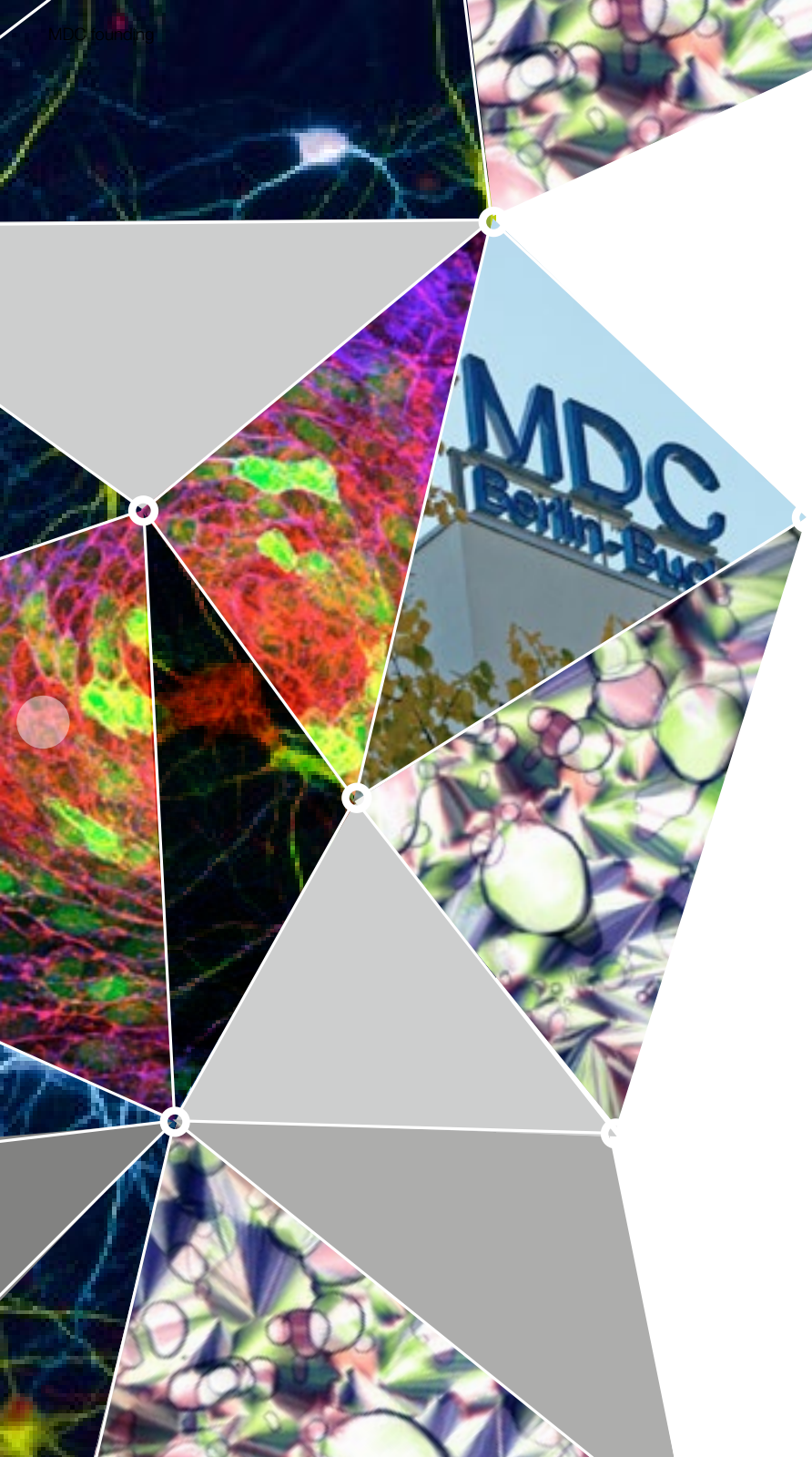
HELMHOLTZ ASSOCIATION

MDC MAX DELBRÜCK CENTER FOR MOLECULAR MEDICINE IN THE HELMHOLTZ ASSOCIATION

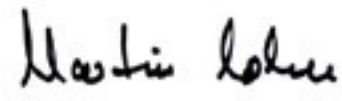


Extraordinary personalities and diverse career pathways

There are about 350 PhD students and 200 postdoctoral researchers and staff scientists at the Max Delbrück Center for Molecular Medicine in the Helmholtz Association (MDC). They come from a wide range of backgrounds: molecular biology, biochemistry, and human physiology to physics, mathematics and computer sciences. And they arrive to the MDC from all over the world, – more than 45 different nationalities are represented on our campus.

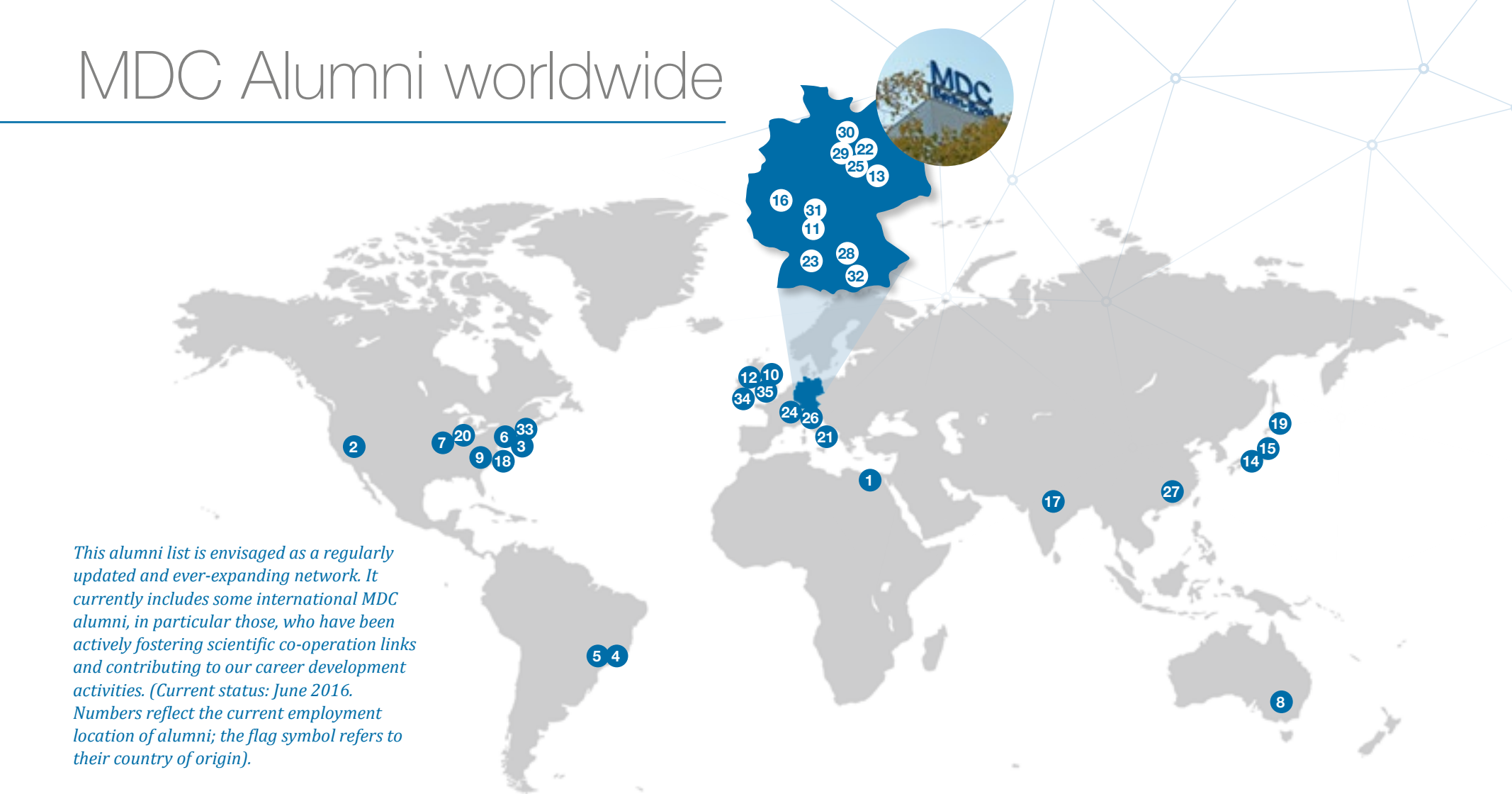
Training and development of our staff, especially of young researchers, is of paramount importance for the MDC. To do so, we have established over the last few years a number of supporting infrastructures and activities – the MDC Graduate School, Career Pathways lecture series, annual Career Day, to name just the most important ones.

We are very proud of our alumni. After their years at the MDC many of them are now doing research at the most prestigious institutions all over the world, both in academia and industry, or they have moved to related fields such as scientific publishing, law, or philanthropy. Here we want to present some of their stories and brought together a selection of our international alumni. All of their stories celebrate science. They inspire and teach. They show how much persistence and self-belief is needed for success. And they also reveal how diverse individual paths may be to ultimately allow to achieve long standing dreams.



MDC Scientific Director
Prof. Dr. Martin Lohse

MDC Alumni worldwide



This alumni list is envisaged as a regularly updated and ever-expanding network. It currently includes some international MDC alumni, in particular those, who have been actively fostering scientific co-operation links and contributing to our career development activities. (Current status: June 2016. Numbers reflect the current employment location of alumni; the flag symbol refers to their country of origin).

