

## New president of the German Stem Cell Network (GSCN)

# “The GSCN conference is where the stem cell community comes together”

*The German Stem Cell Network (GSCN) is a dynamic network. The trend established in 2014 continues unbroken as member numbers keep growing. The increasing number of conference participants is an expression of the growing stem cell community in Germany, and the BMBF (German Federal Ministry of Education and Research) has approved funding for the next three years. These are among the successes achieved by President Andreas Trumpp together with Daniel Besser and the GSCN Central Office during the past year. This discussion with Trumpp and new GSCN president Thomas Braun addresses the GSCN's challenges, goals and plans for 2015.*

### **GSCN Annual Magazine: In a few words, how would you describe the German Stem Cell Network (GSCN)?**

**Andreas Trumpp:** The German Stem Cell Network brings together scientists and clinicians from academic research institutes and from pharmaceutical and biotech companies that work with stem cells. The members of the GSCN represent research in fields as diverse as embryonic stem cells and iPS cells, the stem cells that control foetal development and the development and regeneration of our organs, and the stem cells that play a role in degenerative diseases and cancer. And of course they also work with stem cells that can be used in future therapies. At the GSCN annual conference, all new results and trends from the past year in Germany and other countries are presented, discussed and critically analyzed.

**Thomas Braun:** The GSCN is a lively, dynamic organization. Many professional associations rely heavily on involvement by established scientists, and they are sometimes dominated by a few personalities. We are trying to take a different route. For example, new people regularly move into the executive committee. It is primarily younger people who have a say, which reflects the relatively young character of a research field that is still gathering momentum.

### **Andreas Trumpp, what was the past year like for you as president of the GSCN; what were the highlights?**

**Andreas Trumpp:** 2014 saw the systematic continuation of the first three years of collaboration with Oliver Brüstle, Daniel Besser and many other scientists on building up the organization. We founded the GSCN and convinced the BMBF to support our young, vibrant network. The first presidency was characterized by efforts to transform the network that existed on paper into an active community. The highlights during my time as president were the BMBF's agreement to continue funding the GSCN for three more years and the organization of the second annual conference. And it's been worth it, as our membership has

risen greatly in just that one year, from 250 to almost 350. We are already running into problems with space at the annual conference because so many people want to participate. Significantly more companies have also applied to be exhibitors at our annual meeting in Heidelberg. These are clear signs that our network is well received by both scientists and companies.

### **What new goals are on the GSCN agenda?**

**Thomas Braun:** An important area that will involve a great deal of additional work is setting up long-term project funding, including for translational research projects that cannot be completed within a three-year cycle. Of course, we also hope to be able to convince the BMBF to support such a strategy so that specific stem cell research projects can be funded as well as the network itself. There have already been some small-scale initiatives in the past, but the resources that have been made available are quite limited in international comparison. Moreover, some programs are being cut or not renewed in favor of funding for the German Health Research Centers, meaning that additional flexibility is very difficult to come by. We therefore face the question of whether we might not be better able to achieve success and obtain project support by cooperating with the Health Research Centers.

**Andreas Trumpp:** I also think that showing the ministry that we are a strong, successful community is one of the most important goals of the GSCN network. We are successful internationally, we are certainly one of the leading nations with regard to stem cell research, and of course we also need financial support for research on stem cells here in Germany.

### **As far as you have seen, is the political discussion changing in Germany with regard to stem cell research?**

**Thomas Braun:** You have to differentiate. There are certainly still strong prejudices related to embryonic stem cells. With the establishment of induced pluripotent stem cells, however, the mood has become more matter of fact and less emotional. Public educational efforts are necessary in order to dissolve the absurd Frankenstein-like image of our research field that many people still have.

### **How have the professional groups within the GSCN worked out?**

**Andreas Trumpp:** In my cancer stem cell working group, meeting up with our colleagues from the DKTK (German



Andreas Trumpp (left) and Thomas Braun in discussion with Stefanie Mahler, GSCN Central Office

Cancer Consortium, one of the German Health Research Centers) program on “Stem cells in oncology” for joint research weekends has worked out well. On those occasions, clinicians and researchers from all over Germany come together to present and discuss their projects and findings. I would wish that all the working groups could have this type of meeting.

