



The Future of Research Alumni

Putting the potential offered by international
visiting researchers to strategic use



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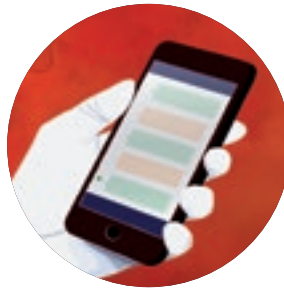
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The German PDF file can be downloaded here:

www.humboldt-foundation.de/web/zukunft-forscher-alumni.html

Free copies of the German or English brochure are available from DUZ Medienhaus (s.kollenberg@duz-medienhaus.de)



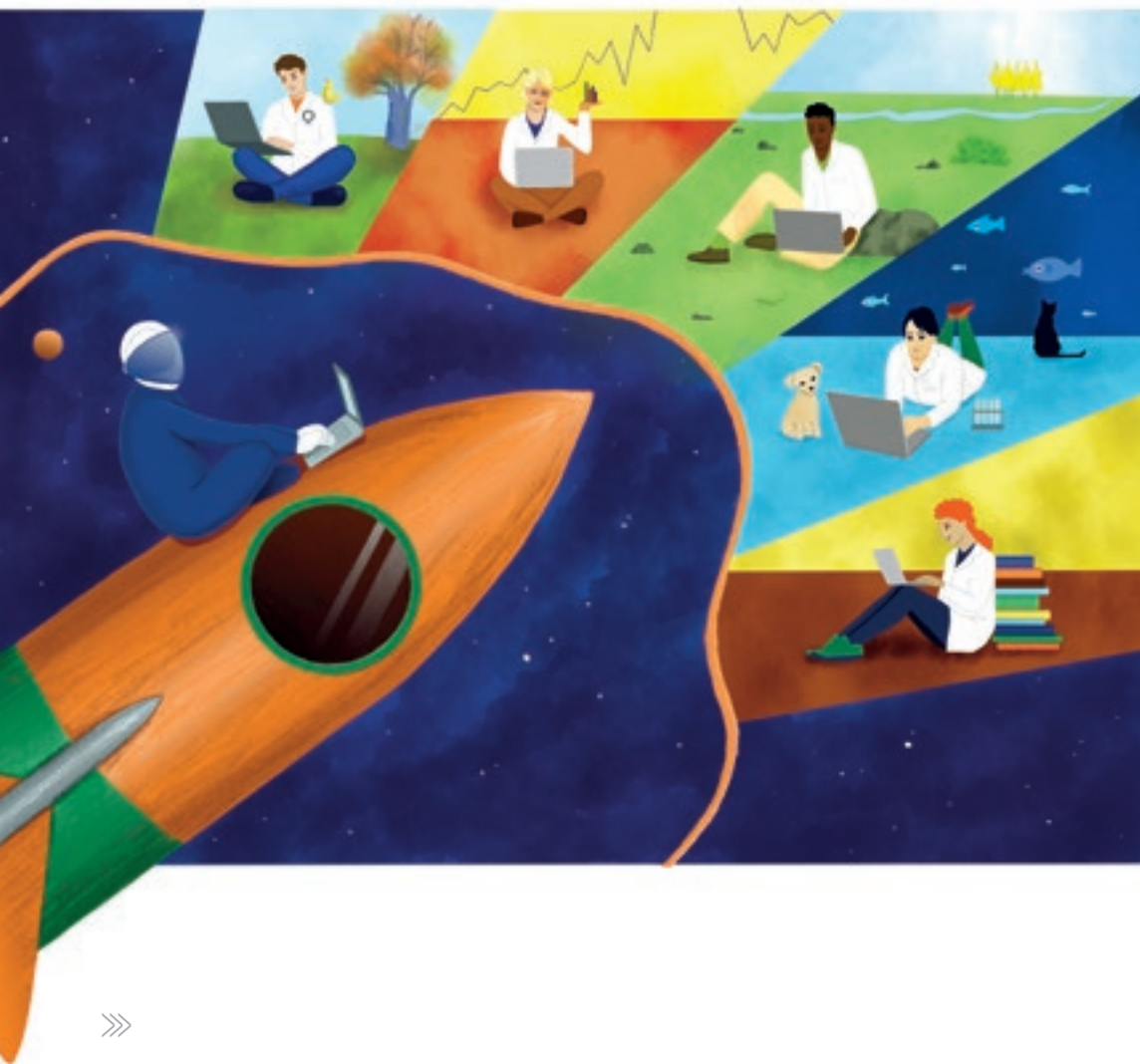
Building Bridges Across Science and Space

For almost a decade now, the Humboldt Foundation has used its experience with visiting researchers from around the world to supply German universities with ideas and stimulus for their own research alumni work. This brings huge added value, both for Germany as a location for research and for universities themselves. If brought on board and integrated in the right way, research alumni can serve as ambassadors for German research. Enno Aufderheide looks at why fostering alumni relations with “head and heart” makes good sense for German universities and research institutions.

Looking at planet Earth from space, it is easy to see how much the world’s continents differ in terms of size and shape. The closer space travellers get to Earth, the clearer they see how far apart the different regions are and the vast distances that need to be overcome. As they get

even closer, they realise that connections do exist – both over land and in the air – between the continents and countries that make up our world. Only once they have landed and have stayed in different places do they realise that it takes more than physical links to bring





people together across continents. This is when they recognise the need for “bridge-builders”.

The Humboldt Foundation: A key driver for research alumni work

International researchers can serve as bridge-builders. Highly mobile researchers from around the globe have long acted as persuasive ambassadors who promote understanding between the countries and cultures of the world. When coming to Germany to embark on a research stay, they can draw on vast cultural experience and professional expertise. They then take a huge bundle of information, knowledge and ideas with them when leaving Germany to begin their next stage in their career – be it back in their homeland or elsewhere. The experience they gain during their stay enables them to communicate a realistic image of Germany to the rest of the world. But more than that, they can report first-hand on how research is conducted in Germany’s laboratories, archives and research teams. These former visiting researchers now represent German universities and research institutions as ambassadors, having achieved ‘research alumni’ status.

The Alexander von Humboldt Foundation introduced the term ‘research alumni’ some ten years ago when embarking on the joint “International Research Marketing” project launched by the Federal Ministry of Education and Research (BMBF). As part of that project, the Foundation was asked

to share its vast experience in managing and organising alumni work with visiting researchers and other actors involved in research activities in Germany. Research alumni are ideal ambassadors for Germany as a location for research – they can use their professional networks to inform upcoming young scientists about the value of conducting science and research in Germany, and inspire them to explore the opportunities it brings. More and more countries are investing both in recruiting young research talent from abroad and in international research collaborations, the aim being to further the success of research and innovation activities in their own research fields. Global competitiveness and international pull are now key indicators of a high-profile, high-performance research location. Looked at from a strategic perspective, research alumni play a vital role in international marketing of Germany as a top location for research.

Since 2006, Germany has been marketed internationally as a location for top research via the Research Initiative to Promote Innovation and Research in Germany run by the Federal Ministry for Education and Research (BMBF). An accompanying global campaign runs under the Research in Germany – Land of Ideas (RiG) brand. The aim of the campaign is to strengthen and expand Germany’s position as one of the world’s leading locations for research and innovation. Under the common Research in Germany brand, a wide range of actors – among them the partners involved in the joint “International Research Marketing” project (see the box on page 7) – engage in various activities

designed to establish networks and form strategic partnerships with international institutions, make it easier for German researchers to gain access to centres of scientific excellence around the world, enter high-tech markets and recruit and retain highly-qualified staff.