1 **Abdelaziz** Ahmed Ihab
2 **Agrawal** Vishal
3 **AS Mugahid** Douaa
4 **Baltatu** Luciana A.
5 **Baltatu** Ovidiu Constantin
6 **Biederer** Thomas
7 **Bieschke** Jan
8 **Binger** Katrina
9 **Buelow** Hannes
10 **Calado** Dinis
11 **Cardoso** Cristina
12 **Chap** Christna
13 **Coin** Irene
14 **da Silva Lopes** Tiago Jose
15 **da Silva Lopes** Katharina
16 **Danilowicz-Luebert** Emilia
17 **Das** Debashish
18 **Dumanis** Sonya
19 **Fujita** Yasuyuku
20 **Halavaty** Andrei
21 **Heppenstall** Paul
22 **Högqvist-Tabor** Vedrana
23 **Hu** Jing
24 **Huelsken** Joerg
25 **Koo** Seong Joo
26 **Kutay** Ulrike
27 **Li** Lianping
28 **Muller** Yves
29 **Scavetta** Rick
30 **Shah** Maliha
31 **Šimaitė** Deimantė
32 **Sunami** Yoshiaki
33 **Toka** Hakan
34 **Verkhratsky** Alexei
35 **Wartosh** Lena

Ahmed Ihab Abdelaziz

Head of the Molecular Genetics Unit

Genetic Diagnostic Centre, Cairo, Egypt

Since 2015	*Adjunct Associate Professor, American University in Cairo, Egypt*
Since 2014	*Head of the Molecular Genetics Unit, Genetic Diagnostic Centre, Cairo, Egypt*
2013 – 2015	*Associate Professor of Molecular Medicine & Genetic Pathology, German University in Cairo, Cairo, Egypt*
2005 – 2013	*Assistant Professor of Molecular Medicine & Genetic Pathology, German University in Cairo, Cairo, Egypt*
2004 – 2005	*Postdoctoral teaching fellow at University of Calgary, Medical School, Calgary, Canada*
2004	*PhD in Molecular Medicine, Charité – Universitätsmedizin Berlin, Germany*
2002 – 2004	*Doctoral research, laboratory of Prof. Ingo Morano, MDC, Berlin, Germany*
1998	*Medical Practice License by the Egyptian Ministry of Health*
1996	*Medical Degree (MD): Bachelor of Medicine and General Surgery (MB.B.Ch), Ain Shams University – Faculty of Medicine, Cairo, Egypt*

"I teach my students science and they teach me life"

Ahmed Abdelaziz

After training as medical doctor Ahmed Ihab Abdelaziz received his research training in Germany and carried out postdoctoral research in Canada. He returned to Egypt in 2006 to join the German University in Cairo (GUC), where he established the Molecular Pathology Research group and laboratory and led it for 10 years.

In 2015 Dr Abdelaziz moved to the American University in Cairo as Adjunct Associate Professor, and in June 2016 he joined the University of Heidelberg (Germany) for a 3-month sabbatical stay, supported by Humboldt Foundation. His main research emphasis is in Translational Medicine, which encompasses epigenetic (microRNA) regulation of autoimmune and liver disease pathogenesis. Currently he is focusing on epigenetic modulation of NK cells in treating the abovementioned diseases. For Dr Abdelaziz, the MDC was the perfect environment to develop scientifically and personally, due to its diversity in scientific topics, nationalities and cultures.

MORE

Cairo, the city that never sleeps

Nuria Cerdá-Esteban, first published in March 2013, iMDC

Despite the hard working and living conditions, MDC alumnus Ahmed Abdelaziz decided to go back to his home country, Egypt. Because he knows he can make changes there.

Ahmed Ihab Abdelaziz · Cairo, the city that never sleeps · *by Nuria Cerdá-Esteban, March 2013*

During the alumni dinner, Dr. Abdelaziz frequently looks at his smartphone. ‘One of my students is updating me on the situation,’ explains the professor from the German University of Cairo (GUC). Thousands of people are protesting in Cairo against the authoritarian measures imposed by President Morsi. Meanwhile, Ahmed Abdelaziz discusses with other alumni why he decided to go back to his home country. The unrest has seeped into lab life. Abdelaziz now holds some lab meetings by the Nile, where he and his students discuss work and the political situation. His passion for his country and his wish to make changes have driven him to where he is now. Trained as a medical doctor in Cairo, he decided to do a PhD in Europe.

‘I believe that a good doctor needs to know about clinics and research equally,’ he says. He found a mentor in Prof. Morano at MDC and received his doctoral degree from Charité and Humboldt-Universität. He continued his research career as a postdoc at the University of Calgary in Canada, but soon got an offer to return to Cairo. ‘The experience in Canada was great, but it was too cold and not comparable to Germany. I always knew that Egypt was my final destination,’ he explains. He proceeds to talk about Cairo, a city that never sleeps, where the sun always shines and people are warm and approachable. Starting his work as a principal investigator at GUC, Dr. Abdelaziz wanted to tackle medical problems relevant to the Egyptian population. He had observed a high incidence of hepatitis C, hepatocellular carcinoma, and lupus erithromatosus in his private practice. After talking to Dr. Leonid Karawajew during a scientific visit to Berlin, he decided to investigate the role of microRNAs in these diseases. His lab has now published many peerreviewed articles on this topic and is focusing on personalised medicine for Egyptian patients.

But doing research at an Egyptian university is not easy. ‘In the time that it takes me to prepare a paper in Egypt, I could have published three in Germany,’ he explains. ‘Sometimes we order reagents and they get stuck in customs for weeks. Once we receive them, they are unusable.’ Yet it does not sound like any of this discourages him. ‘I always preferred to start things from scratch,’ he explains. ‘I knew that my added value to a research institution would be higher if I went back to Egypt.’ Another look at the smartphone. He expresses his hope that the revolution will improve the situation in his country. ‘My students were at Tahrir Square, and I am amazed by how persevering they are. I teach my students science and they teach me life.’

Everyday life at the university during the Arab spring: Ahmed Abdelaziz with his seminar students.

Vishal Agrawal

Scientist

BioMarin Pharmaceutical Inc., USA

Since 2014	*Scientist, BioMarin Pharmaceutical Inc., CA, USA*
2013 – 2014	*Scientist, High Throughput Expression, Adimab, LLC, Greater Boston Area, USA*
2011 – 2013	*Scientist, Bioproduction, Aragen Bioscience, California, USA*
2008	*Ph.D. degree, Humboldt Universität zu Berlin, Germany*
2004 – 2008	*Doctoral research, laboratory of Dr Manfred Gossen, MDC, Berlin, Germany*
1999 – 2004	*B.Sc. and M.Sc. degrees in Biochemical Engineering, Indian Institute of Technology, Delhi, India*

Vishal Agrawal is Scientist in Biomarin Pharmaceutical Inc. where he heads the mammalian Cell culture and Bioreactor lab for therapeutic protein production for preclinical studies. As a PhD student at the MDC, he had an excellent opportunity to develop his scientific and technical skills. At the same time he also learnt to be aware of how his skill sets can be useful for a career in the biotech industry. The transparent selection process, through which he got to know the faculty and students, was one of the reasons for Vishal to join the MDC.

"Starting a Ph.D. is a life-changing decision."

Vishal Agrawal

MORE

Vishal Agrawal

Vishal Agrawal during his PhD studies at the MDC, 2007

Douaa AS Mugahid

Postdoctoral Researcher

Harvard Medical School, Cambridge, MA, USA

Since 2015	*Post doctoral fellow, Department of Systems Biology, Harvard Medical School, Boston. Lab. of Prof. Marc Kirschner*
2011-2015	*Ph.D. in Systems biology - University of Heidelberg/ MDC (Berlin), Germany*
2008-2010	*M.Sc. in Systems Biology, University of Heidelberg, Germany* *Part-time research assistant, BioQuant, Heidelberg*
2007-2008	*Research assistant/Bachelor project, Institute of Anatomy and Cell Biology, University of Ulm, Germany*
2007	*Intern, Institute of Cell Biology and Immunology, University of Stuttgart, Germany*
2003-2008	*B.Sc. in Biotechnology, German University in Cairo, Egypt* *Teaching assistant (2008) and Lab. Assistant (2003 – 2007)*

Douaa carried out her Ph.D. research in the laboratory of Michael Gotthardt at the MDC, which she joined in 2011, and gained the doctoral degree in 2015. After her PhD, Douaa earned a prestigious post-doctoral fellowship at the laboratory of Professor Marc Kirschner at the department of Systems Biology, Harvard Medical School (Boston, USA). Her current research focuses on the mechanisms by which different cells regulate their size in response to a changing environment.

"I had to learn the art of multi-tasking and how to organize my schedule efficiently."

Douaa AS Mugahid

MORE

The road to Harvard starts in Berlin

By Ekaterina Perets, April 2016

Douaa obtained her PhD at the MDC in 2015 at the lab of Prof. Michael Gotthardt where she worked from 2011. Her research findings were concluded in a PhD thesis entitled “Insights into the regulation of muscle metabolism and growth in mice and hibernating grizzly bears”.

Already during the interview week one could sense the great potential of this quite exceptional young woman. Her wide range of scientific knowledge and her openness to discuss the key elements of each topic, earned her immediate respect among her peers. Her sociable nature, diplomacy and willingness to lend a hand, had quickly established Douaa as the go-to person in times of crisis for fellow students. This became her official role as a voluntary PhD student representative for almost the entire duration of her time at the MDC. Her giving spirit extended beyond this role as she generously contributed her time to the refugee relief at St. Andrew's Refugee Services.

In addition, she was part of the Helmholtz Juniors (HeJu) association, which represents the interests of PhD students from the Helmholtz Association's 18 research centers. The association's primary goals are fostering exchange and networking among PhD students, improving the working conditions as well as expanding the range of advanced training opportunities available within the Helmholtz Association.

What were some of the challenges that you faced during your PhD and how did you overcome them?

"I'm not sure if the challenges I faced were that much different from the challenges every graduate student faces: getting the experiments to work, dealing with large datasets and making sense of them within the context of the biological questions I was addressing. Also, pursuing a few different lines of investigation in parallel meant that I had to learn the art of multi-tasking and how to organize my schedule efficiently."

Who were the people who influenced you the most during your PhD journey?

"I think that's a hard question. I now realize I've imbibed a lot of things from my mentor without being aware of such influences, but I come to appreciate it. Also, the members of my thesis advisory committee helped me to set my priorities straight and motivated me to focus on the right things. Lastly my close friends helped keep my sanity when things weren't going too well, which I realize had the biggest positive influence on me."

What made you decide to stay in academia after your PhD and how difficult of a decision was it?

"Although I think academia has a lot of perks compared to industry, the way science is done right now makes it less attractive to me than if I were doing science 50 years or so ago. That's why I never wanted to be an academic for life, but rather taking my time in academia as a chance to learn things that I otherwise would not have the chance to. Thus although I considered a shift into industry during my PhD, I realized that there are many things that I would like to learn and master in aca-

demia, and so I decided to give myself another chance by staying in an academic setting for a while longer."

What advice can you give the PhD students that are still in the process?

"A PhD is not an easy task, therefore it's vital to find people who help you stay positive. Try to keep an eye on where you're going next, which helps keep you motivated when your project doesn't. Learn to trust yourself and your instincts, many of the great and novel breakthroughs are made by young people who have not yet became sceptics by listening to others in the field for too long. Thinking each experiment through is important and has the highest success rate. Remember that thinking is a vital part of working and does not mean you're idle or not working hard enough.

Very importantly, a good PhD project doesn't have to end up with positive findings though we'd all love that. It's going through the process while finding the right tools to prove or disprove your hypotheses is what you really need to learn; and if what you learn is that your ideas were wrong, well at least you saved the next person the trouble of reinventing the wheel. At the end, you know how to think about the problem solving in this field, which will benefit you in the future."

