 60-metre-long rendering of the ALPS experiment is glued to the floor there and gives an impression of the dark matter project on a scale of 1:4 until DESY DAY on 20 June. ***baw***

Fourth round of dynaMENT

Support programme for women scientists to be expanded

"dynaMENT", a successful Hamburg cooperation project that promotes equal opportunities in the natural sciences, entered its fourth round last autumn. dynaMENT Mentoring for Women in Natural Sciences is a cooperation project between DESY and the University of Hamburg. The goal: to increase the proportion of women at all career stages of the natural sciences.
In addition to the dynaMENT doctorate programme, which prepares female doctoral students for careers in science, the new dynaMENT advanced funding line was launched in 2019. Seven female scientists on their way to becoming professors are participating in a two-year training programme consisting of workshops, individual coaching, networking events and one-on-one mentoring with a manager. Last October, the advanced group completed its introductory workshop.

"We were faced with the difficult but rewarding task of making a self-assessment and formulating our personal goals," says Jovana Petrovic of DESY. The laser researcher from the "Controlled Molecule Imaging" working group at CFEL is one of the seven participants selected from 25 applications. The two patrons of the programme are Angelika Paschke-Kratzin, Equal Opportunities Officer of the University of Hamburg, and DESY Deputy Director of Administration Meike Johannsen. At the kick-off event for the 2019/20 funding round last September, both emphasised that the expansion of the programme would also strengthen the cooperation between the two institutions.

Hamburg's Senator for Science and Equality Katharina Fegebank opened the fourth round of dynaMENT. Picture: UHH/MIN/Fox

"We are proud that we can approach this task on an equal footing and at the same time provide a common roof for the further development of dynaMENT," said Johannsen.

Text: Anika Ostermaier-Grabow
Coordinator dynaMENT

New network for women at DESY

Inter-divisional association for women in management positions at DESY

"Women at network." Women at DESY after the lively discussion with Manuela Rousseau (centre).

There's a new network: women in management positions at DESY. The idea for this came from numerous female scientists. The interdisciplinary network was then initiated by the new staff unit Human Resources Development and the DESY Deputy Director of Administration Meike Johannsen.

The launch event for "Women at Network" took place in September 2019. As part of an interactive lecture, gender researcher Doris Cornils invited participants to explore power games in organisations. Manuela Rousseau, one of the first women in Germany to make it to the supervisory board of a globally active DAX group, was a guest at the second event in December. With the example of her unusual career, a lively discussion developed about how to best bring in one's own individual strengths in a male-dominated working world. Many female managers took the opportunity to get to know each other better and to network across the divisions.
The next network meetings take place on 27 March 2020 and 18 June 2020.

Text: Vera Petersen
Management Team
Personnel Development

Largest conference on free-electron lasers in Hamburg

Last August, the 39th International Free-Electron Laser Conference (FEL2019) took place in Hamburg. Hamburg's Second Mayor and Science Senator, Katharina Fegebank, opened the world's largest conference for free-electron lasers, which was jointly organised by DESY and the European XFEL. Some 400 scientists from 25 countries discussed the latest progress in the development and application of these unique tools for research.

Hamburg's Second Mayor and Senator for Science, Research and Equality, Katharina Fegebank, opened the symposium in the lecture hall of the University of Hamburg. Image: DESY, Dirk Nölle