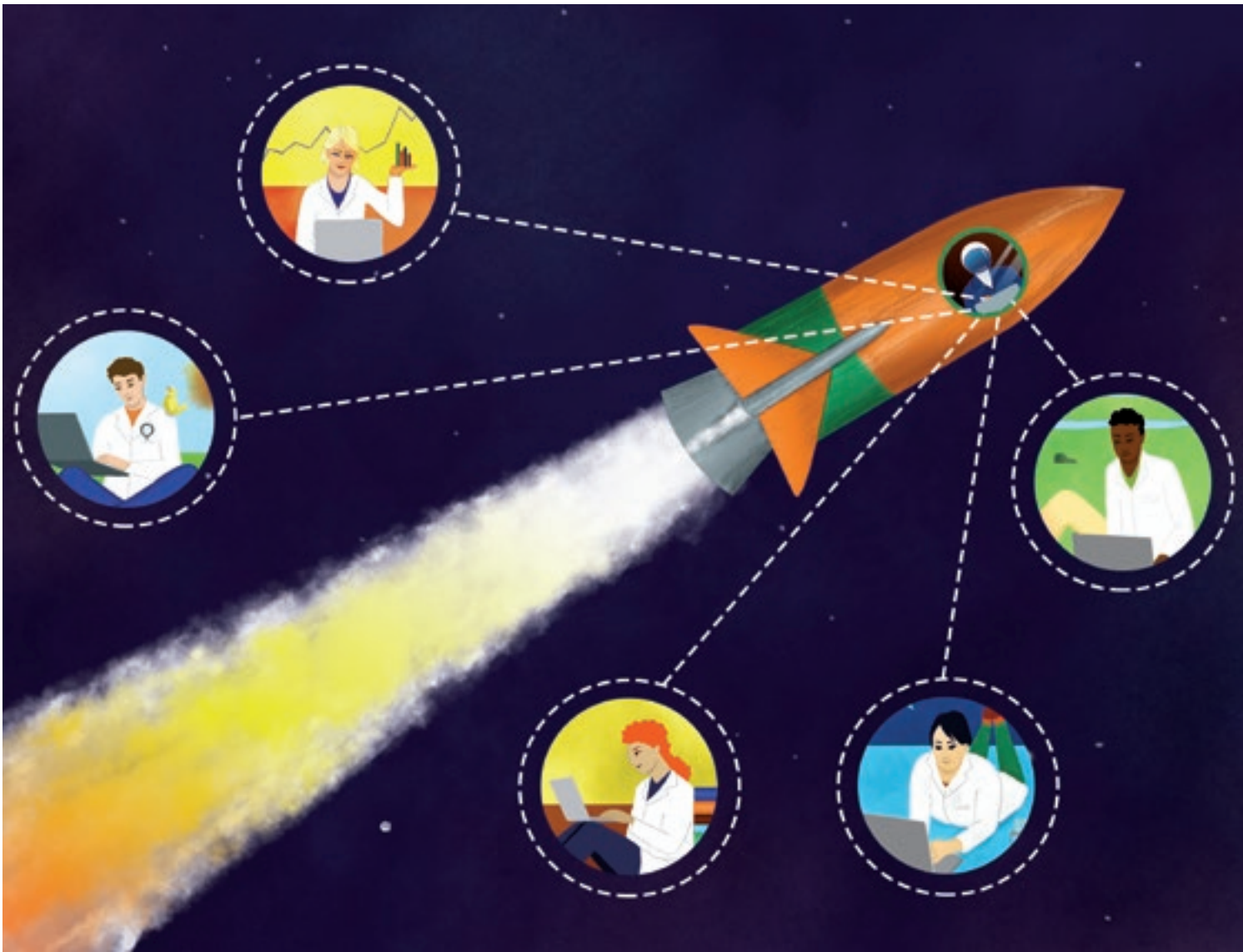
Excellence attracts excellence

For universities and research institutions, working with their research alumni opens up myriad opportunities that go beyond the usual alumni relations work. Prominent research alumni who, thanks to the successful nurturing of contacts, publicise their former ties with a German university, “pay into” their Alma Mater’s brand. Photos of prominent sons and daughters hang in the entrance halls of a growing number of universities and their names are regularly mentioned in university communications. This is because outstanding scientists attract other excellent scientists – top researchers want to work where other top researchers have worked. Research alumni can serve as disseminators and ambassadors for their former host institutions and they can support them strategically as well – in the creation of global networks and in forming partnerships for cooperation, for example, and by assisting strategic decision-making concerning their university’s internationalisation. But equally important is that research alumni benefit from their ties with German institutions. There must be a win-win situation with visible added value for both sides.

A culture of welcome is key to binding top scientists and researchers

The Alexander von Humboldt Foundation has conducted successful alumni work for more than 60 years. Across the decades, the Foundation has built up a global, cross-disciplinary network of top scientists and researchers who can speak on behalf of Germany as a location for research. Against this backdrop, the Foundation began nearly ten years ago taking its research alumni work beyond the Foundation’s organisation and embedding it in German universities and research institutes. Using funds awarded through a competitive process, the Humboldt Foundation has been a source of impetus for the establishment and further development of research alumni work in numerous institutions. Network meetings provide a forum for mutual exchange and learning between representatives of funded institutions and a range of other actors. Thanks to the BMBF’s joint “International Research Marketing” project, the topic of research alumni work has had a firm place on the agenda of German universities and research institutes for the past ten years.

The welcome centres that have become standard features at many universities in Germany provide an important foundation for efforts to develop research alumni work. If visiting researchers receive a warm and friendly welcome, they will be only too pleased to serve as research alumni for their former host and take the next step towards becoming a potential ambassador for Germany as a top location for research. The Humboldt Foundation





worked with the Stifterverband für die deutsche Wissenschaft and the Deutsche Telekom Foundation, engaging in ideas competitions and networking campaigns between 2006 and 2012 to jump-start the establishment of welcome centres at universities throughout Germany.

High degree of professionalism achieved in research alumni work

This publication follows on from the *duz SPECIAL* entitled 'The Discovery of Research Alumni – Forming lasting bonds between international researchers and Germany' published in 2015. That *SPECIAL* illustrated how research alumni work had developed in German universities and research institutions in the first five years of its promotion by the Alexander von Humboldt Foundation. This latest issue of *duz SPECIAL* examines further aspects and trends in current and potential future research alumni work. On the whole, it can be said that the Humboldt Foundation's ideas competitions to promote research alumni work have served as a lever and have had a marked effect in pushing research alumni collaboration at German universities and research centres. But while a high degree of professionalism is now evident in their research alumni work, one particular challenge they face comes from the frequent lack of financial and human resources – the resources they need to drive this work forward, both in quantitative and qualitative terms. This was confirmed

in the recent survey of research alumni managers at research-intensive universities in Germany. The key findings of the survey are summarised in the article *Research Alumni Work Has Paid Off* (pages 10-15).

Research alumni work involves dealing with multiple alumni identities. How to forge ties where researchers have conducted research at more than one institution in the course of their careers? In today's world, where people can keep in touch and stay informed via multiple digital media channels and using social media accounts, more needs to happen than sending out a bi-annual newsletter to an e-mail distribution list to report on the university's latest news. If a university wants to forge ties with a mobile, successful international scientist, it needs an attractive communication mix – one that combines a personal and a professional approach. It is necessary to reach both the "head and heart" to achieve long-lasting loyalty and ties. Several articles in this publication show what this can involve: see *Research Alumni Portraits* (pages 8-9 and 16-17), *Social Media Harbours Huge Potential for Forging Ties with Research Alumni Millennials* (pages 18-19) and *Striding into the Future with Research Alumni Work* (pages 20-21).

So what does the future hold for research alumni work? It all depends on the changes taking place in research work in general and how international science collaboration is organised. This can involve issues such



as how relations develop between research alumni and their host institutions in Germany, or the role played by physical mobility and meetings compared with virtual forms of dialogue and exchange. While digital communication will no doubt become easier and more simplified over time, the obstacles that need to be overcome in terms of physical distance could well increase. Travelling could become more expensive and geopolitical constellations could well restrict cross-border activities. This gives rise to the question, what kinds of developments are taking place in the science and research world that will impact the future of research alumni work? These and other issues are addressed in the article *Attractive for Tomorrow's Researchers* (pages 22-26).

After almost a decade of promoting research alumni work, it can be said – and rightfully so – that the great potential offered by structured collaboration with current and former visiting researchers is now being recognised by almost all science and research stakeholders, and that many of them are utilising that potential to the full. The Alexander von Humboldt Foundation is both pleased and proud to play a role in all of this.

Dr. Enno Aufderheide

is Secretary General of the Alexander von Humboldt Foundation.



Joint “International Research Marketing” Project

The measures implemented by the Alexander von Humboldt Foundation are part of the joint “International Research Marketing” project conducted by the Alexander von Humboldt Foundation, the German Research Foundation and the Fraunhofer Society. The project is designed to promote Germany nationally and internationally as a location for excellent research and elevate its profile in the global science and research market.

All activities conducted under the project are part of the Research Initiative to Promote Innovation and Research in Germany run by the Federal Ministry for Education and Research (BMBF), which in turn is promoted under the Research in Germany brand.

www.research-in-germany.org





“Coffee and casual, but fruitful talks”

In the Queen’s Birthday Honours List 2017, she was awarded an OBE for Services to Chemistry and Women in STEM (science, technology, engineering, mathematics). It is an award of which Polly L. Arnold, who in spring this year was made a Fellow of the Royal Society (FRS), is especially proud. An award-winning researcher she may be, but Arnold does not let this go to her head. In her naturally modest style, she stresses that dialogue and exchange, as well as collaboration with colleagues play a key role in her work and her success. This is why she particularly values the TUM Research Alumni Network, which she joined in 2012. “My researcher alumni status”, Arnold explains, “gives me access to other outstanding researchers with whom I can hold groundbreaking, highly intellectual talks on a wide range of topics and themes.”

As one of world’s the leading experts in synthetic chemistry, Arnold works with her research alumni colleagues to explore Cer compounds. These belong to the rare earth metals and can retroactively bind carbon dioxide – something of enormous relevance in mitigating climate change. “We found that one of these compounds is especially suited to catalysing and converting CO₂ into cyclic carbonates, making it a vital renewable chemical source”, reports Arnold enthusiastically. Together with other TUM research alumni, she is working to have new professorships and study places created to enable intensive research work on these newly-discovered catalysts.

The research chemist, who during a Hans Fischer Senior Fellowship developed strong ties with the Technische Universität München (TUM), is convinced of the benefits of the TUM research alumni programme: “It’s fantastic. We get together for coffee and casual, but fruitful talks. It’s a

well-known fact that a heterogeneous group is better able to solve complex, far-reaching research problems. The most wonderful and diverse ideas ensue.”