After her PhD, Douaa earned the prestigious Post-doctoral fellowship at the lab of Professor Marc Kirschner at the department of Systems Biology at Harvard Medical School in Boston, USA. Her current research focuses on the mechanisms by which different cells regulate their size in response to a changing environment. The mechanism is still not fully understood, partly because the full landscape of cell size regulators has not been uncovered. By systematically identifying kinases that regulate cell size, Douaa hopes to get a better understanding of which pathways are involved in cell size control, and when do they become important for this process during a cell's lifetime.

Are you happy with your career choice? Describe what you do now and what do you see for yourself in the future?

"I think it's definitely a good choice, but if it was the best, I can't say for sure. I'm a postdoc, so still an academic, but in a very different environment where I have almost full autonomy. So the details of the scientific question I ask, and how I address it is pretty much left up to me, which is a huge responsibility and also a thrilling experience, because it really puts your ability to be an independent scientist to the test. I think I'll move out of academia after this experience and join a company that does what I think is the best part of modern biology, data analysis, especially of large datasets."

Luciana Aparecia Campos Baltatu

Professor of Biomedical Sciences

University Camilo Castelo Branco, Sao Jose dos Campos, Brazil

Since 2010	*Professor of Biomedical Sciences, University Camilo Castelo Branco, Sao Jose dos Campos, Brazil*
2008 – 2009	*Assistant Professor for Medical Physiology and Experimental Pharmacology, Aalborg University, Denmark*
2006 – 2008	*Scientist, F. Hoffmann – La Roche Ltd., Pharmaceutical Division, Vascular & Metabolic Diseases, Basel, Switzerland*
2001 – 2004	*Postdoctoral Fellow in the laboratory of Prof. Michael Bader, MDC, Berlin-Buch, Germany*
1998 – 2001	*PhD in Human Physiology, University of Sao Paulo, Brazil*

Luciana Aparecida Campos Baltatu is a Professor of Biomedical Sciences, supervising PhD students and postdoctoral fellows in their research. At the MDC, she had a chance to work under the mentorship of Prof. Bader and Ovidiu Baltatu, and was also inspired by interaction with other scientists, in particular Prof. Friedrich Luft and Prof. Dominik Müller. She believes her postdoctoral training at a highly competitive level helped her to start her international research career.

Ovidiu Constantin Baltatu

Professor of Biomedical Sciences, Head of Technology & Innovation

University Camilo Castelo Branco (UNICASTELO), Sao Jose dos Campos, Brazil

Since 2011	*Head of Technology & Innovation, Center of Innovation, Technology and Education – (CITE), Sao Jose dos Campos Technology Park, Brazil*
Since 2010	*Professor of Biomedical Sciences, University Camilo Castelo Branco, Sao Jose dos Campos, Brazil*
2009 – 2010	*Senior Director, The Medicines Company Ltd., Leipzig, Germany*
2006 – 2009	*Senior Scientific Expert, Speedel Ltd., Basel, Switzerland*
2004 – 2005	*Assistant Professor of Medical Physiology, Sultan Qaboos University, Sultanate of Oman*
1994 – 2004	*Postdoctoral fellow at the laboratories of Prof. Detlev Ganten and Prof. Michael Bader, MDC, Berlin-Buch, Germany*
1984 – 1990	*MD/Ph.D., Grigore T. Popa University of Medicine and Pharmacy, Iasi, Romania*

Ovidiu Constantin Baltatu has more than 30-year long experience in cardiovascular research. As a member of different companies, he has been able to apply his knowledge gained in academia to translational research in the pharmaceutical industry. He participated in the development of the first renin inhibitor and of new serine protease inhibitors for surgical blood loss. He currently leads technology and innovation within the CITE Office for the Center for Innovation in Health Technologies (CITS) of the Sao Jose dos Campos Technology Park. He considers the MDC was an essential determinant of his career.

MORE

"Most of my best friends are from the MDC."

Ovidiu Constantin Baltatu

Thomas Biederer

Associate Professor of Neuroscience

Tufts University, Boston, USA

Since 2013	*Associate Professor, Tufts University School of Medicine, USA*
2009 – 2013	*Associate Professor, Department of Molecular Biophysics and Biochemistry, Yale University, USA*
2003 – 2008	*Assistant Professor, Department of Molecular Biophysics and Biochemistry, Yale University, USA*
1999 – 2003	*Postdoctoral Fellow, UT Southwestern Medical Center, Dallas, USA*
1999 – 2001	*HFSP Long-term Postdoctoral Fellowship*
1998	*Research Fellow, MDC, Berlin, Germany and Kyoto University, Japan*
1998	*Ph.D. in Biology, Humboldt Universität zu Berlin, Germany*
1995 – 1997	*Doctoral thesis research in the laboratory of Prof. Thomas Sommer, MDC, Berlin, Germany*
1989 – 1995	*Biochemistry studies, Free University Berlin and University Regensburg, Germany*

The long-term goal of Thomas' research is to understand at a molecular and functional level how neurons form synapses with each other. Tomas joined the MDC as a PhD student excited about the opportunity to combine biochemical with genetic approaches in the group of Prof. Thomas Sommer. He was able to learn membrane protein biochemistry from Thomas Sommer, whose qualities as thesis advisor he highly appreciated, and the neighbouring laboratory of Tom Rapoport. He believes that both the chance and the interactions with colleagues were the key for the further development of his career.

MORE

Interview: Video interview conducted at NIDA's 2012 Frontiers in Science mini convention at the Society for Neuroscience meeting in Washington, D.C. https://www.youtube.com/watch?v=UnNeam66t1k

Lab web-page: www.sackler.tufts.edu/Faculty-and-Research/Faculty-Research-Pages/Thomas-Biederer

“I have good memories of learning from my colleagues in our mixed “Ossie/Wessie” lab how the Reunification changed everyone‘s lives.”

Thomas Biederer

Jan Bieschke

Assistant Professor

Washington University in St. Louis, Missouri, USA

Since 2012	*Assistant Professor, Washington University in St. Louis, Missouri, USA*
2006 – 2011	*Max Delbrück Fellow, MDC, Berlin, Germany*
2003 – 2006	*Postdoctoral fellow, The Scripps Research Institute, La Jolla, CA, USA*
2001 – 2003	*Postdoctoral fellow, Ludwig-Maximilians-University of Munich, Germany*
1996 – 2000	*Ph.D. in Chemistry, Max Planck Institute for Biophysical Chemistry / University Braunschweig, Germany*

Jan's research focuses on the processes of protein folding and misfolding and how these processes can lead to widespread aging-related diseases such as Alzheimer's and Parkinson's disease. Self-assembly of proteins seems to be a generic process but results in insoluble fibrillar structures that can be toxic to the cell but can also have unique material properties. The aim is to dissect and influence these self-assembly processes using biophysical tools such as single molecule fluorescence, atomic force microscopy and sub-diffraction microscopy, in order to develop new strategies to counteract protein misfolding diseases.

Article: "Green Tea Prevents Deathly Plaque Formation in Parkinson's and Alzheimer`s – First Results in the Test Tube and with Cell Models"

https://www.mdc-berlin.de/12472709/en/news/archive/2008/20080530-green_tea_prevents_deathly_plaque_formatio

Katrina Binger

Senior Research Officer

Baker IDI Heart and Diabetes Institute, Melbourne, Australia

Adjunct Senior Research Fellow, Monash University, Melbourne, Australia

Since 2015	*Senior Research Officer, Baker IDI Heart and Diabetes Institute, Melbourne, Australia*
2012 – 2015	*Postdoctoral research fellow, supported by the C.J. Martin Overseas Biomedical Fellowship (National Health and Medical Research Council of Australia), laboratory of Dr. Dominik Müller, Max-Delbrück Center for Molecular Medicine, Berlin, Germany*
2011 – 2012	*Postdoctoral scientist, University of Erlangen-Nuremberg, Germany*
2009 – 2011	*Postdoctoral scientist, laboratory of Prof. Jenny Wilkinson-Berka, Department of Immunology, Monash University, Australia*
2006 – 2009	*Ph.D. in Biochemistry and Molecular Biology, Department of Biochemistry and Molecular Biology, The University of Melbourne, Australia*
2002 – 2005	*Bachelor of Biomedical Science (Honours), The University of Melbourne, Australia*

Since completing my PhD in Biochemistry 2009, Katrina has undertaken postdoctoral positions in the fields of Immunology and Molecular Biology in order to focus on projects relevant to human disease. Her cross-disciplinary research career has put Katrina in a unique position to address a number of diverse research questions and she has been successful in generating quality results, evidenced by 20+ publications and the internationally competitive awards she has received. Katrina's future research aims to determine how changes in local microenvironments affect immune cell development and function, with an ultimate goal being to understand how this contributes to diseases such as diabetes.

MORE

Dr. Katrina Binger among the panelists at the MDC Career Day 2015

(Copyright: MDC/Michele Caliari)

Interview with Katrina Binger following the award for her poster at the 2013 ISH New Investigator Symposium: www.ish-world.com/news/a/Interview-with-new-investigator-award-winner-Katrina-Binger/

Press-release „Too much salt in food can push the Immune system out of equilibrium“: www.bakeridi.edu.au/NewsArticle.aspx?ID=440

Article “Zu viel Salz schwächt das Immunsystem”, ÄrzteZeitung, 22.10.2015: www.aerztezeitung.de/medizin/krankheiten/infektionskrankheiten/article/897181/verzoegerte-wundheilung-salz-schwaecht-immunsystem.html

New Investigator Network Member Spotlight of the month, November 2013: www.ish-world.com/new-investigators-spotlight/i/November-2013-Spotlight-of-the-Month/

Hannes Buelow

Associate Professor

Department of Genetics, Dominick P. Purpura Department of Neuroscience
Albert Einstein College of Medicine, Bronx, NY, USA

Since 2012	*Associate Professor, Albert Einstein College of Medicine, Bronx, NY, USA*
2006 – 2012	*Assistant Professor, Albert Einstein College of Medicine, Bronx, NY, USA*
1999 – 2005	*Postdoctoral fellow, laboratory of Dr. Oliver Hobert, Columbia University College of Physicians and Surgeons, NY, USA*
1993 – 1998	*Ph.D. studies, laboratory of Dr. Rita Bernhardt, MDC, Berlin, Germany, Ph.D. degree awarded by the Humboldt Universität zu Berlin, Germany*
1987 – 1992	*State Examination in Pharmacy, The University of Freiburg, Germany*

Hannes Buelow's laboratory uses the small nematode C. elegans with its simple and well characterized nervous system as a genetic model. He and his team are trying to understand how growing axons and dendrites navigate the extracellular space to connect to their partners and be appropriately patterned.