Green light for EU project CREMLINplus

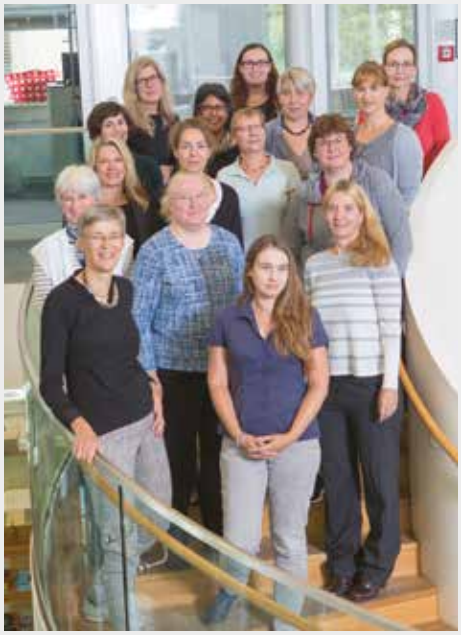
The European Commission has relaunched the successful EU project CREMLIN in a significantly expanded form. Under the name CREMLINplus (Connecting Russian and European Measures for Large-scale Research Infrastructures - plus), the Horizon 2020 programme will further promote cooperation between large-scale research institutions in Russia and the European Union from 2020 onwards. The CREMLINplus consortium brings together 35 partners, ten of them from Russia and 25 from the EU and associated countries. The EU project, coordinated by DESY, will receive a budget of 25 million euro over the entire four-year period.

German Research Foundation promotes research on hadrons

The German Research Foundation (DFG) has approved the establishment of a new research group in the field of theoretical hadron physics. Hadrons are particles made up of quarks. The research team consists of eleven scientists from the Universities of Hamburg, Regensburg and Tübingen and from DESY. The spokesperson is Vladimir Braun from the Institute for Theoretical Physics at the University of Regensburg. The research group FOR 2926 "Next Generation Perturbative QCD for Hadron Structure: Preparing for the Electron-Ion Collider" will initially be funded for three years with around two million euros. At DESY, Markus Diehl from the theory group is a member of the research team.

Meeting of the equal opportunities officers

On 17 and 18 September 2019, the 50th meeting of the working group of the equal opportunities officers of the Helmholtz centres took place at DESY in Hamburg (see picture). The working group meets twice a year in one of the centres and discusses intersections of the common commitment to the striving for equality of women and men and for equal opportunities. The spokeswomen of the working group make appointments to discuss equality issues in the HGF office and with the president of the HGF. In addition, elected representatives of the working group participate in the Helmholtz Association focus groups "Attract and Recruit" and "Leadership and Management." At the spring meetings of the working group, the equal opportunities commissioners of the Federal Ministry of Education and Research and representatives of Max Planck, and Leibniz Institutes, the DFG and Fraunhofer report on the status of equal opportunities in their institutions and provide information on new regulations and initiatives. The working group is supervised by Heike Graßmann, Administrative Director of the Helmholtz Centre MDC. Currently, the working group is dealing with the question of what measures should be taken to attract female engineers and to achieve equality and diversity standards.



DESY strengthens cooperation with Armenia

During a three-day trip to Armenia last October, a delegation from DESY and the European XFEL intensified the scientific relations between DESY and research institutions in Armenia. Two declarations of intent were signed in the fields of accelerator physics, particle and astroparticle physics and the general promotion of young scientists. In addition, cooperation in research with photons and in the field of radiation biology was discussed.

The DESY delegation visited the Armenian accelerator laboratory CANDLE.
Picture: CANDLE SRI

DESY-INSIDER volunteers wanted!

On 26 March 2020, DESY in Hamburg and Zeuthen will open its doors again for 120 girls and boys (Hamburg: grades 5 to 8, Zeuthen: grades 7 to 11) who want to take a look behind the scenes of a research centre on Future Day ("Zukunftstag"). We will show DESY in all its facets – from research and technology to administration. The highlight of the day for the children is the visit to their mentors, whose insider knowledge offers exciting perspectives on professions and jobs. So if you have a few hours in the morning or afternoon to share your experiences with curious little guests, we would be pleased to receive your support. Thank you very much!
Contact Hamburg: carmen.schueler@desy.de.
Contact Zeuthen: adelheid.sommer@desy.de

Francesca Calegari elected Fellow of the Optical Society OSA

DESY Lead Scientist and Professor at Universität Hamburg Francesca Calegari has been elected a Fellow of the Optical Society (OSA). She is recognised "for her major contributions to attosecond science," as the society announced. With 21 000 members in more than 100 countries, the Optical Society is the leading scientific society in the field of optics and photonics.