Taking this a step further, Arnold would like to see young research talents being able to participate in these intensive network talks and calls for greater doctoral-level collaboration. “Young doctoral students”, she says, “are highly motivated, bursting with new ideas and would really welcome the opportunity to explore laboratories of different kinds. We’d all stand to benefit if they could.”

As an active feminist, Arnold pays particular attention to promoting women in science and research. This is why she recently founded Sci-Sisters, a new scientist sisterhood – a network for women researchers in leadership positions in Scotland. She has also produced a documentary film, *A Chemical Imbalance*, which points out why women are under-represented across all the science and research disciplines.

In recognition of her outstanding contribution to science, TUM President Wolfgang A. Herrmann made **Professor of Chemistry Polly Louise Arnold** a TUM Ambassador in 2017.

| Text: Angelika Fritsche





“Go to them, look around, ask questions”

For Massimiliano Vitiello, his research stays in Münster are just as much a part of his identity as his Roman origins. The ancient history expert specialises in the history of Rome, Byzantium and the Germanic kingdoms, and has completed a number of long research stays as a Humboldt Fellow at the University of Münster (WWU). With its library, its researchers and its picturesque location, the WWU offers a highly attractive research environment for ancient historians. This is why Vitiello took repeated opportunities to return to Münster as a research alumnus and visiting researcher, having been appointed as a Professor at the University of Missouri-Kansas City in 2010. Vitiello conducts research into the relationships between the Romans, the Barbarians and the Germanic tribes, the migration of peoples in ancient times and the fears and reactions they sparked.

“I really like it in Münster”, says Vitiello. “The university is an ideal place for research at a very high intellectual level”, says the research alumnus. What really attracted him to Münster as a research location was and still is the “excellent scientific exchange with colleagues from Germany and elsewhere, the amazingly well-stocked library and the research resources on offer at the university”. What the Italian native also likes are the flat, “not so hierarchical” decision-making structures in the German science and research system. As he explains: “They enable wide-ranging, constructive debate on scientific topics and themes.”

Vitiello makes good use of his research alumni network, exchanging views and ideas on his research topic with scientists from other disciplines. “Phenomena like mass migration must be looked at from an international and interdisciplinary perspective. And as an historian, I find talking with sociologists, political scientists and ethnologists especially interesting – particularly when it comes to gaining insights into today’s migratory movements and developing solutions together.”

In addition to the fruitful intellectual environment offered by the research alumni network at the WWU, Vitiello also values the university’s wide range of support services, information events and cultural offerings for international researchers which have motivated him to return to Münster time and time again. “I need a kind of home from home during



my research stays”, he says. That the Italian native is not alone in his need is only too clear, says Nina C. Nolte from her many years of experience in an international context. “For a research stay to be successful”, she says, “the researchers have to know where they will live, how their family will be integrated and assisted, and who they can turn to when they need help.” To attract their research alumni, Nolte believes universities must take these things into account when offering top-level research stays. Scientific institutions that take this matter seriously also help to ensure that international researchers are willing to return to Germany for further stays at their host institutions.

And to assess the kind of support and conditions that international researchers need, ethnologist Nolte relies on a tried and tested practice: “Go to them, look around, ask questions.” When asked what he wants, German aficionado and research alumni Vitiello fires off an answer right away: “German universities should place more importance on social networks.” He believes young researchers who come to Germany should be immediately integrated into a dedicated group. “They are dependent on social contacts and friends on site in order to feel comfortable, be able to conduct productive research and become familiar with the German mentality”, he says.

Ancient historian **Dr Massimiliano Vitiello** has been a Professor at the University of Missouri-Kansas City (UMKC) since 2010. He is currently a visiting researcher at the University of Münster Seminar for Ancient History (WWU).

Nina C. Nolte and her colleagues at the Welcome Centre in the WWU International Office assist him in getting the most from his research stay.

The logo RE.AL stands for WWU Research Alumni Strategy.

| Text: Veronika Renkes



Research Alumni Work Has Paid Off



Research alumni work has become an integral component of the German research landscape. This was confirmed by a survey of 88 research-intensive universities in Germany conducted on behalf of the Humboldt Foundation by the Kassel-based Society for Empirical Studies (GES) in spring 2018. The key findings of the survey are outlined in brief.
| by Charlotte Devantier and Barbara Sheldon

“How do you approach research alumni work?” This is the question the Humboldt Foundation put to 88 research-intensive universities across Germany back in 2015, the aim being to assess the lasting effects of their research alumni work in Germany’s university landscape. The survey was repeated in spring 2018 and with a pleasing result: research alumni work has taken a firm foothold in German institutions. At one in ten research-intensive universities, research alumni work has developed to a high degree. At a further 14 percent of institutions, a high degree of professionalism has been achieved in at least some aspects of their research alumni work. Around one-third of universities surveyed said that targeted use of research alumni in their strategy-related activities played a key role in their internationalisation efforts. Regardless of whether a university has integrated research alumni tasks into its strategic goals, 60 percent of universities polled said that research alumni work had gained in importance over the past five years – the vast majority of these are large universities (25,001 or more students), of which 84 percent say that research alumni work now plays a greater role. This compares with only 73 percent in 2015.

Sponsorship has a huge structure-forming effect

When it comes to integrating research alumni work into centralised structures, little change has occurred since 2015: around 34 percent of universities have introduced centralised research alumni work (32 percent in 2015). By way of contrast, 23 percent conduct decentralised

research alumni work. Overall, 57 percent of universities surveyed take a systematic approach in managing their alumni relations. Structural integration at centralised level has taken place almost exclusively at universities that were prize-winners in the research alumni ideas and strategies competitions sponsored by the Alexander von Humboldt Foundation. The Foundation’s sponsorship and funding activities enabled under the joint “International Research Marketing” project have resulted in structure-forming integration of this thematic field in German universities and have raised awareness of the importance of research alumni work.

There are still only very few universities, however, that have created new organisational units specifically for research alumni work. In many cases, the topic is addressed at the interface between the alumni office, the international office and the welcome centre or is managed by one of them exclusively. Where universities have not introduced centralised research alumni work, it is often due to a lack of financial and human resources – more than 70 percent of universities surveyed said that this was the case. In some instances, the university administration did not see research alumni work as a priority issue (24 percent), while some universities believe there are too few research alumni to make research alumni work worthwhile (24 percent).

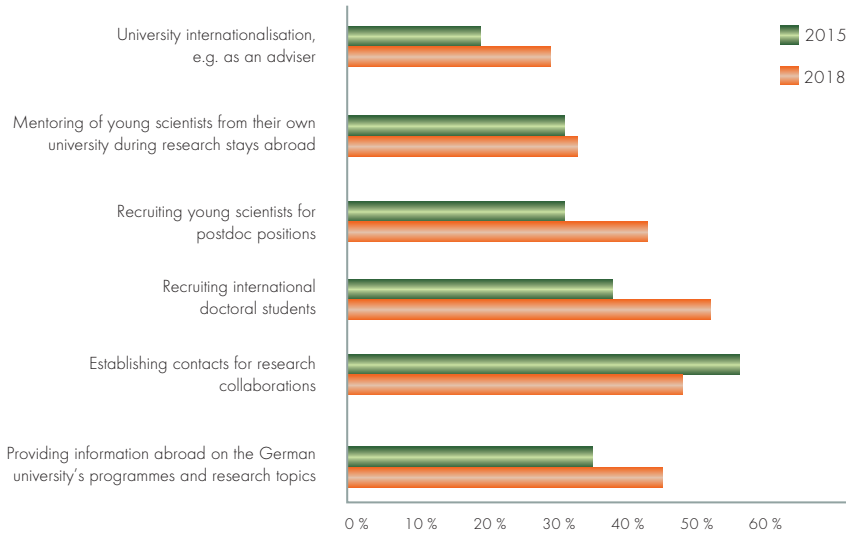
More universities want to integrate centralised research alumni work (33 percent) in the future and some already have extremely detailed plans. But what many of them still need to focus on is the actual design of research alumni structures and themes.

Clear differences between institutions large and small

In the past few years, universities that already conduct centralised research alumni work have attached greater importance to the strategic

“One in two research-intensive universities now conducts research alumni work”

Integrating research alumni into strategic activities at their former host universities



potential of their former visiting researchers (see graphic: Integrating research alumni into strategic activities at their former host universities, page 11).

The size of a university plays an important role in the tasks assigned to its research alumni. Forging ties for research collaborations is of far greater importance for medium-sized universities with between 10,001 and 25,000 students (80 percent) than for large universities (33 percent). By way of contrast, large universities make far greater use of research alumni potential when it comes to seeking their advice in matters concerning internationalisation (33 percent). In medium-sized universities, the quota is 20 percent.

Forging ties increasingly important for research alumni

Research alumni themselves are also coming to recognise the benefits to be had from maintaining ties with their (former) host university. Some 67 percent of universities that engage in centralised research alumni work say that research alumni's willingness to become involved in their university's strategic activities is "very high" or "quite high". In 2015, only 37 percent were involved (see graphic: Research alumni willingness to engage in strategic activities at their former host universities, page 12).