Science Talk "Previously Unstudied Gene Is Essential for Normal Nerve Development", 2013: https://www.youtube.com/watch?v=c-cl2MmVoZU

News feature "Worms tell a tale of how nerves develop", Fox News, 2013: www.foxnews.com/health/2013/10/11/worms-tell-tale-how-nerves-develop.html

Dinis Calado

Research Group Leader "Immunity & Cancer Laboratory"

The Francis Crick Institute, London, UK

Since 2015	*Group Leader, The Francis Crick Institute, London, UK*
Since 2013	*Senior Research Scientist, Department of Immunobiology, King's College London, UK*
2013 – 2015	*Group Leader (supported with the MRC career development award), London Research Institute, Cancer Research UK*
2011 – 2013	*Special Fellow, Leukemia Lymphoma Society, laboratory of Klaus Rajewsky, MDC, Berlin, Germany*
2010 – 2011	*Special Fellow (Career Development Award) of the Leukemia Lymphoma Society, laboratory of Klaus Rajewsky, Harvard Medical School, USA*
2006 – 2010	*Postdoctoral Fellow, laboratory of Klaus Rajewsky, Harvard Medical School, USA*
2006	*Ph.D. in Molecular Immunology, Summa Cum Laude, Lisbon University, Portugal*
2000 – 2006	*Ph.D. student, laboratory of Matthias Haury, Gulbenkian Institute for Science, Portugal*
1999	*B.Sc. Degree with Honours in Biochemistry, University of Coimbra, Portugal*

Dinis' research aims to elucidate mechanisms by which healthy cells of the haematopoietic system become cancerous, with major focus on B lymphocytes. Using state of the art mouse genetics, he has generated bona fide mouse models of cancer, including diffuse large B cell lymphoma, and Burkitt lymphoma, and has identified in vivo subpopulations of B cells with high c-Myc expression, that may represent precursors of these diseases.

Dinis Calado and Klas Rajewsky, at the MDC Alumni Meeting, April 2015

(Copyright: MDC/David Ausserhofer)

Cristina Cardoso

Full Professor of Cell Biology & Epigenetics

Technische Universität, Darmstadt, Germany

Since 2008	*Full Professor Cell Biology & Epigenetics (W3), Technische Universität, Darmstadt, Germany*
1997 – 2008	*Research Group leader, MDC, Berlinh, Germany*
1995 – 1997	*Group leader, Franz Volhard Clinic, Berlin, Germany*
1992 – 1994	*Post-doctoral Fellowship, Howard Hughes Medical Institute, USA*
1991 – 1994	*Postdoctoral fellow, Harvard Medical School, Boston, USA*
1986 – 1990	*Ph.D. in Biology-Molecular Biology, New University of Lisbon, Portugal*
1981 – 1986	*M.Sc., Department of Biology, University of Lisbon, Portugal*

Cristina Cardoso joined the MDC with an offer to start her own research group in 1997. Through this opportunity, she quickly developed an ability to independently lead a group and acquire extramural funding at a very early age. She currently works as a full professor for cell biology and epigenetics. Her group studies the functional organization of the mammalian cell nucleus, the replication and reprogramming of epigenetic information, and the regulation of methyl-CpG binding proteins in development and disease. She has been member of the editorial board of *Nucleus*.

Laboratory web-site: www.cardoso-lab.org

Articles: „New pathways into the cell", TU Darmstadt: https://www.tu-darmstadt.de/vorbeischauen/aktuell/news_archive/news_details_en_117376.en.jsp

"Faszinierender Blick in den Zellkern", TU Darmstadt: www.tu-darmstadt.de/vorbeischauen/aktuell/einzelansicht_147136.de.jsp

„Sehen, Stören, Siegen": www.tu-darmstadt.de/vorbeischauen/aktuell/archiv_2/2013_1/einzelansicht_81600.de.jsp

Christna Chap

Senior Editor, PLOS ONE

Public Library of Science (PLOS), Cambridge, UK

Since 2013	*Senior Editor, PLOS, Cambridge, UK*
2010 – 2013	*Senior Executive Editor, BioMed Central, London, UK*
2009 – 2010	*Postdoctoral Researcher, laboratory of Ulrike Ziebold, MDC, Berlin, Germany*
2005 – 2009	*Ph.D., laboratory of Ulrike Ziebold, MDC (degree awarded by the Humboldt Universität zu Berlin)*
2002 – 2004	*MSc in Biotechnology, Ecole Nationale Supérieure de Technologie des Biomolécules de Bordeaux (ENSTBB), France*

Christna moved into publishing after doing her PhD at the MDC working on embryonic stem cells in the laboratory of Ulrike Ziebold. She first joined BioMed Central in London as an editor, before becoming senior executive editor with overall responsibility for the scientific content and development of several journals of the BMC series. In 2013 Christna joined the Public Library of Science (PLOS) where she now works as senior editor on PLOS ONE.

Christna Chap at the MDC Career Day 2013

(Copyright: MDC/Rottmann)

Irene Coin

Emmy-Noether Group Leader

University of Leipzig, Germany

Since 2014	*Emmy-Noether Research Group Leader, University of Leipzig, Germany*
2013 – 2014	*Research Fellow, laboratory of Claus Scheidereit, MDC, Berlin, Germany*
2009 – 2013	*Postdoctoral Fellow, laboratory of Lei Wang, The Salk Institute for Biological Studies (La Jolla, CA, USA)*
2004 – 2008	*Ph.D. research, laboratory of Michael Beyermann, FMP, Berlin, Germany*
2003	*MSc in Chemistry, University of Padua, Italy*

Irene Coin studied chemistry at the University of Padua (Italy) and completed her Diplom thesis work in the group of Claudio Toniolo. She was awarded a Research fellowship by “Fondazione Aldo Gini” (Italy) in 2004. Irene then moved to Germany and carried out her PhD research at the Leibniz-Institute of Molecular Pharmacology (FMP) in Berlin under the guidance of Michael Beyermann, and defended her doctoral thesis at the University of Leipzig in 2008. She was distinguished for her PhD research by the Friedrich-Weygand-Award (Outstanding PhD Student) by the Max-Bergmann-Kreis and the Nachwuchswissenschaftlerin-Preis (Young Scientist Award) by the Forschungsverbund Berlin e.V. in 2009. After a brief post-doctoral research stay in the group of Sidney Hecht at the Biodesign Institute at ASU (Tempe, AZ, USA), she joined in 2009 the group of Lei Wang at the Salk Institute for Biological Studies (La Jolla, CA, USA) as DFG and Marie Curie Fellow. She returned to Germany in 2013 as research associate in the group of Claus Scheidereit at the MDC, Berlin. In the same year she was awarded the DFG Emmy-Noether Grant for an independent research group, which she has set up and leads at the University of Leipzig, Germany since February 2014. She and her team focus on mapping protein-protein interaction surfaces in the live cell by combining chemical tools and modern molecular biology techniques. In particular, they use the expanded genetic code technology to incorporate crosslinking amino acids into proteins at specific sites.

MORE

Irene Coin

Finding the right chemistry for proteins and scientific relationships

by Arwen Cros,s March 2016

Dr Irene Coin applies chemical knowledge to biological problems, revealing structural information about proteins. At the MDC Alumni Talks and Career Pathways lecture series in March 2016 she spoke about her work and described how human elements can be the secret to the best scientific relationships.

Irene uses non-natural amino acids to get additional structural information about proteins that can't be revealed using NMR or x-ray crystallography. Both methods are used to determine the molecular structures of proteins, but they have limitations, for example some proteins are too big for NMR or don't crystallise easily.

"My work is complementary to these methods," Irene explains, "but one of the advantages is that I can do experiments in living cells, where proteins are complete with post-translational modifications and interact with neighbouring proteins."

After a PhD in peptide chemistry Irene wanted to learn techniques for getting cells to insert chemical moieties into proteins. She applied for a Marie Curie Fellowship to learn the method at the Salk Institute in the USA and then apply it to biological problems in the Scheidereit research group at the MDC.

Professor Claus Scheidereit was interested in Irene's approach and provided advice on finalising her application, which was not only successful but got a very high score. Writing the grant together defined a strong working relationship between them. It gave Irene's project a definite focus which remained very clear even after some minor adaptations when she arrived at the MDC in 2013 after two years at the Salk Institute.

"Irene is a real chemist and approaches problems as a chemist," Claus says. The two scientists have complementary areas of expertise. From Irene's perspective working with biologists is inspiring, "It's useful to speak to people who have a very different approach to problems – it gives you new ideas."

The biological questions in the Scheidereit lab focus on the NF-kappaB signalling pathway. This is a welcome change for Irene from her usual focus on G-protein coupled receptors (GPCRs). GPCRs are important in multiple signalling pathways and about a third of drugs on the market target them. "But in 2016 we still don't have a complete structure of a GPCR with a long N-terminus," Irene says.

Irene came to the MDC from the Salk Institute in San Diego and quips, "While the weather's not as nice and you can't go surfing, San Diego can't compete with Berlin as a city." She says that the MDC is a great place to work if you want to work in Germany in an international environment, because it is so outward looking. The facilities, people and funding also facilitate good science, "At the MDC, if you want to do something, you just do it," Irene says.

Now working at the University of Leipzig as an Emmy Noether group leader, Irene says that something Germany needs to fix is the availability of tenure-track positions for young principal investigators (PIs). For researchers who come back to Germany

after an overseas postdoc, the two main options are junior professor positions or the Emmy Noether programme. While the programme has many benefits it doesn't offer young scientists job security.

Irene understands that human aspects are vital to good scientific relationships. Her advice to students is to find the right PI for them and be choosy. "If you're a very independent person, you don't want to be micromanaged," she says, "but if you need support you might consider joining a smaller group". As a postdoc you might have a better chance to gain independence if you work with a more senior PI who can afford to let ideas go and doesn't need to be corresponding author on every paper.

Being a PI gives you a different perspective on scientific relationships, but the human element remains important. Irene says that when you become a group leader you need to select students that suit your management style. "If you have a great student, everyone is a great supervisor," she says "the challenge is getting the best from all of your staff."

Although Irene says that science is 90% frustration and 10% excitement, she doesn't mind that ratio. "Even on a beautiful sunny day I go to the lab because I want to see the results of an experiment," she says, "and even if it's dark when I come out, I'm still happy. When you discover something new, it pays off all the effort."