Helmholtz Doctoral Award for Yi-Jen Chen

Yi-Jen Chen from the DESY Photon Science division has been awarded the Helmholtz Association's Doctoral Prize in the research area matter for her outstanding PhD thesis in the discipline of ultrafast physics. In her dissertation, Chen explained experimental findings in the attosecond range on the behaviour of electron clouds in strong laser light. An attosecond is a quintillionth of a second, which is the eighteenth digit after the decimal point. The award was presented by Helmholtz President Otmar Wiestler at the Helmholtz Horizons event in Berlin's Futurium.

Freigeist Fellowship for Daria Gorelova

The Volkswagen Foundation has awarded Daria Gorelova from the DESY Photon Science division with a Freigeist Fellowship. At the Center for Free-Electron Laser Science (CFEL) at DESY, Daria Gorelova is currently working on ultrafast processes in solids and molecules. In particular, she uses quantum mechanical methods to investigate the characterisation possibilities of these processes with the special X-ray light that can be generated by free-electron lasers such as the European XFEL in Hamburg.

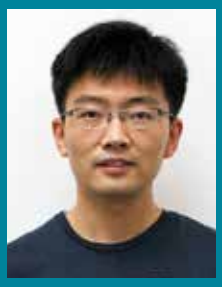
Helmholtz International Fellow Award for Constantia Alexandrou

Constantia Alexandrou from the University of Cyprus received the International Fellow Award, which is presented by the Helmholtz Association. Alexandrou, who also works at the Cyprus Institute, is considered one of the most outstanding theoretical physicists of our day; her research covers a range of topics from the structure of hadrons, through uncovering the nature of dark matter, to quantum computing. In addition to the prize money of 20,000 euros, she is being invited to spend a research visit at DESY.

IceCube Impact Award for Thomas Kintscher

Thomas Kintscher earned his doctorate at DESY and received the IceCube Impact Award last September at the IceCube Collaboration Meeting in Japan. He was honored for his important contributions to the IceCube real-time system, which was fundamental to a number of highly visible scientific results.

DESY researcher Dongfang Zhang wins innovation prize



The team around DESY scientist Dongfang Zhang was awarded the new "Prize for Frontiers of Information Optoelectronics" in November. The jury at the International Photonics and Optoelectronics Meeting POEM in Wuhan, China, praised the development of the multifunction device from the group of DESY's leading scientist Franz Kärtner as outstanding research.

DPG Award for ATLAS physicist Priscilla Pani

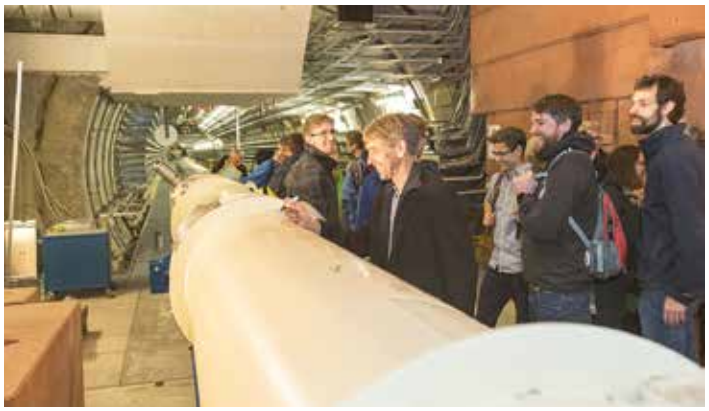
DESY scientist Priscilla Pani received the Hertha Sponer Prize of the German Physical Society DPG for her contributions to the search for dark matter at the Large Hadron Collider at CERN. Pani is a particle physicist in the DESY-ATLAS group and uses data from the ATLAS detector to search for dark matter using collision events with top quarks.