Cross-institutional collaboration on the rise

Compared with 2015, more universities that conduct centralised research alumni work no longer do so alone, but in collaboration with other

institutions (45 percent). This compares with only 37 percent in 2015. For the most part, collaboration on research alumni work involves non-tertiary institutions in Germany (36 percent), local partners in the vicinity of the university (18 percent) and internationally-active institutions (18 percent). Medium-sized universities tend to collaborate most frequently with other partners (around 70 percent). For these, working with local institutions can prove especially lucrative and help them achieve greater visibility and broader reach.

Highly-developed research alumni work

Coupled with universities' own efforts in recent years, sponsoring of research alumni work by the Humboldt Foundation has certainly had an impact (see graphic: Areas of research alumni work where universities have achieved a high level of development, page 13). The work conducted by universities with centralised research alumni structures is now highly developed. Most universities have achieved a great deal, especially with regard to contacting and forging ties with their research alumni. In many cases, the vital prerequisites for successful research alumni work have become a matter of course. Around one-third of German universities have already taken the next step – that of integrating research alumni into their strategic activities and awarding prizes to research alumni who are especially actively engaged.

A similar picture emerges when looking at how research alumni work impacts the universities themselves. Around one-third of universities say integrating research alumni into their strategic activities has a very positive effect. For the most part, these are universities that are already extremely active in this area of research alumni work.





An integral component of internationalisation strategies at German universities

A significantly higher number of universities (with centralised research alumni structures) than in 2015 see the contributions research alumni make toward strengthening the international profile of their universities as very positive (57 percent). This applies largely for universities with special awards that recognise particularly active research alumni and firmly integrate them into their strategic activities. This confirms that research alumni work is now an integral component of internationalisation activities at many universities in Germany.

Strategic importance recognised by university administrations

Looking at the impact research alumni work has on universities themselves, more than three-quarters of universities with centralised research alumni structures report positive effects from intensive ties with research alumni. And more than 75 percent say that the quality of research alumni work has improved, meaning that it has become more professional. Most respondents reported that interest in the subject of research alumni is on the rise at German universities. Today, many university administrations acknowledge its strategic importance and say that the level of support received from the various research disciplines and institutes is growing.

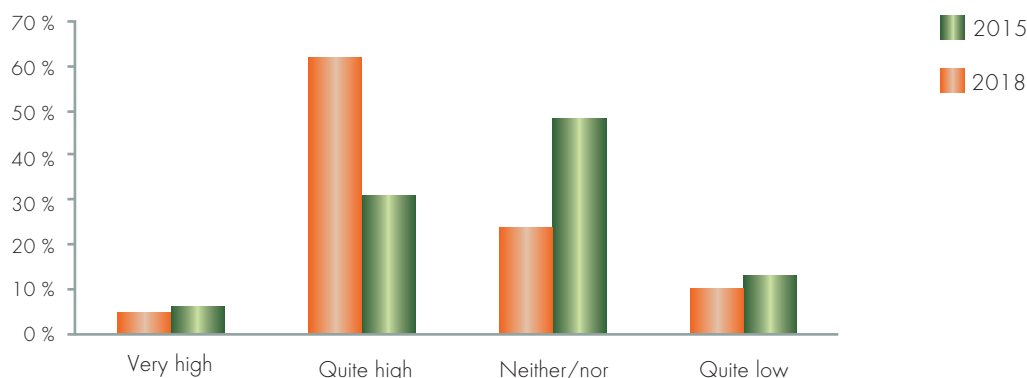
“Re-invitation fellowships for further research stays prove extremely popular with many research alumni”

To measure the impact of their research alumni work, some 43 percent of universities utilise specially-designed processes and procedures – among them questionnaires, interviews and a set of indicators – to evaluate and refine their in-house policies and measures.

Despite the various options digital media and social media apps for keeping in touch, personal contact between research alumni and their former host institutions continues to be an essential aspect of research alumni work. It is thus not surprising that many of the measures implemented by universities in the course of their research alumni work promote direct personal exchange between research alumni and “their” institution. For example, 73 percent of the surveyed universities with centralised research alumni structures allocate funds for repeat research stays at the former host university. These re-invitation fellowships for further research stays prove extremely popular with many research alumni. A large number of universities also offer opportunities for direct personal exchange at side events held at specialist conferences (27 percent) or at exclusive research alumni events (73 percent).

In addition, approximately 70 percent of universities still use newsletters to keep their research alumni informed about services and activities. Almost 40 percent operate dedicated social media channels or websites exclusively for research alumni. Around three-quarters of universities give research alumni access to existing career, skills and contact networks. The subject of (international) career development is very important for many research alumni, especially at the start of their careers. This is why some universities offer networking events that revolve around this subject. Measures that help research alumni to position themselves and attract publicity are often seen as important by this group. On the whole, it

Willingness of research alumni to engage in strategic activities at their former host institutions





can be said that university measures can only be effective if they deliver clear added value and benefits. If, for example, social media groups are too small or don't offer the right information, or if events offer little that the research alumni can relate to, they rarely function as planned.

Perpetuation a major challenge

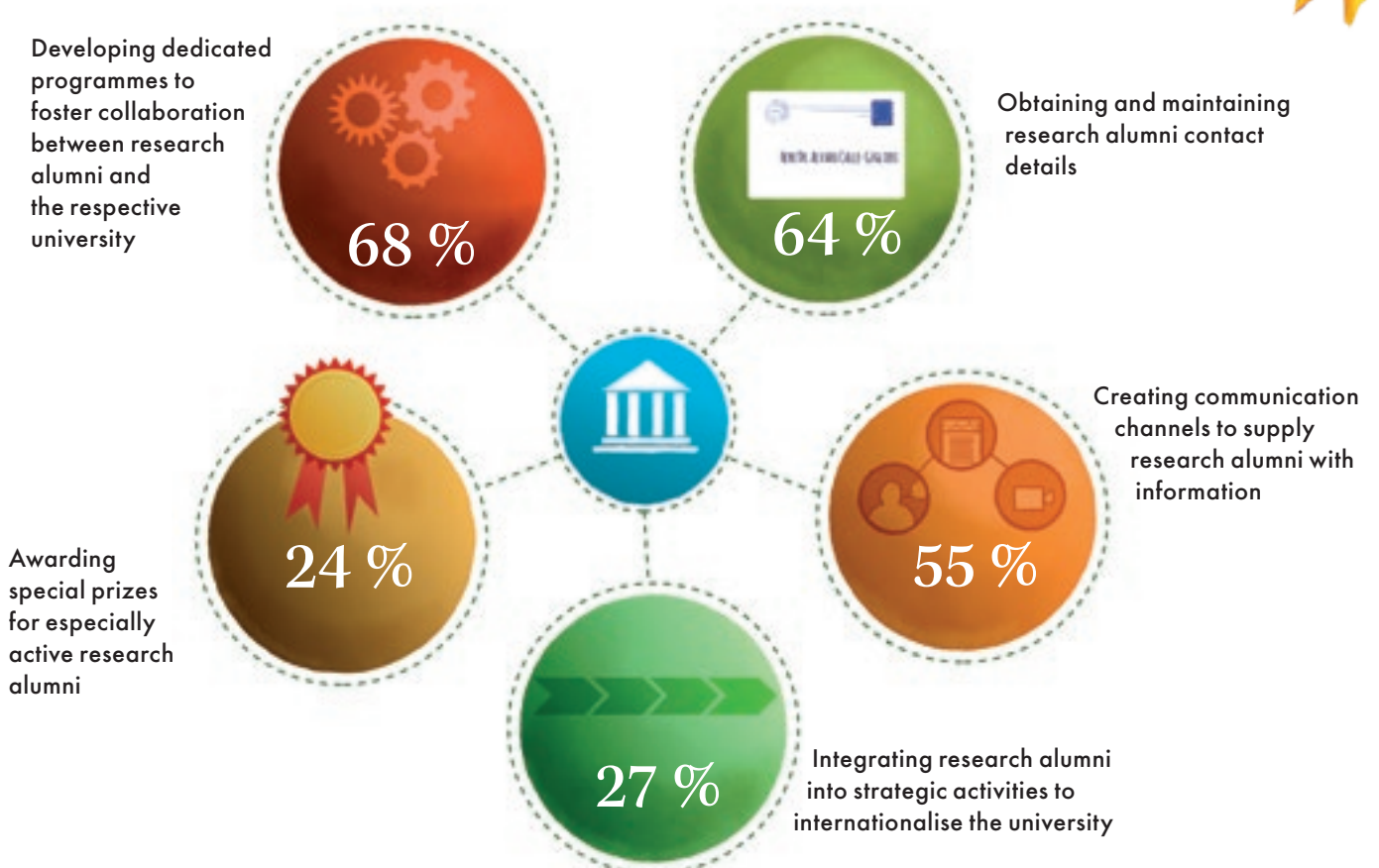
For most universities, making the much-needed financial and human resources available to research alumni poses a major challenge. This is despite the many successes achieved and the positive effects seen, especially where perpetuating research alumni work in universities is concerned. When it comes to maintaining and fostering personal contact with former visiting researchers, staffing continuity at the respective university plays an important role. But in many cases, limited-term employment contracts make for frequent changes in staffing and teams. It also appears that recognising and making use of synergies between a university's administrative departments or between its administrative departments and its research faculties and institutes continues to be difficult in some cases. This is unfortunate because synergies are important

factors of success. Adhering to current data protection laws and navigating the difficulties encountered in initiating contact and maintaining ties (not least with younger, more mobile researchers with addresses at multiple institutions) are an ongoing problem for many research alumni relations managers and teams.