Tiago Jose Da Silva Lopes

Bioinformatics Researcher

University of Wisconsin, Madison, USA / The University of Tokyo, Japan

Since 2014	*Bioinformatics Researcher, University of Wisconsin, Madison, USA*
2010 – 2014	*Postdoctoral Researcher, University of Tokyo, Japan*
2007 – 2010	*Ph.D. research, laboratory of Jens Reich, MDC, Doctoral degree awarded by the Humboldt Universität zu Berlin, Germany*
2004 – 2007	*M.Sc., ICMC-USP (The Institute of Mathematics and Computer Sciences, the University of São Paulo, Brazil*
2004 – 2005	*Internship, supervised by Martina Muckenthaler and Matthias Hentze, The European Molecular Biology Laboratory (EMBL), Heidelberg, Germany*
2004 – 2005	*Network and Systems administrator at the High Performance Computing Laboratory – LCAD, University of Sao Paulo (USP), Brazil*
2002 – 2004	*Internship, Laboratory of Eliana G.M. Lemos, LBMP UNESP, Brazil*
2001 – 2005	*Undergraduate studies of Technology, The State University of Sao Paulo (FATEC - UNESP), Brazil*

Tiago states on his LinkedIn page, ‘I love “Big-Data”!’ From sequence and genomic information to biological networks, Tiago’s work and passion as a bioinformatician consists of dealing with large-datasets of biological information, and transforming numbers in knowledge.

MORE

Personal web-site: www.bioinfopoint.com

Halfway around the globe – and possibly back again

By Susann Förster, first published in October 2014, MDC Insights

You might not remember his name, but if you were at the MDC from 2007 to 2010 you'd surely recognize Tiago Jose da Silva Lopes. During that time the Brazilian student completed his PhD thesis on the topic of "Systems biology analysis of the iron metabolism"; on the side, he helped establish the Beer Hour. Today, Tiago lives in Japan, where he works as a bioinformatics consultant at the University of Tokyo.

How Tiago got to go to Tokyo

Tiago Lopes

"I remember the MDC well. After all, it hasn't been that long since my time there as a doctoral candidate," Tiago says. He is talking via Skype from his office in Tokyo; it is four in the afternoon for him, but nine in the morning here in Berlin. He continues to say that the center on the Buch campus is an excellent place to work, because of its many excellent researchers and outstanding opportunities for scientific exchange. "I completed my PhD thesis in the bioinformatics research group of Prof. Jens Reich. My project involved generating an in silico simulation of iron exchange and its regulation, on the basis of experimental data obtained from a mouse model. Towards the end of my time as a doctoral candidate, I was able to publish this simulation in the BMC Systems Biology journal."

Tiago's further scientific career profited from some long-term planning that he started on a year before completing his PhD. He discussed his future with experienced scientists, who advised him to go abroad as a postdoc. "I then searched the Internet for systems biology research groups working on topics that suited me. I came across an opening at the University of Tokyo with Professor Hiroaki Kitano, a very well-known systems biologist. I already knew Hiroaki Kitano from a conference and very much wanted to work with him." Tiago applied and was invited to a Skype interview. Everything went very positively and Tiago was asked to first visit Tokyo and the university in person before accepting the post. "My first hours in Tokyo were fantastic. I was impressed by the extreme politeness of the people, their efficient manner and the super-tasty food, especially the sushi. I instantly knew I wanted to live there for a while."

Tiago worked as a systems biologist and bioinformatician in Hiroaki Kitano's research group at the University of Tokyo from 2010 to early 2014. His research was affiliated to the ERATO KAWAOKA Infection-induced Host Responses Project and funded by the Japanese Science and Technology Agency (JST). Early this year he moved to his current job as a bioinformatics consultant. "This job is actually funded by the Influenza Research Institute (IRI) of the University of Wisconsin,

USA, where my current boss resides. Yet due to existing cooperation agreements I can continue to work in Tokyo, which makes me very happy."

Systems biology research on influenza viruses

Tiago's current research focuses on the systems biology analysis and identification of response mechanisms that influenza viruses trigger in the hosts they infect. Using statistics and informatics, he and his colleagues try to identify how these mechanisms specifically respond to individual viral strains. At the same time, they hope to discover more general patterns, seen in response to several viral strains. They draw on freely accessible databases and their own data, as well as data provided by scientists from around the world. "Mostly, these are DNA sequencing data and protein data from mass spectrometry and protein sequencing experiments. We then integrate this information with epidemiological surveys carried out by authorities who are monitoring the spread and mutations of individual viral strains and other types of data they are collecting."

The project is divided into efforts involving basic research and applications. "On the one hand, we hope to find out more about basic virus biology; on the other, we want to identify specific genes and proteins that could be targets for intervention with drugs," says Tiago. The latter mainly focuses on identifying substances that could inhibit the spread of viruses. Tiago says, "Ideally, we would find a region present in many viral strains that could be used to develop a universal vaccine."

Tiago and Matt as Tiago's last beer session, 2010

The birth of the Beer Hour

At the MDC, Tiago found time both for his scientific work and taking part in social activities on the campus. Together with Matt Huska, who was a bioinformatics assistant in Miguel Andrade's research group at the time, he hatched the idea of the Beer Hour. Tiago already knew the concept from the EMBL in Heidelberg, where he had spent a research period as a student. "There, a 'Beer Session' for getting together and sci-

entific exchange took place regularly at four in the afternoon in the Gene Expression Unit. Those meetings were always rather short and subsequently it was back to work." Matt and Tiago further developed the idea and the MDC's first Beer Hour took place in late 2008. For the first few sessions, Tiago and Matt transported the drinks from the nearby supermarket to the campus per bus. "The bus drivers were none too happy about that," says Tiago. "We often received very skeptical looks." Later, they looked for volunteers to transport drinks using the campus e-mail system. "As a means of exerting pressure we threatened that the Beer Hour would otherwise have to be canceled. That always worked well and made it much easier for us. By now, I hear, the organization has been greatly professionalized. I am glad to hear it, and especially to hear that the Beer Hour is still alive and well."

Making contacts and exchange in Japanese

Tiago says that making contacts and establishing scientific exchanges is much different at the University of Tokyo than here in Berlin. People barely talk during their actual working hours and coffee breaks are almost non-existent. "The Japanese work style is very focused and concentrated. Nearly all interpersonal exchanges take place after work. It's customary to go to a bar or restaurant in the evening with colleagues from work. If you have a drink, it's usually with a meal; it's rare to see people consuming alcoholic beverages without eating something." Another popular means of exchange and making social contacts is the "national pastime" of karaoke. "However, karaoke usually takes place without the bosses," Tiago adds with a smile. "During the FIFA World Cup, we also often watched soccer together – that was with the bosses."

Tiago is keeping open mind about his future. One current option, among others, might be to transfer to the Influenza Research Institute (IRI) in Wisconsin, amongst other options. He says a return to the MDC would also be an excellent opportunity. "For the moment, however, I think I will stay in Tokyo for a while longer. My love for martial arts and my sushi addiction simply continue to keep me here."

Katharina Da Silva Lopes

Researcher

Department of Health Policy, National Center for Child Health and Development, Tokyo, Japan

Since 2015	*Researcher, Department of Health Policy, National Center for Child Health and Development, Tokyo, Japan*
2015	*3-month Internship, Nutrition Policy and Scientific Advice (NPU), Department of Nutrition for Health and Development (NHD), World Health Organization, Geneva, Switzerland*
2012 – 2014	*Project Researcher, Department of cardiovascular medicine, The University of Tokyo, Tokyo, Japan*
2008 – 2011	*Ph.D. research, laboratory of Michael Gotthardt, MDC, Berlin, Germany*
2007 – 2008	*Research Fellow, Group "Cardiovascular genetics", Max-Planck Institute for Molecular Genetics, Berlin, Germany*
2006 – 2007	*Research Assistant, Group "Nutritional toxicology", German Institute of Human Nutrition, Potsdam-Rehbruecke, Germany*
2001 – 2007	*MSc in Nutritional Sciences, University of Potsdam, Germany*

Katharina has broad expertise in nutritional sciences, as well as cardiovascular and obesity research. Currently, she is conducting research in global public health with focus on the prevention of nutrition-related diseases during pregnancy and early childhood.

Emilia Danilowicz-Luebert

Field Product Specialist

Diagenode, Cologne, Germany

Since 2015	*Field Product Specialist, Diagenode, Cologne, Germany*
2013 – 2015	*Application Specialist and Sales, NanoTemper Technologies GmbH, Germany*
Since 2007	*Project leader, Careers in Sciences (CiLS), Young European Biotech Network (YEBN)*
2008 – 2012	*Ph.D. research, laboratory of Richard Lucius, Humboldt Universität zu Berlin, MDC-HU International PhD Programme "Molecular Cell Biology", Berlin, Germany*
2007 – 2008	*Research Placement, University of Bern, Institute of Genetics, Bern, Switzerland*
2001 – 2006	*M.Sc. and Engineering degree in Biotechnology, Warshaw University of Life Sciences, Poland*

Emilia Danilowicz-Luebert joined the MDC Graduate School Molecular Cell Biology in 2008 to pursue her PhD studies in the laboratory of Prof Lucius at the Humboldt University. The interesting curriculum of the International PhD Programme and the prestige of the institution were key points in her decision to come to Berlin. During her time in the programme she enjoyed the international environment, the scientific and soft skill training offered and, of course, the PhD student retreats.

MORE

Young European Biotech Network: www.yebn.eu

Emilia Danilowicz-Luebert shares her experience at the Networking round-table, MDC Career Day 2013

(Copyright: MDC/Rottmann)

Debashish Das

Chief Scientist

Stem Cell Research Laboratory, Narayana Nethralaya Foundation, Bangalore, India

Since 2010	*Chief Scientist, Stem Cell Research Laboratory, Narayana Nethralaya Foundation, Bangalore, India*
2009 – 2010	*Senior Scientist, Imgenex India Pvt Ltd., Bhubaneswar, India*
2006 – 2008	*Postdoctoral fellow, Karolinska Institutet, Stockholm, Sweden*
2001 – 2005	*Doctoral fellow at the laboratory of Prof. Fritz G. Rathjen, MDC, Berlin-Buch, Germany*
1999 – 2000	*Scientific Assistant, L. V. Prasad Eye Institute, Hyderabad, India*

Debashish Das runs a laboratory for stem cell research and ocular stem cell transplantation. He came to the MDC under a UNESCO fellowship program. He considers his time at the institute under the mentorship of Prof. Rathjen has helped him to grow both personally and professionally. After his postdoctoral time in Stockholm, he wanted to return to India and joined the Prasad Eye Institute. He hopes one day he will head his own organisation and that the patience and perseverance taught to him by Prof. Rathjen will help him to achieve his ultimate goals.