Innovation Award Synchrotron Radiation for Heinz Graafsma

This year, the Friends of Helmholtz-Zentrum Berlin awarded the European Synchrotron Radiation Innovation Prize to DESY physicist Heinz Graafsma and to Aldo Mozzanica and Bernd Schmitt from the Paul Scherrer Institute in Switzerland. The scientists had jointly developed an innovative ultrafast X-ray camera.

ALPS II moves into HERA

Milestone in the search for dark matter: first magnet installed



Scientists from ALPS II sign the first magnet. Picture: DESY, Marta Mayer

The HERA tunnel is having a revival: the ALPS II experiment is moving in! ALPS II is a unique particle physics experiment for the search for dark matter. It is based on the theory that there must be axions, particles that can literally make light shine through a wall. The experiment is housed in the HERA north hall, where the H1 experiment used to sit, and also recycles the magnets that drove protons through the accelerator ring until 2007. These magnets had to be refurbished to meet ALPS purposes: the slight bend required for use in an accelerator ring had to be removed to allow for light to propagate through them unhindered. The first of these magnets was installed in the tunnel at the end of October.

ALPS spokesman Axel Lindner is pleased that the project is taking shape. “If the installation and commissioning proceeds as planned, we can start measurements in the first half of 2021,” says the DESY scientist. The ALPS II collaboration consists of about 25 scientists from institutes in Germany, the USA and the UK.

The nature of dark matter remains one of the greatest mysteries of physics. Observations and calculations of the motion of stars in galaxies show that there must be more matter in the universe than we can explain with the particles of matter we know today. In fact, dark matter should account for 85 percent of all matter in the universe. ***baw***

Topping-out ceremony for CXNS

New building connects researchers from Hamburg and Schleswig-Holstein

Representatives from politics and science celebrated the topping-out ceremony for the 18-million-euro Centre for X-ray and Nanoscience CXNS on 10 December. Starting in 2021, scientists from the Helmholtz Centre Geesthacht (HZG), the Christian-Albrechts-Universität zu Kiel (CAU) and DESY will conduct research at CXNS.

The new five-storey building has a floor area of over 5000 square metres, 730 square metres of which are reserved for laboratory space. It provides space for about 250 employees. Among other things, it is to become DESY's headquarters for nano research. Technically sophisticated laboratories offer ideal conditions for the structuring, production, characterisation and labeling of nanosamples, which are then examined in the high-intensity X-ray light of the research light sources PETRA III, FLASH or European XFEL. The highly sensitive laboratory equipment required for this purpose will be placed on particularly vibration-decoupled individual foundations in the building.

Celebrated the CXNS topping-out ceremony: (from left): Matthias Rehahn and Martin Müller (both HZG), Helmut Dosch, Volkmar Dietz (BMBF), Eva Gümbel (BWFG), Lutz Kipp (CAU), Edgar Weckert, Frank Duddeck (SBI Siemke & Co), Andreas Stierle. Picture: DESY, Axel Heimken

The fragile samples can be transferred to the PETRA experimental hall “Max von Laue” by a very short route. Andreas Stierle, head of the DESY NanoLab and the CXNS construction project, said: “My team and I are very happy to move the DESY NanoLab into our final home soon. At CXNS, we find the best conditions for research into the properties of individual nanoparticles, which are relevant for better catalysts for energy conversion and for novel materials.” ***tz***

New name for start-up hotspot

“Start-up Labs” Bahrenfeld for young companies

In spring 2019, construction of the joint project between DESY, the university and the city of Hamburg – at that time still called “Innovation Center” – began. As an incubator, it is intended to support start-ups and young companies from various high-tech sectors in the future. Now the partners have renamed the building “Start-up Labs Bahrenfeld.” The new name reflects the leading role of the project, which is intended to further link business and science for Science City Bahrenfeld and at the same time strengthen the institution’s profile for potential tenants and the marketing of the space. At the beginning of 2021, the first companies will be able to move into the new building, which is now being constructed between CFEL and FLASH. The future address is: Luruper Hauptstraße 1.
In addition to classical office and meeting rooms, tenants will also find the necessary laboratory infrastructure to further develop and manufacture their products. Among the first users will be the existing start-ups and spin-offs from the offices in the DESY Innovation Village (next to building 25f). They will move to the Start-up Labs Bahrenfeld in 2021. Other tenants already exist – such as the company “Crystals First”, a spin-off of the University of Marburg, that offers analytical services in the field of protein crystallography. For all these companies, integration into the research campus is an important building block for success.