Given the financial situation in many universities, fundraising is a relatively new approach being adopted in the field of research alumni work. While only few universities with centralised research alumni structures actively engage in fund-raising work, one-third of those surveyed say they plan to try it in the future (see graphic: Using fundraising to finance research alumni work, page 14).

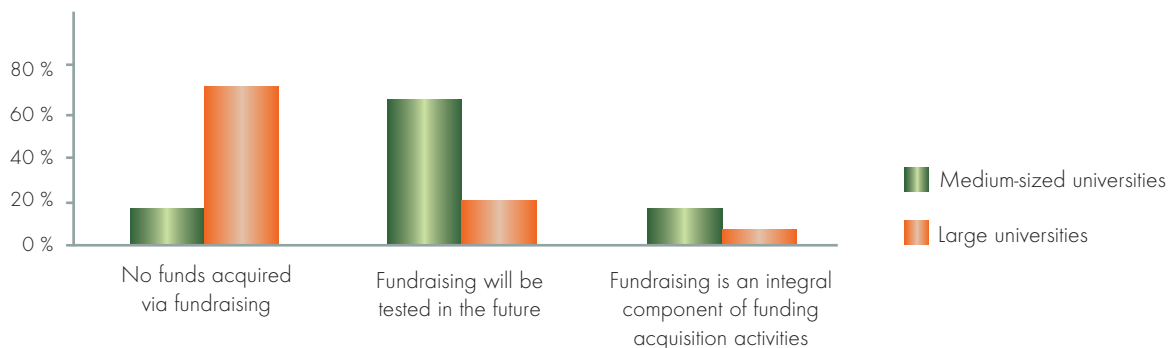


Areas of research alumni work where universities have achieved a high level of development





Using fundraising activities to finance research alumni work



“ Recruitment support as a future-focused topic for research alumni work “



Research alumni work relevant in the future as well for the future

In the future, around 70 percent of universities that do not conduct research alumni work or only on a decentralised basis plan to expand their activities moderately. And most universities with well-established, centralised research alumni structures also plan to moderately expand on the measures currently in place. Around one half of universities already have concrete expansion plans. Only a few want to reduce their research alumni programme, while around one-fifth plan to keep things as they are.

Topics which according to university representatives will gain in importance in research alumni work revolve primarily around recruiting researchers – including outstanding young talents – and increased international networking that can emerge from research collaborations or joint research alumni work conducted with other institutions of higher education. University representatives also believe that online offerings and career development programmes tailored to research alumni needs at the different stages of their lives and careers are exciting topics when it comes to the future of research alumni work.

In sum, it can be said that many universities are well positioned in terms of their research alumni work and they have achieved a lot in recent years. Despite the many challenges that need to be faced, research alumni work remains a highly topical and important field of work for German universities.

Survey Findings: An overview

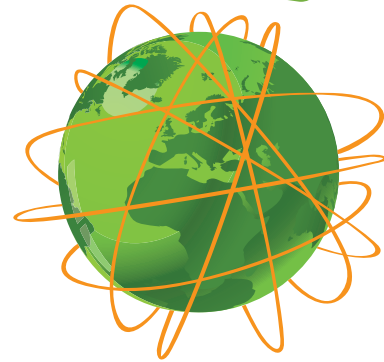
Most universities have now recognised the strategic importance of research alumni work and have introduced it as a separate task. Over the past few years, universities with centralised research alumni structures have greatly expanded and professionalised their research alumni work. Differences remain, however, in terms of how universities large and small structure and design their research alumni work.

Yet another emerging trend sees more and more universities collaborating with neighbouring institutions and engaging in partnerships in their research alumni work. And interestingly enough, research alumni are also showing a growing willingness to become involved in activities at former host universities.



Institutions with award-winning research alumni strategies from competitions run between 2011 and 2016

Aachen	RWTH Aachen University
Bayreuth	University of Bayreuth
Berlin	Freie Universität Berlin Humboldt-Universität zu Berlin Technische Universität Berlin Max Delbrück Center for Molecular Medicine (MDC) Berlin Social Science Center (WZB)
Bonn	University of Bonn
Braunschweig	Technische Universität Braunschweig
Bremen	University of Bremen Leibniz Center for Tropical Marine Research
Cologne	University of Cologne Max Planck Institute for the Study of Societies
Dortmund	TU Dortmund University
Dresden	Technische Universität Dresden
Düsseldorf	Heinrich Heine Düsseldorf University
Erlangen-Nürnberg	Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU)
Frankfurt am Main	Senckenberg Gesellschaft für Naturforschung
Göttingen	University of Göttingen
Hamburg	Bernhard Nocht Institute for Tropical Medicine GIGA German Institute of Global and Area Studies
Hannover	Leibniz Universität Hannover
Heidelberg	University of Heidelberg
Hohenheim	University of Hohenheim
Jena	Friedrich Schiller University Jena
Karlsruhe	Fraunhofer Institute for Chemical Technology ICT Karlsruhe Institute of Technology
Kiel	The Cluster of Excellence „The Future Ocean“, Kiel University
Konstanz	University of Konstanz
Mannheim	University of Mannheim
Münster	University of Münster
Munich	Technische Universität München
Potsdam	Potsdam Institute for Climate Impact Research
Siegen	University of Siegen
Stuttgart	University of Stuttgart
Tübingen	University of Tübingen



“Part of a fantastic science community”



For Juliana Silva Gonçalves, Berlin is slowly turning into a home from home – at least as regards her work. In the past two years, she has had several long research stays at the renowned Berlin Social Science Center (WZB). It all started with a postdoc fellowship she received in 2015, from the jury of the A.SK Social Science Award which is awarded by the WBZ. In addition to this prize, the WBZ also grants fellowships for research work that is of particular relevance for political and economic reform and provides impetus in these fields. Economist Gonçalves used her A.SK Fellowship to conduct a field study in German schools on the effects of assigning children to different types of schools and consequently different education paths at an early age. “My first stay at WZB really inspired me. It gave me the opportunity to develop close ties with colleagues there. And this provides an important basis for joint research work.”

Motivated by her positive experience, she decided to stay in touch with the WZB via the research alumni network which she joined last year. “My network membership came about as the result of a second

two-month research stay at WZB as part of an alumni fellowship. It allows me to continue existing collaboration projects and embark on new ones, too”, says Gonçalves. “During my stays at WZB”, she continues, “I’m part of a fantastic science community where I can share information and ideas with other researchers, work with them and conduct research in my area of expertise in the middle of it all.”

At the moment, Gonçalves’ work focuses on the topic of ambition and how social groups can influence personal ambition – a project she embarked on in collaboration with colleagues at WZB during her A.SK Fellowship stay. “Thanks to my alumni fellowship, I can discuss my current research topics with colleagues at the WZB, which in turn benefits the quality of my work”, the postdoctoral researcher explains. She is also a big fan of the WZB researchers network, which she also has access to along with the opportunity to attend seminars in the company of top-level researchers. “It’s an excellent opportunity to discuss one’s own research findings with participants and speakers”, she says. Gonçalves also has nothing but praise for the personal support she receives from her head of department and mentor at WZB, with whom she worked on all her research projects.

Nonetheless, there is one thing she would like to see added to the WZB research alumni network: “The fact that follow-on stays at a host institution are funded is a great advantage. It enables researchers to continue the research process with success through professional interaction at face-to-face level. This must be expanded and the number of sponsored alumni stays increased when the respective research project exhibits the right level of academic potential and proves to be socially relevant.”

Dr. Juliana Silva Gonçalves is a postdoctoral researcher at the Economics Department at Queensland University of Technology in Brisbane, Australia.

She has already completed several research stays at the Berlin Social Science Center (WZB) and has been a research alumna there since 2017.

| Text: Angelika Fritsche

“A good place to be, both personally and professionally”



In the years since he signed up to study German language and literature in his mid-twenties, Cameroon native Constantin Tayim Sonkwé has travelled all over Germany. He has studied in Leipzig, Duisburg-Essen and Hanover, and received his doctorate at the Ludwig-Maximilians Universität München in 2012. In between those stays, he returned to Cameroon to work as a research associate at his home university – the University of Yaoundé I. And then two years ago, he headed back to Germany, this time as a Humboldt Fellow at the University of Bayreuth. What brought him back were “the excellent research opportunities” offered by his ties with the Chair of Romance and Comparative Literature with special emphasis on African Literature.

Sonkwé, who conducts research on the memory of colonisation, feels at home at the Bavarian university, both personally and professionally. “What convinced me from the outset was the fantastic support I received from the International Office. From the time they contacted me, I knew I would be given every possible assistance to help me deal with my everyday needs.” Upon arriving in Bayreuth an apartment and a Campus Card were awaiting him and he was able to start his research right away.