"I was amazed by the way my supervisor made me feel comfortable when we discussed mistakes I had made in the lab due to my lack of knowledge."

Debashish Das

Sonya Dumanis

Senior Associate

Center for Strategic Philanthropy, Milken Institute, Washington, DC, USA

Since 2015	*Senior Associate, Center for Strategic Philanthropy, Milken Institute, Washington, DC, USA*
2015	*Neuroscience Postdoctoral Fellow, Johns Hopkins University, Baltimore, USA*
2013 – 2015	*Humboldt Postdoctoral Fellow, laboratory of Thomas Willnow, MDC, Berlin, Germany*
2008 – 2013	*Ph.D. training in Neurosciences (IPN Program), Georgetown University, Washington DC, USA*
2003 – 2007	*Bachelor of Arts in Neuroscience and Behavior, Mathematics, Columbia University, NY, USA*

Sonya is the technical lead for the Epilepsy and Mental Health Programs at the Center for Strategic Philanthropy at the Milken Institute. Her primary focus is on medical research philanthropy, where she provides individual philanthropists and foundations with comprehensive and objective information related to the state of research for various diseases and key unmet needs impeding scientific progress. This information is ultimately used to identify key philanthropic opportunities poised to have a transformative impact on the state of research, with the aim of moving the field forward faster.

MORE

Outside of academia – still in the forefront of curiosity-driven thinking

By Katja Herzog, March 2016

According to the report of the British Royal Society, “The scientific country – securing our future prosperity”, only 3.5% of PhD graduates obtain a permanent research position, and only 0.45% achieve a professorship. These daunting numbers make prospects for PhDs seem dim. To address this issue, the MDC has established a Career Pathways Lecture Series where invited speakers, including many alumni, reflect on their own research experiences and where they work today. On March 22nd, 2016 Dr. Sonya Dumanis came to the MDC to discuss her own experiences.

Sonya Dumanis

Sonya Dumanis was a post-doctoral fellow at the MDC in the AG Willnow lab from 2013-2015. As a PhD student, she had heard Thomas Willnow give a talk at a conference on the genetic causes of Alzheimer's disease pathology. Intrigued by his presentation, she approached him and inquired about an opportunity to join as a post-doc. Looking back, Dr. Willnow states that he received "the most impressive CV" he had ever seen from a student and qualified her later research in his lab as "outstanding science".

Already during her PhD, she had received a National Science Foundation fellowship, a NIH pre-doctoral research training award, the Mark A. Smith prize from the Journal of Neurochemistry and the Glassman Award for the best science thesis dissertation at Georgetown University (USA), where she obtained her PhD in Neuroscience. Sonya joined the MDC bringing her own funding, a highly competitive fellowship from the Alexander von Humboldt foundation. In 13 years as an active researcher Sonya has published 16 research papers in the fields of physics and neuroscience, five as first author. Additionally, she published three papers on undergraduate and graduate educational science programs. With these impressive academic achievements, Sonya easily brings the required backpack to walk the steep way up to the academic mountaintop. But instead of taking this expected path, she is actively engaged in reaching another summit.

She now works as a senior associate at the Center for Strategic Philanthropy at the Milken Institute in Washington DC (USA). Philanthropists, persons that actively promote human welfare, approach this center to better understand how best they could support solving specific problems related to improving health and treatments of diseases. To guide them and to help them to decide on the best strategy, Sonya assesses the research landscape, navigating R&D's trickiest developments and the newest scientific discoveries, to outline potential philanthropic opportunities that could address unmet needs in biomedical and health research.

When asked about her scientific idol, Sonya enthusiastically recalls a speech from Oliver Smithies, Nobel Prize laureate in 2007. "He showed the audience his notes from when he uncovered homologous recombination. His notebook was full of messy scribbles. Often people think of science as being super clean, that everything happens in a clear logical way. But in reality, as you do research, it drives you to directions you could not have planned. That is what makes research so interesting, because it is unpredictable." It's that exciting curiosity for the unknown and thirst for knowledge that drives many researchers. It's what made Sonya interested in science in the first place.

Sonya Dumanis · Outside of academia – still in the forefront of curiosity-driven thinking · *By Katja Herzog, March 2016*

When deciding to leave academia, she did not think about the statistics of the Royal Society. She was attracted by the exciting prospects and possibilities that lay ahead in this new career path.

Sonya's outlook on life becomes clear when you ask her about her favourite hobby. Sonya loves running. "There was one time," she mentioned, "that I forgot my keys on a morning run and I had to run the Pankeweg all the way to the MDC to get my spare keys, which I kept at work. Once I did that route once, I started to run it at least once a week." This weekly 14 km route inspired her to complete her first marathon, which she successfully completed in Berlin in 2014.

When you ask her friends what it is that keeps her going, they tell you that she does what she considers meaningful and can make a difference. When you ask Sonya for career advice, she simply states: "Do what you find interesting and be open to not always talking the straight path forward."

Yasuyuku Fujita

Professor

Hokkaido University, Sapporo, Japan

Since 2010	*Professor, Division of Molecular Oncology, Institute for Genetic Medicine, Hokkaido University, Japan*
2002 – 2010	*Group Leader, MRC Laboratory of Molecular Cell Biology, UCL*
1997 – 2001	*Postdoctoral Fellow, laboratory of Walter Birchmeier, MDC, Berlin, Germany*
1993	*Ph.D., Kyoto University, Japan*
1990	*M.D., Faculty of Medicine, Kyoto University, Japan*

At the initial step of carcinogenesis, transformation occurs in a single cell within an epithelial sheet, and the transformed cells grow while being surrounded by normal epithelial cells. However, it was not clear what happens at the boundary between normal and transformed epithelial cells. Using newly established MDCK cell lines, Yasu Fujita and his team have shown that when Ras- or Src-transformed cells are surrounded by normal epithelial cells, various signalling pathways are activated in the transformed cells and that they are often eliminated from the apical surface of the epithelial monolayer. These phenomena are not observed when transformed cells alone are present, suggesting that the presence of surrounding normal cells affects the signalling pathways and fate of transformed cells. Currently, Prof. Fujita and his team are further analysing these phenomena using mammalian cell culture and mouse model systems. His recent findings shed light on the events occurring at the initial stage of cancer development, a black box in cancer biology, thus potentially leading to a novel type of cancer treatment: eradication of transformed cells by enhancing a defensive force of neighbouring normal epithelial cells.

MORE

News article “Genes ,decide who wins in body’s battle against cancer”, UCL News, 2010: https://www.ucl.ac.uk/cdb/news/cdb-news/News9

Article “The battle between cells and tumours could change the way we treat cancer” by the Daily and Sunday Express, 2009: www.igm.hokudai.ac.jp/oncology/press/press02.html

Laboratory web-site: www.igm.hokudai.ac.jp/oncology/index_e.html

Helping cells recognise bad neighbours

By Arwen Cross, March 2016

In multicellular organisms cells perform specific functions, often in collaboration with their neighbours. Tumour cells break the rules of normal cell function, including in how they interact with surrounding cells. Professor Yasuyuki Fujita investigates these interactions aiming to find a way to help healthy cells recognise tumour cells and kill them.

When Yasu applied for a job in Professor Walter Birchmeier's lab at the MDC in the mid-1990s, email wasn't common like it is today. "I applied for the job by fax," he says, "looking back it's amazing that Walter accepted the application without an interview. I guess my good recommendations must have helped."

Yasu still remembers Walter's advice during his postdoc at the MDC, especially the tip that one big paper is worth more than ten small ones. "Walter taught me what world class science is and that you should always aim high," Yasu reflects. His major discovery during his postdoc with Walter was a protein called Hakai (meaning 'destruction' in Japanese), which can disrupt contacts between cells and allow them to move.

Now a professor at Hokkaido University in Japan, Yasu returned to the MDC to give a Career Pathways lecture. His advice to young researchers aspiring to become principal investigators (PIs) is that you need to have your own ideas, starting during your time as a postdoc. You can also gain experience in important skills like grant writing through your group leader. Yasu worked on a grant and went to the presentation for it during his postdoc in the Birchmeier lab.

"There's a huge gap between postdoc and PI," Yasu says, "for example you've never recruited anyone before." But his advice is that developing these skills is achievable if your goal is a scientific career. The key criteria for PI jobs are your scientific ideas, "If you're a passionate scientist you can learn how to write grants and supervise people."

Yasu spent five and a half years at the MDC which he says was a good length of time to mature as a scientist and feel ready to start his own lab. His next position was as a group leader at University College London, UK. During the job interview Yasu had to do a two hour chalk-and-talk about his work.

"Giving talks at the MDC was good practice for answering critical questions," he says. As well as a culture of constructive criticism, the seminar programmes at the MDC expose young scientists to a broad range of biological research. Yasu says he aimed to ask a question at every seminar he attended, "It's a way to force yourself to focus and it helps you learn to communicate with diverse scientists."

Yasu moved back to Japan with his family after eight years in London. He and his team at Hokkaido University study interactions between cells. "We focus on questions like: how do cells sense their neighbours and how do they react if their neighbour changes?"

Some of his experiments use epithelial cells, which are the type of cells involved in breast or lung cancer. They normally grow in a single layer in culture. When

the interactions between cells change, tumour cells may be pushed out of the monolayer or killed by their neighbours.

Yasu and his team investigate how normal epithelial cells react to tumour cells in cell culture. They prepare normal and tumour cells, labelling one type with a coloured marker and then mixing them. That makes the tumour cells visually distinct from the surrounding cells. Then they can watch under the microscope how the normal cells react to the tumour cells in their midst.

“These cell competition studies reveal that normal cells are able to sense the presence of certain types of transformed cells and actively eliminate them from their community,” Yasu explains. This is relevant to the events that occur at the initial stage of tumorigenesis, a black box in cancer biology. Yasu hopes that this research will reveal ways to help cells recognise bad neighbours – tumour cells – and lead to new treatments for cancer.