“Startup Port”

Money for business start-up initiative

The Hamburg joint project for business start-ups “Startup Port”, in which DESY is involved, is a prize winner in the competition “EXIST-Potentiale – Startup Culture with the focus on ‘Regional Networking’ of the Federal Ministry of Economics and Energy (BMWi) in Berlin. “Startup Port – Knowledge-based Entrepreneurship in the Hamburg Metropolitan Region” will receive 3.5 million euros over the next four years. The aim is to promote the establishment of science-based start-ups and to strengthen the exchange and networking of business, science, politics and society. The Startup Port was initiated by seven North German educational and research institutions. Further associated scientific institutions, knowledge and transfer companies as well as strategic cooperations from business and politics complete the network.

Texts: Maike Bierbaum
DESY Innovation Team

Login1234

How to handle passwords

Passwords are the critical and often the only means for many services to prove one’s digital identity, including email inboxes, online stores or web applications. Careful handling of passwords is therefore essential.
The requirement that each service needs its own password is still a nuisance. Each one should be as long and complex as possible and, of course, needs constant changing. And you shouldn't write them down. Or should you?
Can you save passwords as a text or table file directly on the desktop of your computer so that you can get there quickly at any time? NO.
To solve this problem, there are password manager programs that are either directly integrated into web browsers or solutions that can be used as an independent application. KeePassXC, for example, is one such application. KeePassXC is available for all possible operating systems and in connection with the DESY service Sync and Share (see article by Martin Gloris in DESY Inform II/2019) it can be used on different devices and the encrypted stored data can be stored centrally.
If passwords are managed with a password manager, a few basic rules must be observed to prevent abuse of the stored access data.

1. There are passwords to accesses which should not be stored in password managers due to their meaning. This includes the DESY password for the primary account, as a number of internal services are made available via it. You will have to memorise this one…
2. Password managers must always be secured with a very strong (primarily long) master password.
3. Open the password manager only if you need access to a password and close the application when not in use.
4. Use different passwords for different services and avoid easy to understand patterns when assigning passwords.

And by the way:
You don't have to remember every password. For web services, simply set a complex random password and use the "Forgot password" function next time. As a rule, after you have assigned a new password, you will quickly have access to the service again.

Text: Carsten Porthun
D4-IT Security and Data Protection

Top people & top research

Award showers at Science Day 2019

What the Oscars are for Hollywood, the Lifetime Achievement Award, the Silver Needle of Honour, the VFFD Promotion Prize or the DESY House Cup are for DESY. Every year, DESY presents these awards at Science Day, thus honouring its first-class research and first-class people. Last year, Science Day 2019 offered many new things. And completely immersed in DESY blue, the lecture hall was transformed into a modern award stage.

Science Slam in the morning

The morning highlight: the first DESY-wide science slam, humorously moderated by Marc Wenskat. At the science slam, eight young scientists competed for the audience's favour with gags and sophistication. In ten-minute presentations, they presented their fields of research in front of packed ranks to much applause. Kristjan Poder started off with a plasma-accelerated company outing to Wakefield. John Bekx explained the advantages of laboratory planets, Summer Blot went on a neutrino hunt with ice cream and Vanessa Grattoni revealed the ingredients of a fantastic light source. Avni Jain knew why water behaves strangely and Joscha Knolle left the explanation of luminosity to the children's book heroes Frederick and Piggeldy. The story continued in an with Emily Thomsen, who became a cat expert through her research on the ATLAS detector, and Robert Stein won the slam with his discovery that neutrinos prefer to show up at the weekend. The DESY House Cup for the best team performance went to the "House of Astroparticle Physics" in Zeuthen. "These were really very entertaining and at the same time interesting insights into the other DESY research areas," said Max Rose, VFFD PhD prize winner. "I think it's extremely important to present complicated research topics to a broad audience in an understandable and entertaining way," says co-winner Marcel Usner.