For Angela Rösler-Wedlich from the Welcome Services for international visiting researchers, this kind of all-round support is a key part of her department’s self-image. “We try to clear the way for our guests as much as possible so they can concentrate on their research work. We take care of their everyday needs, from housing and healthcare, to dealing with local authorities, to finding nursery school places and registering children in schools if their family has joined them in Germany.” The university

also organises regular get-togethers, visits to museums and excursions to places of interest in the area. “We want to help our researchers, our research alumni and their families to feel at home”, says Rösler-Wedlich. It’s an approach that Sonkwé especially appreciates. For him, personal contact is a key factor. “It gives me a sense of security and reassures my family that when I’m in Bayreuth, I’m in good hands.”

For Thorsten Parchent, who coordinates the Welcome & Alumni Services at Bayreuth University, one thing is clear: “Researchers and research alumni who feel they are in good hands develop stronger ties with the university.” To expand the services further, the Bayreuth team responsible for research alumni work maintain regular contact with other universities throughout Bavaria. As Parchent explains, “This enables us to tap potential synergies and boost our overall attractiveness to research alumni as a region for top research.” This is why Sonkwé also believes a network for German research alumni in Africa is important to enable them to forge ties at regional alumni meetings, exchange information and plan joint project work.

Dr. phil. Constantin Tayim Sonkwé has been conducting research since 2016 as a Georg Forster Postdoc Fellow at the Faculty of Languages and Literatures at the University of Bayreuth. **Angela Rösler-Wedlich** and **Thorsten Parchent** from the International Office are on hand to assist him in any way they can.
| Text: Veronika Renkes



Social Media Harbours Huge Potential for Forging Ties with Research Alumni Millennials

Rapid digitalisation has brought a sea change to Germany's university landscape. This is certainly the case with research alumni work, where social media channels offer new ways of networking and keeping in touch. But how can social networks best be used? And how can the needs and user habits of research alumni be properly served? What data protection provisions need to be observed? | by Philip Dunkhase

With their digital and web-based expectations, knowledge and needs, Millennial or Generation Y research alumni will seriously change the alumni relations world. Digital alumni networks will play an especially important role. Generation Y researchers meet up with friends, colleagues and other scientists online via Facebook, LinkedIn and XING. In online forums, they post tweets, evaluate, recommend and like research postings. They subscribe to scientific blogs via RSS, share research findings via Google Scholar, Research Gate and Academia.edu. Using profiles placed in global business networks, they let themselves to be headhunted by HR recruitment teams. They use the leading online ticketing platforms to sign up for science slams and publish their research findings complete with the correct hashtags on InstaWalk or Snap'n'Walk. Thanks to social media Millennials are highly mobile, widely connected and can be contacted anytime anyplace.

Where previous generations made clear distinctions between working and private life, Generation Y have blurred the lines between these two worlds. Separating a scientific career network from a personal network is now more the exception than the rule. For research alumni networks that need to meet the communication needs of former visiting researchers old and young, social media communication must take account of these trends and respond to changing communication habits of the future research alumni who belong to Generation Y.

Better promotion of social media use

Social media apps are rather unknown territory for those in research alumni management teams. They lack experience in the sustained use of social media channels for managing alumni and social relations, social recruiting and crowdfunding.

It is not surprising, therefore, that at German universities alumni relations teams have been late to embrace the social media and reputation management worlds. The same applies to developing new digital

strategies for sponsorship and alumni activities that are tailored to Germany's university landscape. The results of the Alumniscore study on using social media and corporate reputation management (CRM) systems in alumni relations underline the need for action in this field.

With Generation Y and their very different media use habits in the social web, a new dynamic is emerging in alumni relationship management – one that demands action now. At the moment, university researcher networks have very few Millennial members. It is thus all the more important that research alumni management teams put thought now to how the structure and functionality of existing online researcher alumni networks will change as a result of them.

New data protection laws leave questions unanswered

A nationwide standard for collecting and processing research alumni data sourced on the social web for use in alumni work is still a vision for the future. In some respects, the higher education laws in the various German states (Länder) and the EU General Data Protection Regulation that went into effect in May 2018 give no guidance regarding data protection provisions. This is especially the case concerning the processing of personal information and data belonging to former university students and staff.

What also remains unclear is whether, in its capacity as a public institution, a university can argue that the processing of personal data in social media is in the public interest. If this were the case, data processing in the social web would be a necessity in order to fulfil public interest obligations.

It is clear that data protection reforms are needed for both social media activities and digitalisation strategies. In times of digital transformation, universities and alumni organisations must address the challenges



of business networks in the social web if they want to maintain and make use of their ties with their international research alumni. This is especially the case where social recruiting, crowdfunding, research marketing, social relationship management and influencer marketing are involved.

Research alumni across social media channels

The question also arises as to the number of networks and social media apps that research alumni are prepared and able to spend time with over a longer period in order to be considered contributing members of a community or network. What also remains to be seen is whether social software solutions that are specially designed for research alumni and only target a select circle of users can achieve the desired reach and number of members. In the midst of myriad social media activities, it pays to keep an eye to the primary goal – that of forging ties between research alumni and their former institutions.

Philip Dunkhase is a member of the board at the umbrella association, alumniclubs.net, a consultant of the Leuphana University Cooperation Service and a board member of the Leuphana University Alumni- und Förderverein (Alumni and Friends of Leuphana Association).

Social Media-Tips



Research alumni across various social media channels

At Google Scholar, Academia.edu and Research Gate, you can use the search feature to find your research institution and associated researchers and research alumni.

Use country-specific social media channels for international communication

Communication via Facebook is not always the best option in international research alumni work. In Russia, for example, the leading social network – VKontakte – has almost 100 million active users. In China, the Chinese government has blocked online services like Facebook, Twitter and WhatsApp. It makes far more sense, therefore, to use both your contacts abroad and the German Academic Exchange Service (DAAD) field offices to identify, together with your alumni, the appropriate social media channels in the country concerned.

Place links on your website to your social media channels

Use of social media ensures Generation Y are constantly mobile, widely connected and can be reached anytime anyplace. Use this opportunity and share your website content via your social media channels. Search out your social media influencers. Be authentic when communicating and optimise your online content for use with a mobile device.

Striding into the Future with Research Alumni Work

German universities introduced research alumni work almost a decade ago. They have since gained vast experience and knowledge in finding ways to professionalise and develop research alumni work. The Research Alumni Work Checklist can be used as a guide. | by Charlotte Devantier



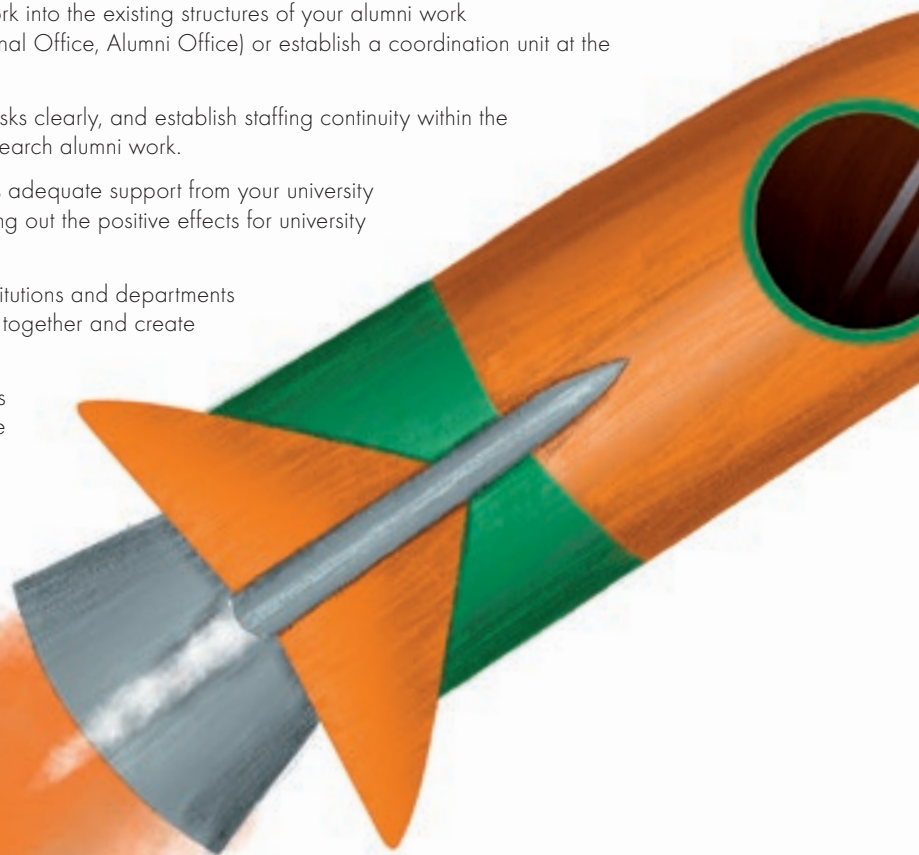
Step 1: Develop a research alumni strategy

- Formulate strategic ideas for implementing research alumni work in a separate strategy paper or as part of your institution's internationalisation concept.
- When developing the strategy, take account of your institution's specialist and regional focus areas, specific goals and prevailing local conditions.