**Thomas Braun:** In our “Somatic stem cells and development” working group, we had a kick-off meeting for a new research association, which was really good. But it should also be noted that the working groups are all different, and it’s in the nature of our bottom-up structure for some groups to be more active than others. We should offer even more incentives for all the groups to develop a high level of activity. With a 40-percent increase in membership, our organization is still very young. We are still in the early days, but a great deal has already been achieved during a very short period of time.

**Andreas Trumpp:** The GSCN is also planning meetings in the future just for our young doctoral students and postdocs. When working group leaders and professors are not present, they have fewer inhibitions about discussing their research openly, and the discussion is more intense. The GSCN’s bottom-up approach comes through here as well, as young scientists have almost as much influence as the old guard, which makes our network very dynamic.

**Thomas Braun:** The approach of requiring young people to take responsibility for setting up and running these meetings can in itself be an excellent motivating factor. The GSCN funds these research weekends for the individual working groups and supports their organization.

*“We are a bottom-up-organization with a democratic and transparent structure.”*

**On the topic of women in science, would you say the stem cell community is fairly male-dominated?**

**Andreas Trumpp:** It depends what level you’re looking at. Among doctoral students and postdocs there actually tend to be more women than men, but for working group chairs the ratio is reversed, and there are very few female professors. However, there are some very successful women in top positions who also fulfil important roles in the GSCN and are possible candidates for the presidency as well. Of course we hope that there will be more of them as time goes on and that our network can help with that.

**Thomas Braun:** The women who are in top positions are always asked to take on far too many roles. This in turn leads to excessive administrative duties and restricts time for research. That’s absurd. Young female working group chairs in particular risk being assigned representative administrative roles because there are fewer of them than of their male colleagues. That is a huge burden for them.

After they complete their doctorates, women are confronted with the family dilemma. Until then, there are actually more qualified female doctoral candidates than male, but then come children, who need their parents’ time, and unfortunately that is not equally distributed between the two parents. Our system is unforgiving in that regard, and it would be good if we could finally make the paradigm shift so that the life of a researcher permits breaks and re-entry from time to time. Currently, ever more linear résumés are expected, and if you take a break for a year or two, it really kills your chances, which takes an especially heavy toll on women.



**How can the GSCN help make the situation easier for female researchers?**

**Thomas Braun:** The GSCN board has recently made a brand-new resolution to present a Female Scientist Award for 2015. The prize is intended to encourage our younger female colleagues to remain in the field of science despite the difficult working conditions. The prize money can be used to make family life easier.

**Andreas Trumpp:** Of course, a prize like this also looks good on your résumé if you are a junior working group chair applying for a permanent position.

**Has the Stem Cell Network succeeded in its efforts to bring together all researchers throughout the community?**

**Andreas Trumpp:** Yes, that is just what has happened. Our annual meetings are organized differently than traditional conferences. Junior scientists present research results, while well-known professors chair sessions and lead discussions. And in the GSCN's second year, you can already see that all leading stem cell researchers are coming to our conference. It is THE stem cell meeting in Germany, the meeting you have to come to in order to meet colleagues and see the directions the various fields are taking. There is also much discussion of new German political developments, funding guidelines and steps and, of course, current research. When it comes to the GSCN annual meeting, one rule applies: You have to be there!

*"The GSCN is now creating a female scientist award."*

**Thomas Braun:** After all, it's not just directors of institutes and departments who communicate with each other here,

but also practicing scientists, doctoral students and post-docs. For them in particular, this is an especially important meeting, and these conferences lead to an extraordinary number of interactions and joint activities.

**How is the GSCN's relationship to the business world developing?**

**Andreas Trumpp:** It's going really well. In Heidelberg, we hardly had enough room for all the industry exhibits. From the very beginning we made sure to involve industry, and at the conference we even had a special industry session where companies could present their latest instruments and products, technologies and research results. We got very positive feedback from both industry and researchers about this opportunity to have more direct contact with each other.

**Thomas Braun:** Naturally, big pharmaceutical companies are not very interested, because stem cell products are not large-scale, easy-to-store products for a broad market. I think we need to spark the pharmaceutical industry's interest in order to get research results out of academia and into the realm of practical application. For this, we need to interact with clinicians in particular so that we can get cell-based therapies to patients. However, we are also seeing larger pharmaceutical manufacturers being increasingly motivated to get into stem cell areas, which should be encouraged even more. The closer we get stem cell research to the realm of practical application, the greater the interest of industrial partners will be in the future.