Award ceremony in the afternoon

After the lunch break, the event continued: nine prize winners were honoured on stage for their outstanding achievements for DESY research, three new senior scientists were introduced and three scientific lectures were held. New this year was the charming and entertaining double presentation of Helmut Dosch and DESY's new head of communication Kerstin Straub.

The stage is yours: researcher Avni Jainat at DESY Science Slam. Picture: DESY, Marta Mayer

Science Day 2019: the research centre honored its staff with multiple awards. Picture: DESY, Sinje Hasheider

A film presented the winners of the Lifetime Achievement Awards. For most of them, the news about the nomination had been a surprise. "At first I thought: Something is wrong – it must be a spam mail," says Wolfgang Lange from Zeuthen. The Hamburg-based Sylvie Faverot-Spengler even changed her travel plans to be able to attend the day of the awards ceremony. The Lifetime Achievement Award honours long-time commitment to DESY; most of the winners look back on long careers here. Helga Schwendicke from Zeuthen was particularly pleased "that the sponsorship work with a children's home in Prieros, ongoing since GDR times, could be continued by colleagues from Zeuthen and is now promoted and supported by DESY." The saucer-sized metal disc will certainly have a special place among all the prize winners. "I have set up a "красный уголок" at home," jokes Wolfgang Lange. In ancient Russia, this was the place in the little house at home where the icons were kept. But seriously, he wants to place the flange at home but somewhere else: "Above my electronics workstation."

Max Rose and Marcel Usner also received recognition for their intensive and successful research time. They received the PhD Prize of the Association of Sponsors and Friends of DESY (VFFD). In short lectures they gave insights into their PhD topics and were personally introduced in two films. With Ingrid-Maria Gregor, Cigdem Issever and Anna Nelles, DESY welcomed three new senior scientists.

Jentschke Lecture in the evening

Another highlight was the Jentschke Lecture, which is held every year by a renowned scientist. William Collins hit the nerve of our time with his stirring lecture "Climate at the Crossroads: Choosing our Planet's Future." At the reception that followed, the climate researcher and director of Lawrence Berkeley National Laboratory could hardly move because of so many questions.

Text: Miriam Huckschlag
DESY Relation Management

Clearing the fog

Seven questions for Ramona Matthes, DESY's conflict and addiction consultant

DESY now has a mediator. Ramona Matthes took over this role on 1 May 2019. The 55-year-old has been working at DESY for many years. Kristin Hüttmann spoke with Matthes about her path, which led her from group secretariats via the works council to the Department of Health Management. Last year, she took over the social counselling department, which has been in existence at DESY for 30 years. Matthes studied conflict counselling and is also an addiction counsellor, which is why the counselling centre has been given a new orientation and a new name: conflict and addiction counselling.

With which questions and problems can DESY staff come to you?

I do not exclude anything. Every concern and problem has its justification, whether professional or private. Everyone can come to me – alone, in pairs or whole groups. Usually I can help sort things through and, if necessary, I can recommend to other places.

What is the best way to reach you?

DESY staff in Hamburg can simply come by. I sit in building 1a in the department of health management. Appointments can be made by telephone or email. That applies to the colleagues in Zeuthen as well, of course. If necessary, I can go to Zeuthen.

What should people who seek help from you know?

My consultations are absolutely confidential. That means that I do not talk to anyone about the content of the conversation – unless it is desired.

How does the consultation work?