Step 2: Create and expand structures for research alumni work

- Integrate research alumni work into the existing structures of your alumni work (Welcome Centre, International Office, Alumni Office) or establish a coordination unit at the interface between them.
- Define responsibilities and tasks clearly, and establish staffing continuity within the respective team handling research alumni work.
- Ensure that the topic receives adequate support from your university administration (e.g. by pointing out the positive effects for university marketing).
- Engage in lobby work at institutions and departments in order to address the topic together and create synergies.
- Clarify the legal requirements (e.g. data protection) and the technical options for data processing and use.





Step 3: Customise offerings and measures to meet research alumni needs

- Develop informational offerings with appropriate, target group-specific content (such as job vacancies and sponsorship programmes).
- Adapt informational material, webinars and dedicated further education and training measures (such as career development and sponsorship programmes) to the needs of research alumni in different phases of their careers.
- Provide research alumni with access to your university's existing career, skills and contact networks.
- Disseminate information about the university's offerings using a variety of analogue and digital channels.
- Offer dedicated platforms where research alumni can publish their profiles and draw attention to themselves and their work.
- Use social networks to provide opportunities for networking and exchange.
- Create opportunities for personal exchange in connection with professional settings such as at side events during specialist conferences, at events held by the German host institution abroad).



Step 4: Use the potential research alumni offer and involve them in your university's strategic activities

- Take a flexible approach to funding allocations for renewed exchange with former colleagues (such as re-invitation fellowships for further research stays, sponsoring research stays for researchers from your own university to visit the research alumni's institution, funding for joint mentoring of doctoral students).
- Recognise and honour the work of especially active committed research alumni by awarding prizes and special titles (such as "ambassador").
- Prepare research alumni to be ambassadors who share their experience. Provide them with informational material about the university and Germany's research landscape.
- Involve research alumni in establishing and maintaining research collaborations (e.g. by establishing contacts and preparing joint applications for third-party funding).
- Use research alumni's contacts when embarking on university partnerships.
- Involve research alumni in the recruiting, advising and mentoring of young research talents (for example, in career planning and mentoring programmes).
- Use collaboration programmes to enable young researchers to conduct research stays at the home universities of research alumni.
- Encourage research alumni to support your university in strategic matters concerning internationalisation (e.g. advising university administrators when designing/ revising their internationalisation strategies).
- Make use of the specialist and international expertise of research alumni, for example, for expert reports, selection committees, (specialist) presentations, workshops and summer schools.

Attractive for Tomorrow's Researchers

Fundamental change is looming on the horizon of both research and the everyday research routine. If universities help shape the future of research, they can forge lasting ties with the best of the next generation of researchers.

| by Angela Lindner

The digitalisation of the world has become a part of everyday life. In the German government's coalition agreement, the word digitalisation is used no fewer than 90 times. What this means is that society is being driven by advancements in technology, with science serving as the initiator, one of the affected parties and a source of hope. All this just 20 years since simulation emerged as a third paradigm – alongside theory and the use of experiments – in the research methodology spectrum. Using super computers and new theories, it was suddenly possible to predict or reconstruct and thus simulate complex system properties.

The fourth paradigm brings fundamental change to the research world

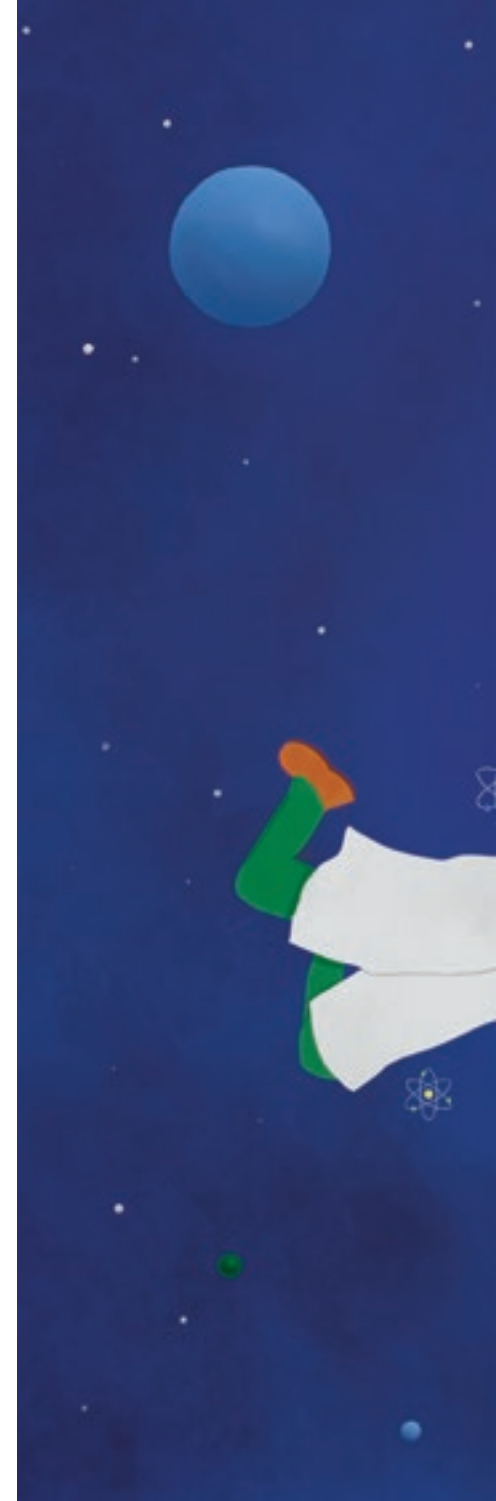
Enter the fourth paradigm: data-driven science – in other words, working with previously unconceivable volumes of data. In science and research, this could mean that theory and modelling are no longer necessary because computers can predict anything and everything ad hoc. What is clear is that the impact of this paradigm will go way beyond the boundaries of science, and will have economic and social effects. And because the fourth paradigm is still in its infancy, it doesn't take much imagination to realise that the associated potential, challenges, opportunities and risks will only really become evident in the course of the coming years.

Computers capture, record and evaluate data

The ability to collect ever-greater amounts of data at ever-greater speeds harbours potential not just within but also across research disciplines.

Why collect data only within one's own research area when data in others is easily accessible and can be linked to your own? An example: to ensure the safety of people at large-scale events, being able to predict the dynamics of large crowds is of immense importance. To date, their movement patterns have been studied and predicted by experts primarily from the natural or engineering sciences. But there have been situations where the predictions were wrong. Now, sociologists and their research methods are being included and the collation of the ensuing, large, extremely different datasets enables far more accurate predictions and, as a result, far better prevention.

When ever-greater quantities of data can be collected at ever-greater speeds, the next step follows virtually as a matter of course. Since the individual researcher can no longer collect and evaluate such large volumes of data or his or her own, this task must be performed by machines.





What is more, cognitive robotics enables machines to learn – in other words, develop artificial intelligence. The interplay between artificial and human intelligence opens up potential for knowledge and experience to be shared and passed on – accelerating human cultural evolution along the way.

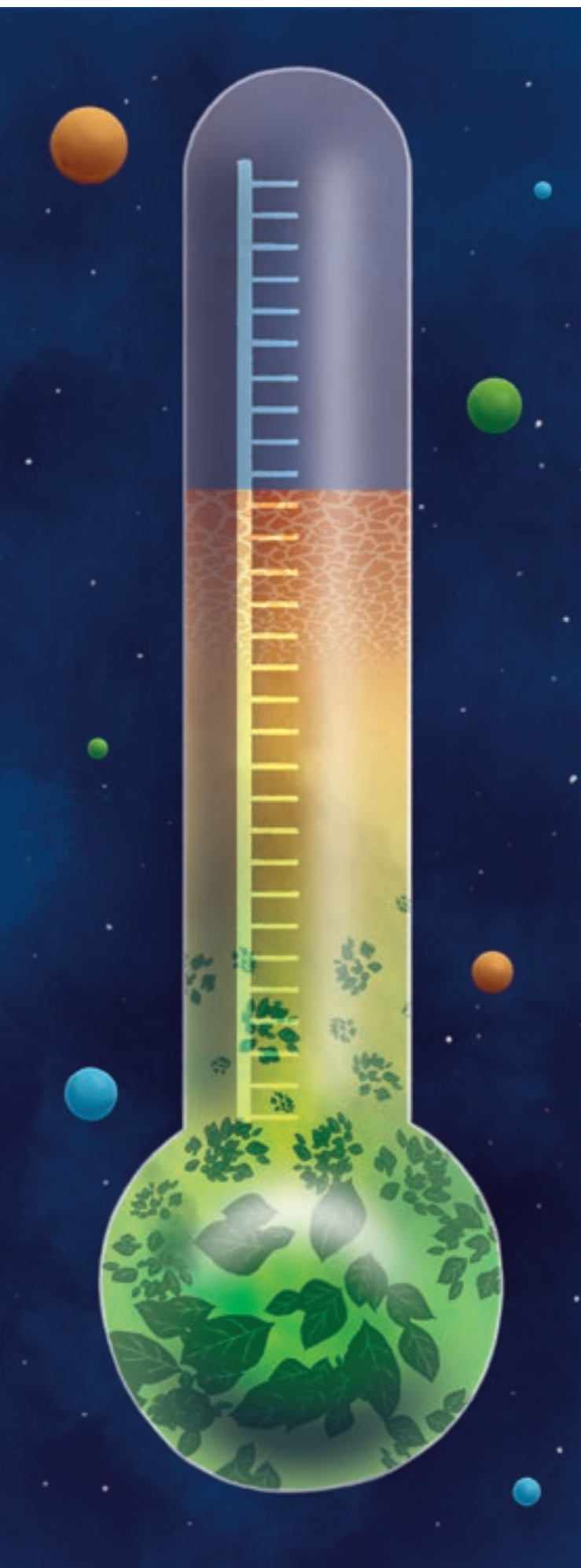
Boundaries between fields of research and disciplines are fading

The fourth paradigm will have especially dramatic effects on the humanities and the arts. A complete shift towards digital humanities is expected. One fitting example from science history: in the past, individuals like Einstein were studied against the backdrop of their immediate environment. Now it is possible to examine them with unprecedented scope in their respective cultural, social, political and historical contexts, leading

to a new understanding of their influence and impact. In such studies, significantly more texts and sources from all of these areas are collected and evaluated, completely changing the humanities field.