Andrei S. Halavaty

Technical Advisor

Rakoczy Molino Mazzochi Siwik LLP, Chicago, IL, USA

Since 2016	*Technical Advisor, Rakoczy Molino Mazzochi Siwik LLP, Chicago, IL, USA*
2014	*Adjunct Faculty, The Department of Biological, Chemical and Physical Sciences, Roosevelt University, USA*
2012 – 2016	*Research Associate (lab Dr. Wayne F. Anderson), Northwestern University, Chicago, IL, USA*
2008 – 2016	*Structural Biology Investigator (lab. Dr. Wayne F. Anderson), Center for Structural Genomics of Infectious Diseases, Chicago, IL, USA*
2006 – 2007	*Research Scholar, The University of Chicago, Chicago, IL, USA*
2002 – 2005	*Ph.D. research, laboratory of Udo Heinemann, MDC/ PhD in Natural Sciences awarded by Freie Universität Berlin, Germany*
2001 – 2002	*Scholar, supported by the Scholarship of the Study Foundation of the Berlin House of Representatives, FU/ MDC, Berlin, Germany*
2000 – 2001	*Research Assistant, International Sakharov Environmental University, Minsk, Belarus*

Andrei Halavaty at the MDC Alumni Meeting, April 2015

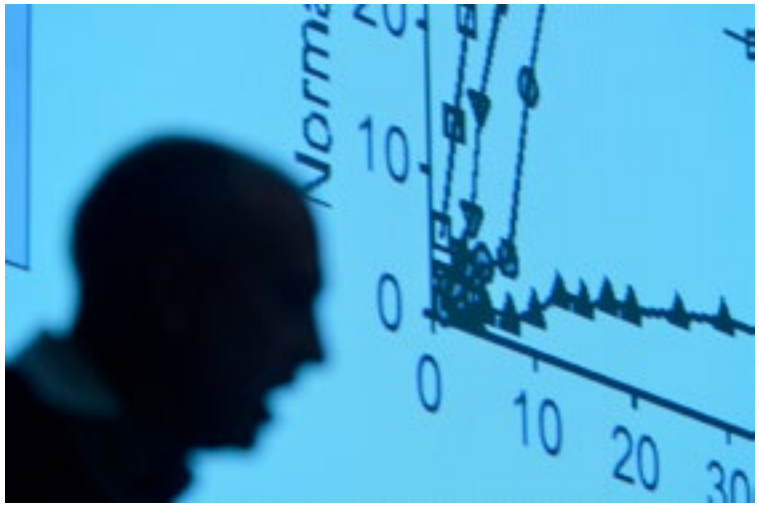
(Copyright: MDC/ David Ausserhofer)

Paul Heppenstall

Research Group Leader

Joint Appointment: Cel Biology and Biophysics Unit, EMBL Monterotondo, Italy

Since 2008	*Research group Leader, EMBL Monterotondo, Italy*
2002 – 2007	*Junior Professor, Charité-Universitätsmedizin, Berlin*
1998 – 2002	*Postdoctoral fellow, laboratory of Gary Lewin, MDC, Berlin, Germany*
1997	*Ph.D., University of Edinburgh, UK*



Paul Heppenstall giving a lecture at the MDC Alumni Meeting, December 2012 *(Copyright: MDC/ David Ausserhofer)*

News article "EMBL: Images of Mouse Neurons Thanks to New Technique" by Laboratory Journal, 2014: www.laboratory-journal.com/news/scientific-news/embl-images-mouse-neurons-thanks-new-technique

Vedrana Högqvist-Tabor

Director of Scientific Research

Clue by Biowink, Berlin, Germany

Since 2015	*Director of Scientific Research, Clue by Biowink, Berlin, Germany*
2014 – 2015	*Scientific Advisor, Senior Biologist, Clue by Biowink, Berlin, Germany*
2011 – 2014	*Senior Research Scientist, Karolinska Institutet, Stockholm, Sweden*
2008 – 2011	*Senior Research Scientist, Leibniz Institute for Molecular Pharmacology (FMP), Berlin, Germany*
2004 – 2008	*Ph.D. research, laboratory of Clemens Schmitt, MDC, Doctoral degree awarded by the Humboldt Universität zu Berlin, Germany*
2002 – 2004	*Postgraduate Researcher, Netherlands Cancer Institute (NKI/AvL), Amsterdam, The Netherlands*
1996 – 2001	*M.Sc. in Molecular Biology, University of Zagreb/ Sveuciliste u Zagrebu, Croatia*

Vedrana's biggest passion and her drive in life is enabling early complex disease detection. A molecular biologist turned entrepreneur innovating in health. In the past 15 years she carried out hands-on research on diverse aspects of cancer and other complex diseases, and in the past two years Vedrana has been part of the core team that is transforming female health. Her broad experience, spanning academic research environment, tech start-up, mentoring and public speaking, is unique in a way of understanding the complexity of diseases, and finding innovative ways to create platforms for early disease detection. Vedrana is also an accomplished public speaker (TEDx, WIRED health, QuantifiedSelf, Oxford and Columbia to name a few), she coaches and mentors other entrepreneurs."

▶ **TEDxHamburg Talk** "How big data transforms female health", 2016: http://www.tedxhamburg.de/vedrana-hoegqvist-tabor-how-big-data-transforms-female-health

Jing Hu

Head of Research Group

Center for Integrative Neurosciences, University of Tübingen, Germany

Since 2009	*Group Leader, Sensory Mechanotransduction Group, Centre for Integrative Neuroscience (CIN, German Cluster of Excellence), Tübingen, Germany*
2008 – 2009	*Delbrück Fellow, MDC, Berlin, Germany*
2003 – 2008	*Postdoctoral Researcher, Staff scientist, MDC, Berlin, Germany*
2001 – 2003	*Alexander von Humboldt Research Fellow, laboratory of Gary Lewin, MDC, Berlin, Germany*
1996 – 2001	*Doctor of Biophysics (Ph.D.), Institute of Biophysics, Chinese Academy of Science, Beijing, China*
1992 – 1996	*Bachelor of Science, Major in Physics, Southeast University, Nanjing, China*

Animals have developed sophisticated sensory neural system in order to rapidly respond to the environmental change. The main interest of Jing's team is to understand the molecular and cellular mechanism of the senses of touch and pain. How does the sensory neuron transduce the physical stimulus such as pressure and stretch into electrical signals? What are the molecular components underlying mechanotransduction? And how is the encoded information transmitted to the central nervous system? One of her particular interests at this moment is to explore how these transduction and transmission are altered under pathologic condition.

MORE

News feature "MDC Researchers Link Protein Tether to Touch Perception – Tiny Protein Filament Opens and Closes Ion Channels", MDC, 2010: https://www.mdc-berlin.de/34599323/en/news/archive/2010/20100218-mdc_researchers_link_protein_tether_to_tou

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Listening to the cross talk between pain and touch signals

By Arwen Cross, March 2016

“We’ve all used our sense of touch to inhibit pain signals,” says Dr Jing Hu, “think of how you shake or rub your thumb if you accidentally hit it with a hammer”. Jing’s research aims to understand the molecular mechanisms behind this inhibition. She hopes that this understanding will contribute to developing future pain treatments.

Jing Hu · listening to the cross talk between pain and touch signals · *By Arwen Cross, March 2016*

Jing is a research group leader at the Werner Reichardt Centre for Integrative Neuroscience. Speaking about the importance of pain research she quotes Dr Albert Schweizer who wrote of the suffering of his patients in Africa, “Pain is a more terrible lord of mankind than even death itself.” More than 100 years later new treatments for pain, particularly chronic and neuropathic pain, are still needed.

Jing joined the MDC as an Alexander von Humboldt postdoctoral fellow in 2001. Her supervisor Professor Gary Lewin remembers being impressed that she had published in international journals during her PhD research at the Institute of Biophysics, Chinese Academy of Sciences. Jing stayed on at MDC until 2007 as a Max Delbrück fellow, an MDC program that supports young scientists to become independent researchers.

In the Lewin lab Jing investigated aspects of neuroscience like how our sense of touch converts force into an electrical signal. Jing was the first person in the lab, and one of the first people in the world, to measure the currents on mechanically-gated channels which are critical to our sense of touch. Her 2006 paper reporting this has been cited more than 100 times.

Now a research group leader at the University of Tübingen, Jing suspects that it was Gary who put the job advertisement on her desk. Gary confirms this, “I remember printing out ads for junior group-lead positions and plonking them on Jing’s desk.” Ensuring that his postdocs, especially the women among them, apply for career positions is something Gary sees as in important part of his role as a group leader. Positions for junior group leads are very competitive and tend to be quite specific about how many years post-PhD applicants should be, so experienced postdocs need to apply for them at the right time to have a good chance of securing the job.

Jing spoke at the MDC Alumni Talks and Career Pathways lecture series in March. She also took the opportunity to visit the Lewin lab and although many old friends had moved on she says, “I still collaborate with people I met in Gary’s lab who are now spread across Europe.” The Lewin lab has grown compared to Jing’s memories. “It’s not just my career that has progressed,” she remarks, “Gary is a successful professor.”

Two important things that Jing learnt working at MDC were to think critically and keep her research interests broad. She also began to see biology from a molecular perspective as well as a cellular or systems level. Jing found the MDC well organised and supportive. The excellent facilities such as the animal house made doing research easy, “I miss some of the infrastructure at MDC a lot.”

Jing Hu · listening to the cross talk between pain and touch signals · *By Arwen Cross, March 2016*

How could the MDC support postdocs better? Jing finds it hard to say, but “What all institutes can do better is supporting researchers with young children.” Evening seminars and conferences are particularly difficult for researchers with families – if they can’t find or afford childcare they can be excluded from these aspects of scientific life which are important for exchanging ideas informally.

Jing enjoys managing research and supervising students and says that the only boring parts of being a group leader are the administrative tasks like finding desks for visitors. As a new group lead she found it very exciting setting up her own lab. “You have to negotiate and provide quite specific information like how many animals you need and what sort of centrifuges,” she explains. Courses for young group leaders have value, but Jing emphasises the importance of learning from experience, “As a postdoc you can learn a lot from your group leader.”

Building on her research on touch nerves in the Lewin lab, Jing now researches how these signals

Joerg Huelsken

Associate Professor

School of Life Sciences, EPFL, Lausanne, Switzerland

Since 2011	*Associate Professor, EPFL (Federal Technical University Lausanne), Switzerland*
2008 – 2015	*Chair for "Signal Transduction in Oncology" sponsored by Debiopharm, Lausanne, Switzerland*
2005 – 2011	*Assistant Professor, EPFL, Lausanne*
2003 – 2005	*Principal Investigator, ISREC (Swiss Institute for Experimental Cancer Research) within NCCR "Molecular Oncology", Epalinges, Switzerland*
1998 – 2002	*Postdoctoral Fellow, laboratory of Walter Birchmeier, MDC, Berlin, Germany*
1993 – 1998	*Ph.D. in Molecular Biology at Humboldt-University, Berlin, Germany*
1988 – 1993	*Studies and Diplom (Master thesis) in Biology, Ruhr-University Bochum and Institute for Cell Biology, Center for Tumor Research and Therapy of the Medical University Essen, Germany*

Joerg Huelsken's team investigates mechanistic and therapeutic implications of the Cancer Stem Cell concept, seeking to identify targetable mechanisms of cancer progression. New approaches of immunotherapy are currently developed which aim to eradicate established tumors by elimination of Cancer Stem Cells and immune check point blockade. Furthermore, in the last couple of years a focus has been the development of new therapeutics based on drug screens, therapeutic antibodies and antibody drug conjugates isolated and produced in the lab. The laboratory is currently studying mouse models of breast, lung, pancreas and colon cancer with an emphasis on metastatic disease. Topics of investigation include mechanisms of: niche induction, stromal reprogramming, and immune evasion. Additional research topics include the development of microfluidic platforms for the isolation and analysis of Cancer Stem Cells. Joerg Huelsken was distinguished with a number of important prizes: the SwissBridge Prize for Cancer Stem Cell Research (2015), Robert Wenner Prize for Cancer Research, Swiss Cancer League (2012), Dr. E. T. Jucker Prize for Cancer Research (2012), Pfizer Research Prize for Oncology (2009), Leenaards Prize for Molecular Biology and Medicine (2006), as well as the MDC Research Prize (2001).