When someone contacts me, we usually meet for an initial conversation. That takes about an hour. I let them talk and ask: What is on your mind? What bothers you? People are often happy to be able to talk about what troubles them. The daily encounter with an unresolved conflict is a great burden. In counselling I can help identify topics, to find anger points and bring a little order into the issues. You can also say: I help clear the fog.

Why should colleagues have the courage to visit you?

From my years of experience, I can say that in the end there is not always a perfect solution for conflicts and problems. But I am sure there will be some peace of mind. I can create a bit of clarity that makes things easier. When people leave here, they often thank me for taking the time and that it was good to talk about the subject in peace.

Mediation in companies, institutes and organisations is still a young topic. Why do institutions rely on it?

If people are willing to go to a counselling office at work to shed light on areas of conflict, then that is a sign of trust. And if we deal conscientiously with this trust, there will be effects on motivation and identification with the employer.

DESY's new conflict and addiction consultant: Ramona Matthes. Picture: DESY, Marta Mayer

What are the benefits of conflicts?

Conflicts play an important role in the development of interpersonal relationships. Conflicts accompany us all the time. Quite often this creates energy for new insights. It's a bit like physics: things collide and out come new things!

About the subject:

Ramona Matthes (1964) has been working since May 2019 as a conflict and addiction consultant in health management at DESY. She has been working at DESY for over 20 years, for a long time in the secretariats of the HERMES, ATLAS and FLC groups. In 2006 she became a member of the works council and devoted herself more and more to individual consulting. After training as a mediator at the University of Hamburg and further training as a company addiction counsellor, she took over the company advisory office for questions on conflicts and substance consumption at DESY last year.

Telephone : +49 408998 - 4435 Geb.1a, room EG.111 (Basement Practice Workplace Health Management)