**Does the GSCN want to enter the public arena more in the future, with statements on current topics in stem cell research?**

**Thomas Braun:** Well, we already did that last year; I am referring to our petitioning against the One-of-Us initia-

Photo: GSCN

**Max Planck Institute for Heart and Lung Research**

**MPI-HLR**

The Max Planck Institute for Heart and Lung Research, located in Bad Nauheim, investigates developmental processes of organs in the cardiovascular system and the lung.

A second focus is molecular and cellular processes during the formation of diseases in heart, blood vessels and lung, including remodeling processes in these organs. Scientists at the institute search for new approaches to support repair and regeneration of the affected organs.

The MPI closely cooperates with universities in Frankfurt, Gießen and Marburg. It has become

a major part of various federal and state excellence initiatives and contributes to two "Gesundheitsforschungszentren".

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tive on the EU level. We will definitely speak out publicly on relevant, fundamental problems, for example on animal experiments. Often, stem cells can only be studied in their natural environment. For this we need animal models, and so we have to take a position on that. However, the GSCN won't be issuing statements at every possible opportunity.

**Recently, some highly scrutinized papers have been withdrawn, in Japan as well as in Germany. Does that also play a role in the GSCN's discussion culture?**

**Thomas Braun:** Of course, but I have to reiterate that from the very beginning my colleagues viewed many of the studies in question very critically. As I see it, most of my colleagues viewed the studies very skeptically from the get-go, but journals and experts determined that they were good. So perhaps we need to call into question the policies of the international journals.

**Do you mean that the science community quickly saw that the studies were not okay, and that generally good scientific practice is the rule?**

**Andreas Trumpp:** In science, you generally know after a short time which publications and which results are really accurate and which are problematic. Some ground-breaking studies are referred to thousands of times and have been repeated by various working groups, and the results have been confirmed. That's why Dr. Yamanaka received the Nobel Prize so quickly for his research on reprogramming mature skin cells into pluripotent stem cells. After he showed how the induced pluripotency method works, the techniques were quickly repeated in numerous labs with the same results, and that proved definitively that the results were accurate.

Transparency is an important quality criterion in research, and the GSCN meetings are especially well suited for that. Each presentation receives feedback, is called into question or praised, and that is extremely important.

**What are the next steps for the GSCN?**

**Thomas Braun:** In 2015 we will strengthen the individual working groups and ask that they present a recurring curriculum including such things as retreats and continuing education opportunities. Now that the 2014 conference is over we are already organizing the 2015 conference.



**Andreas Trumpp** is head of the Division of Stem Cells and Cancer at the German Cancer Research Center (DKFZ) in Heidelberg and managing director of HI-STEM, a non-profit public-private partnership between the DKFZ and the Dietmar Hopp Stiftung. A primary focus of his research is the functional and molecular characterization of normal and abnormal somatic stem cells. Another focus is identifying metastasis-inducing stem cells of various carcinomas. Trumpp is one of the founders of the German Stem Cell Network (GSCN) and was Acting GSCN President in 2014.

**Thomas Braun** is director of the Department of Cardiac Development and Remodeling at the Max Planck Institute for Heart and Lung Research in Bad Nauheim and Professor at the Justus Liebig University Giessen. He is an MD PhD interested in the molecular mechanisms governing stem cell functions as e.g. self-renewal, maintenance and differentiation of stem cells. His research focuses on the regeneration of striated muscles, the cardiovascular system, and the lung. He has published more than 200 papers in leading international journals.

Photo: GSCN

## German Cancer Research Center (DKFZ)

Research for a life without cancer

The German Cancer Research Center (Deutsches Krebsforschungszentrum, DKFZ), located in Heidelberg, is a member of the Helmholtz-Association and is the largest biomedical research institute in Germany.

At the DKFZ, more than 1,000 scientists work together in order to develop novel strategies aimed at improving the prevention, diagnosis and treatment of cancer. Several research laboratories investigate normal and cancer stem cells (CSCs) as well as their respective niches. The goal is to develop strategies to monitor and

target CSCs in primary cancers and metastasis. Together with the Dietmar Hopp Foundation, the DKFZ is a shareholder of HI-STEM, the nonprofit Heidelberg Stem Cell Institute and organizes the biannual Heinrich-Behr-Conference on „Stem Cells and Cancer“, which attracts international experts in the field.

With the Heidelberg University Clinic, the DKFZ has established the National Center for Tumor Diseases (NCT), to clinically translate innovative basic cancer and stem cell research discoveries into clinical therapies.

**dkfz.**

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