In the future, this will probably be known as the history of knowledge or knowledge history. For a long time, the focus here was on creating databases. In the coming years, attention will revolve first and foremost around the criteria to be used when storing data because these criteria provide the basis for ensuring its constructive use long into the future. And even once all available data have been collected, researchers are no longer able to evaluate such large amounts of information by themselves. A major challenge for computer science in future will thus come from the humanities and the social sciences – completely new mathematical models will need to be developed in order for researchers to be able to analyse their texts.





It quickly becomes clear that there will be no limits to the opportunities available for the various research disciplines to collaborate with one another, and that a veritable explosion of multi-disciplinary approaches and projects is about to occur – one that will also impact research areas and disciplines themselves. New research subjects will emerge and current disciplines will lose in importance. The possibility of cross-discipline collaboration means that researchers have to be open with one another, recognise and acknowledge their respective working methods and then use them to develop joint projects. Those who make this effort will be rewarded with completely new insights and approaches.

Ironically, the advances achieved in technology and computer science in the 21st century will consequently lead to us abandoning the separation of the humanities from the natural sciences that developed in the 19th century and – once again – adopting a broader, universal science-driven approach. What seems like a step backwards will actually bring progress in the form of expanded thinking and research – or as professor of environmental sociology and technology assessment Ortwin Renn puts in: “Digitalisation brings poetry to research”.

Everyday research routine subject to change

Science is international in itself, which is why researchers around the world now share the same core principles and values more than ever before. Despite the various political developments seen at national level, at their recent joint conference in Paris, the EU education ministers declared their commitment to promoting the common values of freedom, self-determination and attractive working conditions. These values will thus remain intact for the present, even if the eurocentric perspective wanes as the sciences become stronger in, for example, China.

In future, students will also be expected to study at multiple locations right from the time they embark on their academic studies. Labour market statistics show that people who remain mobile achieve their career goals faster. This also applies for careers in science. The possibilities offered by digital communication will thus be used to a far greater extent, with greater ease and skill, and in more diverse ways. This will have the positive effect of offering broader-based opportunities for participation because, for example, financially less-well-off researchers will be able to attend online seminars and participate in collaborations, join in online debates, and stay in touch and communicate with a greater number of scientists at a high level.

New expectations on mobility

Physical presence at mega conferences will thus decline in favour of online participation, both active and passive. The younger among today’s leading scientists experience large events as an unpleasant obligation because they are far too heterogeneous and are not focused enough. New conference standards are needed. This is especially the case with regard to young researchers who will face significantly greater pressure – given the growing number of excellent research centres around the world,



the competition in the search for ideas will increase and the pace in the race to publish first will be stepped up. But despite this, young researchers place far greater importance than previous generations on having a balanced private life and autonomy. This need not necessarily mean that they will work less. On the contrary: in the future, even more use will be made of the option of working from one's home – which is already very popular in the science world. But while this provides for greater flexibility, it can also increase stress levels if researchers are unable to manage their time themselves. Universities will have to develop suitable support measures if they want to recruit and retain good researchers.

Personal contact will nonetheless retain its importance. Research stays will be designed even more than in the past with an eye to ensuring they are professionally or academically attractive and are useful in furthering careers. These are given when a top-ranking researcher is resident and/or there is the prospect of working on a high-profile project. The institution itself will play an ever-smaller role in selection decisions. This is certainly the case with completely new forms of cross-disciplinary collaboration in which the respective mindsets and research cultures need to be understood and merged. What will count most and demand the greatest amount of effort is not the number but the intensity of the collaborations.

More competition, more collaboration

Given the growing competition from the excellent research being conducted not only within the EU but also internationally, the pressure felt by researchers to be productive will continue to rise. The EU's planned Excellent Science competition, which borrows from the German model, will increase that pressure further. Added to this comes the move away from the traditional process of publishing in peer-reviewed journals and towards open-access publication. The need to exchange information across all channels – digital, analogue and personal – is gaining in weight. Expectations of attaining free access to all data are bringing the hoped-for democratisation of knowledge, opening up the science arena (including for non-university contributions, otherwise known as citizen science) and making the existing accreditation process entirely obsolete.

The need for collaboration – indeed, the obligation to collaborate that will become even stronger in future – is seemingly contrary to more competition. Data-driven science demands collaboration, pushing it into entirely new dimensions as described above. The EU will additionally drive multidisciplinary forward through its calls for proposals. This in turn will give rise to a growing need for the coordination and management of scientific research work, thus taking up time that could be used for actual research work.

Next generation even more team-oriented

Today's young scientists belong to Generation Y (born in the 1980s and 1990s and known as Millennials). These are said to have traits which are quite advantageous for research work: they have grown up with digital media, they are optimistic, independent, team players, idealists. They

have less of an elbow mentality and like to consult with team members before making decisions. They are open to entrepreneurial activity, but hierarchies are not "their thing". They value job security, preferring to be employed rather than starting their own firm. They identify more with their team than their institution. In research practice, Generation Y show they are extremely well educated. For example, non-native speakers among them are far more proficient in English and they are better at giving presentations when compared to the previous generation.

For young researchers, accessing information is child's play and in many cases, they have a much clearer idea of the research work they want to do. They are highly motivated and very focused in their work, but also have a broad range of interests and do not want to engage 24 x 7 in the science and research activity that inspires them so much. If at any time the pressure becomes too great, they can be known to up sticks, leave a project and look for something new.

Universities must promote research alumni in sustainable and lasting ways

In the future, mobility and research stays at scientific institutions will play an ever-greater role in researchers' lives. Young researchers will tend to want to conduct research in high-profile research groups because it can enhance their specialist knowledge and also boost their career. The older and more prominent they become, their time on the one hand and the competition with other interested institutions on the other will decide which institution they choose to work at, whether they develop ties with it and, more importantly, whether they wish to serve their host institution by accepting research alumni status.

From now on, research alumni – and especially those belonging to the younger generation – will define themselves more than ever before through research groups, projects and collaborations. Their professional success, their reputation and ultimately their income will increasingly depend on their participation in large-scale projects and research teams. Belonging to a certain institution will lose in importance. In addition, physical presence at a specific location will need to be really well justified in future – or the place itself must be particularly attractive. Alumni status will no longer rest solely on physical presence, but can instead be the expression of myriad contacts and ties.

Future-oriented institutions more attractive

For the host institutions, this means making their top researchers and their involvement in high-profile projects (more) visible, introducing future-oriented research areas and emanating openness for new research disciplines. This also includes doing away with outdated structures like hierarchically organised professorships and old-style lecturing, offering young researchers a perspective in the form of permanent positions, more equality and independence in the research system, and promoting new forms of publication and accreditation. Of course, additional technological requirements like excellent digital service and access to large databases and servers must be provided so that high-end research





is possible at all. And last but not least, funding in the form of grants, fellowships and project placements are key in efforts to make an institution more attractive for scientists considering a research stay.

An institution taking this approach to research alumni work signals to visiting researchers that it is aware of the future requirements of and working approaches used in top research, and is able to offer them sustainable support structures to help them on their way. Those who find contact and perhaps even a research stay beneficial will be only too willing to serve their host institution and lend them their support.

With their research and training mandate, universities bear a great responsibility for Germany's science system as a whole. If they are to form lasting ties with the best of the best in the research pool, they must prepare for the future now.

Dr. Angela Lindner is a freelance science and education journalist.

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Annual Humboldt Foundation Reception at Schloss Bellevue in Berlin
German President Frank-Walter Steinmeier talks with future research alumni.



“ We see research alumni as ambassadors. We want to stay in touch, integrate them into our university activities, especially into activities to promote young researchers, and strengthen international science networks. “

This quote is one of many received in feedback from research alumni relations teams surveyed as part of a study on research alumni work at German universities in spring 2018 (see also the article *Research Alumni Work Has Paid Off*, page 10-15).



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