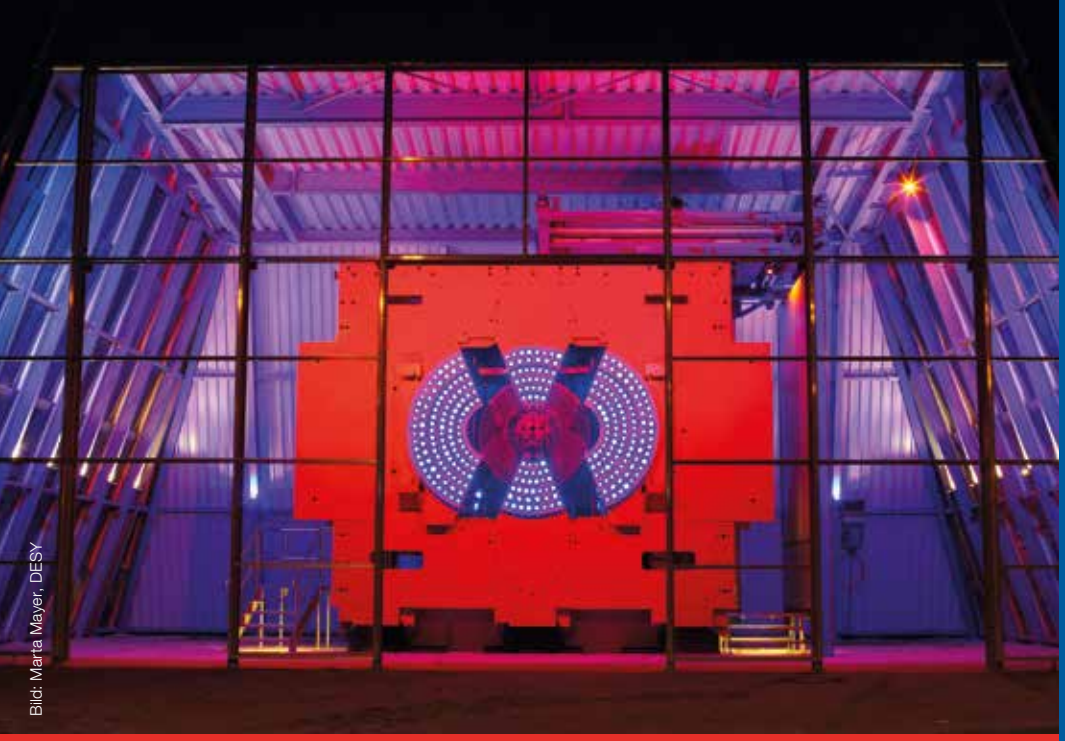


Bild: Marta Mayer, DESY

Cache me if you can

Geocaching on the DESY site

"Are you a Muggle or a Squib?", Marc Wenskat asks me and grins at his colleague Stefan Sühl, who is sitting opposite us. My confused look reveals the answer: I am a Muggle! And so the two passionate geocachers begin a conversation about hard-to-reach places, lots of fresh air and Indiana Jones. In the following three quarters of an hour, I receive a crash course in geocaching. I am bombarded with technical terms such as multi-cache, petling, travel bug, hints, log book and traditionals, made to look at photos of unusual geocaching expeditions and understand that weatherability is the key prerequisite – for the cache and the cacher.

For all other Muggles – a term borrowed from the Harry Potter novels – here's a brief explanation of geocaching: there is a worldwide community of almost two million active members (cachers), who use GPS devices (today: mobile phones) to search for almost three million hidden plastic boxes (caches). "It's a kind of modern treasure hunt or scavenger hunt, you feel like Indiana Jones," Marc beams, and Stefan adds: "You discover areas you would otherwise never have come to. It's especially fun when travelling, because local geocachers find interesting places for the caches, often with information about the location. That way you learn something about the country and its people."

Hamburg has one of the highest cache densities in Germany and a lively community. "Caches can be hidden in the remotest places or totally creatively. To find them you need perseverance and should enjoy solving puzzles," explains Marc, "owner" of the cache hidden in the Old Elbe Tunnel – the sixth most often found cache in the world. Stefan, for example, tracked down 1,000 caches last year, and Marc wades through the Elbe mud at low tide or abseils 30 metres from a bridge to track down a cache. They both dream of hunting down the most remote cache hidden on the ISS (yes, that's correct!).

With so much passion for the game of hide-and-seek, the two colleagues were of course tickled to hide two caches on the DESY site. If you want to find them, simply register at www.geocaching.com or visit the Argus detector or the storage site of the shielding stones. Business travellers can also go on a cache hunt at KEK, Fermilab, CERN and SLAC. But be careful, dear Muggle, please put the cache back on the spot!

Text: Miriam Huckschlag
DESY Relation Management

HELMHOLTZ ASSOCIATION

Start for doctoral school

The International Helmholtz Weizmann Graduate School for Multimessenger Astronomy was opened at the end of October with a festive ceremony in Israel. The programme, in which the Israeli Weizmann Institute for Sciences, the Humboldt University of Berlin and the University of Potsdam have joined forces with DESY, is funded by the Helmholtz Association of German Research Centres with 1.8 million euros. The school will initially start with 17 doctoral students, eight of whom are currently at DESY in Zeuthen and nine at the Weizmann Institute for Science in Rehovot.

In the coming years the number of PhD students will continue to rise. The selection round for the second round take place mid-February.

"With the Helmholtz International Research Schools, we offer talented young scientists from all over the world optimal conditions for their doctorates. Here they have the opportunity to gain important international experience and establish international networks," said Otmar D. Wiestler, President of the Helmholtz Association.

"Multimessenger astronomy is drawing a fascinating new picture of the cosmos," says DESY's Director of Astroparticle Physics, Christian Stegmann. "This young but rapidly developing discipline of astrophysics urgently needs specialists, whom we want to train with the doctoral school". The graduate school will form the foundation for structured doctoral training in the field of astroparticle physics at DESY as well as strengthen the partnership with the renowned Weizmann Institute in Israel.

Further information:
www.multimessenger-school.de

HELMHOLTZ
RESEARCH FOR GRAND CHALLENGE