

A photograph of two men walking on a gravel path outdoors. The man on the left is wearing a dark jacket over a light blue shirt and khaki pants. The man on the right is wearing a light blue shirt and dark jeans. They are both smiling and appear to be in conversation. The background consists of lush green foliage with some purple flowers.

*Talking about the GSCN:  
Daniel Besser, managing  
director of the GSCN (left),  
and acting president  
Uli Martin.*

Uli Martin is the new president of the German Stem Cell Network

**“A network that  
provides impulses”**

*The GSCN is now in its fourth year, and its fourth president is in office. The first three years were very much about founding and establishing the network, and overcoming the obstacles that came along with that. Now it is time for the network to direct its sights into the future and define its goals and strategies in greater detail, based on what has already been achieved. An interview with new GSCN president Uli Martin and GSCN managing director Daniel Besser on the network's plans, visions, hopes and challenges.*

**GSCN Annual Magazine: The German Stem Cell Network (GSCN) has now existed for almost four years. What, in your opinion, are the strengths of the network, and in what areas should it be doing more?**

**Uli Martin:** We have already achieved a great deal. A large number of German stem cell researchers are members of the GSCN, and we also have a significant number of members from other European countries. Our conference has become an important event on the scientific calendar each year, and we have some good ideas about how to communicate and network further, and how to put even more visions into practice. However, what we don't yet have sufficient political weight. That is evident from the relatively low support stem cell research is receiving from public funding bodies in the international comparison. I was delighted when the Federal Ministry of Education and Research issued a call for proposals last year. For me, that was the first sign of the turnaround we need. Nonetheless, I would like to position the GSCN as a network that provides impulses to the political decision-making process relating to stem cell research and in getting better financial support for stem cell research in the medium term.

**Daniel Besser:** I absolutely agree, and I am looking forward to working together on channeling our energies into policy work. In 2016, the GSCN will release a white paper on the funding situation for basic stem cell research in a range of different countries including Germany. It is remarkable how little government support – both financial and legislative – stem cell research receives in this country compared to other countries such as Japan, Sweden, the U.K. and the U.S. Since we are not interested in reigniting the debate on the use of human embryonic stem cells, our focus lies also on the financial aspects. We would like the government to demonstrate more commitment to our research and to provide financial support. Indeed, we are receiving the relevant signals from various quarters, and I hope and expect that our white pa-

per will make it clear to policymakers how highly stem cell research is regarded in other countries and that it is in the government's interest to strengthen Germany as a research location.

**Uli Martin:** That's why I'm so pleased that the network exists. As an individual researcher, one often has the opportunity to exert influence on the regional or even the national level – either as an expert, via personal contacts, or as part of advisory committees. But when we get together as a network, we can have a much greater impact. In the coming year I will direct much of my efforts into making sure our voice is heard more clearly.

**What is your current assessment of the situation for stem cell research? What topics in the field do you find most interesting at present?**

**Uli Martin:** I am fascinated by the incredible pace of developments in genome editing – both with TALENs and with CRISPR/Cas9. That topic will keep us very busy for a while. Clinical translation is another very important aspect for me. At the Hannover site, where I am based, we are very close to the Medical School, and I often see that both researchers and medical practitioners have a long way to go in ensuring that our findings are translated into practice more effectively and that we collaborate better in this regard.

I think the time has now come to focus our attention more closely on planning future clinical applications. It is important that we take this step now, as the clinical implementation of highly promising developments from basic research urgently requires comprehensive studies on how we can overcome existing technical hurdles, on risk assessment, and on how to implement other regulatory requirements. In many research fields – for example, the heart, the eye, diabetes – we are clearly on the cusp of being able to put our research into practice.

At this point, we should also make it clear that we can test many elements of stem cell-based therapeutic concepts on animal models but that, ultimately, we will not be able to properly assess risks or see if stem cell therapies can work successfully until they are applied to human patients. Clinical trials are also important for us to be able to draw conclusions on what we should be focusing our research in the future. The progress we have made so far has of course stirred up hopes, but we mustn't expect too much.

*„When we get together as a network, we can have a much greater impact.“*



**Daniel Besser** has been serving as GSCN Managing Director since 2014. He was a cofounder and coordinator of the GSCN in 2012 and coordinated the establishment of the structure of the network in 2013. Besser studied biology at the Freie Universität, Berlin and holds a doctor's degree in biology from the University of Basel. He received his postdoctoral training at Rockefeller University where he focused on signal transduction, cancer research and stem cell biology. From 2004 to 2011 Besser headed a research team on stem cells at the Max Delbrück Center for Molecular Medicine, Berlin. As part of this activity, he attended a host of events and conferences on stem cells as speaker and delegate and organized events targeting different aspects of stem cell research.

**How can the GSCN help promote translation even more?**

**Daniel Besser:** I strongly believe the GSCN must do even more to facilitate communication and exchange between clinicians and basic researchers. We must take action here – translating basic research into practice is an important topic that is gaining in significance all the time. For instance, at the next conference I can imagine offering more sessions on this topic, or perhaps even a central panel discussion. What do you think about that, Uli?

**Uli Martin:** That's very interesting, of course, especially since the 2016 conference is taking place in Hannover and Hannover Medical School has always placed particular emphasis on translational research. At the 2015 conference in Frankfurt I welcomed the fact that the structure of the conference was changed so that the Presidential Symposium became one central element. The presentations were excellent, and it was good that the session had such a central place in the program. Perhaps we could do something similar in 2016 with the focus on translation.

**Daniel Besser:** The presidential session arose out of the new GSCN Scientific Awards, which we presented for the

first time in 2015. Of course, we'll be continuing those in 2016. A panel discussion on translation would certainly be interesting for many conference visitors.

*„We place particular emphasis on translational research.“*

**Do you have any new ideas this year on how to make the network more attractive to stem cell researchers?**

**Uli Martin:** The GSCN conference was a great success, but I would still like the network to offer more to its junior scientists. One idea is for a winter or summer school on stem cells. It would be an intensive week-long event full of learning and shared experiences and an unforgettable opportunity to make new contacts and to share news and views with “big shots” and other colleagues in a wonderful setting.

**Daniel Besser:** Sometimes we do find that although the GSCN offers many things – the Travel Awards, the working groups, the sessions at the conferences, the annual magazine, etc. – in some cases members are not that committed to participating. For example, we have set up a Humhub social intranet as a forum for exchange in and among the various working groups, but that hasn't really

Photo: GSCN

## The REBIRTH Cluster of Excellence

From Regenerative Biology to Reconstructive Therapy



REBIRTH has, under the nationwide Excellence Initiative, been funded as a cluster of excellence since 2006. The aim of the internationally renowned centre for regenerative medicine is to develop innovative therapies for the heart, liver, lungs and blood, and to translate these into clinical use. This involves collaboration – in Hannover and at participating partner institutions – between physicians, physicists, chemists, biologists, engineers, legal professionals and ethicists, the main research priorities being stem cell biology, the reprogramming of cells for cell therapy, disease models and tissue engineering.

**Participating Partners:**

- Hannover Medical School
- Leibniz University of Hannover
- Hannover Laser Centre
- University of Veterinary Medicine Hannover, Foundation
- Helmholtz Centre for Infection Research Braunschweig
- Max Planck Institute for Molecular Biomedicine, Münster
- Institute of Farm Animal Genetics, Friedrich Loeffler Institute, Mariensee
- Fraunhofer Institute of Toxicology and Experimental Medicine, Hannover



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**Ulrich Martin** is full professor for Cardiorespiratory Tissue Engineering, head of the Leibniz Research Laboratories for Biotechnology and Artificial Organs (LEBAO) and director of research of the Clinic for Cardiothoracic-, Transplantation and Vascular Surgery (HTTG), MHH. His research basically focuses on induced pluripotent stem cells, the differentiation of pluripotent stem cells into cardiovascular and respiratory lineages, regenerative cell therapy, genetic engineering, and cardiovascular tissue engineering. Since September 2015, Martin has been the acting president of the German Stem Cell Network (GSCN). He is author of more than 100 publications in renowned international journals.



gotten going as yet. What's probably lacking is the group experience of a summer or winter school, which would probably generate a team spirit that could flow into continued professional dialog between the members of the GSCN working groups.

**Uli Martin:** Of course, many new ideas often take time to get going and gain momentum. I can well imagine the Humhub social intranet becoming a lively communication platform in the coming year. Personally, I often just don't have the time to get to grips with new online communication options. But I still think it's an important idea. For our junior scientists in particular, Humhub is a terrific platform for the direct exchange of experiences and reports.

**Daniel Besser:** Especially because we always post promotional codes and announcements on Humhub first. Which means that Humhub members have immediate access to all the most exciting information.

**What ideas does GSCN have for better informing the public about stem cell research?**

*„One major event will be UniStem Day on 11 March 2016.“*

**Daniel Besser:** Each year, we hold two large events for the interested public. We produce videos on the various aspects and trends of stem cell research and post them online. We work closely with European organization EuroStemCell. And we organize numerous school events. Lots

of things are going on behind the scenes. One major event will be UniStemDay on March 11, 2016. That's a nationwide info and discussion event on stem cell research involving ten institutions in seven locations. More than a thousand school students will be attending. It's a really big deal.

**Uli Martin:** I think it sounds fascinating – school students and young university students across Europe meeting for a day to find out more about stem cell research. It's nice to see how we're proactively and constructively working all the fields. Especially when we don't forget to occasionally combine social networking with actual socializing. Some of the absolute highlights for me last year were the two GSCN parties. There was the WunderBar night at the ISSCR Annual Meeting in Stockholm, with a wonderful view over the city, and the party at our conference in Frankfurt. Now I'm counting on having just as much fun in Hannover!

*Interview: Stefanie Mahler*

Photo: GSCN

## Max Delbrück Center for Molecular Medicine (MDC)

Located in Berlin-Buch, the MDC carries out high-quality, interdisciplinary research on basic mechanisms and applications in major human health threats including cancer, cardiovascular and metabolic diseases, and disorders of the nervous system.

These thematic research areas are supplemented by the Berlin Institute for Medical Systems Biology (BIMSB) at the MDC and the MDC-Charité partnership in the Berlin Institute of Health (BIH).

Professor Mathias Treier, senior group leader at the MDC, states: "Opportunities for partnerships with clinical groups, a range of cutting-edge technology platforms, and superb animal facilities for diverse model organisms make the MDC an excellent site for stem cell research." Recently, MDC and BIH have created a stem cell core facility to offer expertise to derive and manipulate iPSC lines for MDC groups or BIH projects. Alongside assisting groups, the facility is putting an emphasis on training, says Sebastian Diecke, head of the facility.

**MDC** MAX DELBRÜCK CENTER FOR MOLECULAR MEDICINE IN THE HELMHOLTZ ASSOCIATION



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