MORE

Joerg Huelsken

Lab web-site www.huelsken-lab.epfl.ch/

News feature „Krebsforschung: EPFL-Wissenschaftler gewinnt hochdotierten Preis“, Medinside, 2015: https://www.medinside.ch/de/post/krebsforschung-epfl-wissenschaftler-gewinnt-hochdotierten-preis

News feature “Stammzellen von Krebs“, Interpharma, 2015: www.newsroom.interpharma.ch/2015-11-13-stammzellen-von-krebs

News article “Making the paper: Joerg Huelsken”, Nature, 2008: www.nature.com/nature/journal/v452/n7187/full/7187xiiia.html

News feature “MDC Researchers Discover the Mechanism that Controls Stem Cells”, MDC, 2001: https://www.mdc-berlin.de/7124401/en/news/archive/2001/20010517-skin_and_hair

Seong Joo Koo

Postdoctoral Research Scientist

Bayer HealthCare, Berlin, Germany

Education

2008 – 2012	*Dr. rer. nat. in Biochemistry, Free University, Berlin, Germany, Advisor: Volker Haucke* *Thesis: role of endocytic adaptors in synaptic vesicle recycling*
2006 – 2008	*Master in Molecular Biology, International Max-Planck Research School, Göttingen, Germany, Advisor: Thomas Willnow* *Thesis: Elucidation of the role of LDL-related protein 2 (Megalin) in forebrain development*
2000 – 2006	*Bachelor of Life Science, Sogang University, Seoul, South Korea* *Internship at HTS, Schering, Berlin, Germany (Oct 2004 – Mar 2005)*

Research / Work Experience

since 2014	*Research Scientist* *Tumor metabolism and Chromatin, Bayer Pharma, Berlin* *Visiting scholar at Broad Institute, MA, USA (10/2014 – 11/2014)*
2013 – 2014	*Post-doc* *Chromatin Modulation and Oncogenomics, Bayer Pharma, Berlin*
2012 – 2013	*Post-doc* *FMP and Free University, Berlin, Germany*
2008 – 2012	*PhD candidate* *Department of Biochemistry, Free University, Berlin, Germany* *Visiting scholar at University of Edinburgh (10/2008)*
2007 – 2008	*Master student* *MDC for Molecular Medicine, Berlin, Germany*

Dr Seong Joo Koo leads the Networking Round-Table at the MDC Career Day 2016 (Copyright MDC/ Harry Schnitger)

Ulrike Kutay

Full Professor of Biochemistry

ETH Zurich (Swiss Federal Institute of Technology), Switzerland
Member of the Academia Europaea, Member of Leopoldina, German National Academy of Sciences

Since 2011	*Full Professor of Biochemistry, ETH Zurich, Switzerland*
2006 – 2010	*Associate Professor of Biochemistry, ETH Zurich, Switzerland*
1999 – 2005	*Assistant Professor, ETH Zurich, Switzerland*
1996 – 1999	*Postdoctoral Fellow, laboratory of Görlich, University of Heidelberg, Germany*
1995	*Ph.D. research, Harvard Medical School Boston, laboratory of Tom Rapoport, USA*
1992 – 1994	*Ph.D. research, laboratory of Tom Rapoport, MDC, Doctoral degree 'Summa cum laude' awarded by the Humboldt Universität zu Berlin, Germany*
1992	*Diplom in Biochemistry, Free University Berlin, Germany*

Ulrike Kutay's laboratory research is centred on the dynamic organization of the cell nucleus. She is studying nuclear transport pathways and the coordination of these nuclear transport events with the biogenesis of certain substrates, e.g. ribosomal subunits. Moreover, Ulrike's research addresses the molecular mechanisms underlying nuclear disassembly and re-assembly during cell division in higher eukaryotes. In particular they are interested in two different aspects of nuclear biology. First, she and her team study the dynamics of the nuclear envelope during cell division in higher eukaryotes. Their second focus is to understand the highly regulated and mechanistically unique processes responsible for the production of ribosomal subunits in higher eukaryotes. Pre-ribosomal subunits are produced in a nuclear subdomain, the nucleolus, involving a series of RNA-processing, RNA-modifying and protein assembly steps. Then, pre-ribosomal subunits are released from the nucleolus into the nucleoplasm, where they undergo further maturation and are finally exported to the cytoplasm to function in protein biosynthesis. Ulrike and her team are elucidating the role of trans-acting factors in the assembly pathway and study how nuclear and cytoplasmic maturation steps are coordinated.

Laboratory web-site:
www.bc.biol.ethz.ch/research/kutay.html

News feature "44-jährige ETH-Professorin gewinnt Millionen-Preis", Tagesanzeiger, 2010:
www.tagesanzeiger.ch/zuerich/region/44jaehrige-ETHProfessorin-gewinnt-MillionenPreis/story/10926489

Lianping Li

Professor and the Head for transgenic research group of the SYSU Center of Disease Model Animal

Faculty of Medical Biology, Zhongshan School of Medicine, Institute for Clinical and Translational Research, Sun Yat-Sen University (SYSU)

Dr. Li studied the clinical medicine at the Hengyang Medical School of Hunan Province (1977-1982, Bachelor degree) and tumor biology at the Cancer Institute of Sun Yat-sen University of Medicine (1985-1988, Master degree) and tumor immunology at the Blankenstein group (Molecular Immunology and Gene Therapy) of the Max Delbruck Center for Molecular Medicine (MDC) / Universitätsklinikum Medizinische Fakultät Charité, Humboldt-Universität zu Berlin (1994-2000, Medical Doctor). During 2000-2010, at the Molecular Immunology and Gene therapy of MDC Dr. Li and colleagues of Blankenstein's group successfully transferred huge human T cell receptor loci (800-1100 kb) to mice genome and generated and analyzed T cell receptor loci transgenic mice. From 2011 to 2015: back to SYSU and established his own research group, and set up transgenic center for SYSU. He successfully organized TT2013 international transgenic workshop in 2013 and Sino-German CANCER, VIRUSES AND IMMUNITY SYMPOSIUM: From basic research to translational medicine in May of 2014. Since the September of 2015, Li's group moved the Jinan University and set up the T cell research Center.

Research Fields: Cancer Immunotherapy, cancer immunology and genetically modified animal Model. Focus on clincal research of cancer T cell therapy such as TCR-T or CAR-T cell therapy and the generation of genetically modified animal Model with new technology such as dRMCE and TALEN, CRISPR/CAS9, et al.

MORE

University site www.zssom.sysu.edu.cn/eng/Item/302.aspx

Report on the "1st Sino-German Symposium on Cancer, Viruses and Immunity", 2015: www.sinogermanscience.org.cn/de/aktuelles/2014/201505/t20150505_10579.html

News feature "More Cancer-Fighting Power – Mouse with Highly Effective Components of the Human Immune System – Ten Years of Developmental Work by MDC and Charité Researchers", MDC News, 2010: https://www.mdc-berlin.de/34982086/en/news/archive/2010/20100806-more_cancer-fighting_power___mouse_with_hi

Lianping Li at the MDC Alumni Meeting, April 2015

(Copyright: MDC/ David Ausserhofer)

Liangping Li and his very special mouse

By Arwen Cross, March 2016

As a young scientist Liangping Li lost his mentor to cancer. From then on he had a clear aim: to find a way of treating cancer using the body's own immune system. At the MDC he took a big step towards that goal by establishing a mouse line sensitive to human tumour antigens.

Science always fascinated Liangping. As a boy he built an electric motor out of scrap materials including an old ballast resistor from a fluoro light. Such projects helped satisfy his curiosity when he was at school in China during the cultural revolution. His scientific career was made possible by political change in the late 1970s.

"I was lucky," says Liangping, "History gave me the chance to go to medical college". Although his first choice would have been to study physics, he was sure that he'd rather study medicine than become a farmer. Liangping began work as a pathologist and his mentor Professor Laiwei Dong encouraged him to do scientific research on tumours.

When Professor Dong died of cancer, Liangping became determined to find a way to combat the disease using the patient's own immune system. He wanted to join a lab working on cancer immunotherapy, "I was interested in molecular medicine which was a very new area of research in the early 1990s." The newly created MDC, which was founded in 1992, specialised in Liangping's area of interest. He contacted Professor Thomas Blankenstein and started his PhD in 1994.

Thomas remembers asking Lianping to stay on for a postdoc. "If you told a postdoc that their project would take eight years, and that they wouldn't get any papers until the project was complete, only special ones are interested," he says. "Liangping was that special postdoc and his project took ten years in the end."

Thomas discussed a new project with Liangping which aimed to develop a mouse with humanised T-cell receptors. This mouse would make it possible to create higher affinity T-cell receptors against human tumour antigens. T-cell receptors against specific human tumours would be raised in these mice and purified. Then T-cells from patients could be modified using the receptors and returned to the patient.

It was a long-term, high-risk project to create the line of mice. They needed to have a double knockout of the mouse T-cell receptor genes as well as being double transgenic for the human T-cell receptor genes. There were at least two companies competing to create a similar mouse, but Liangping and his colleagues were the first to succeed.

Liangping spoke at the MDC Alumni Talks and Career Pathways lecture series. Reflecting on his time at the MDC he says, "It's very international and I think that is part of the reason it is so successful." He decided to go back to China to speed up clinical trials of T-cell receptors for treating cancer. He is now a professor at Jinan University in Guangzhou. "We'll use international standards for the trials" Liangping explains, "and it is easy to get a cohort for a clinical

trial with such a large hospital connected to the university."

The move back to China was not without personal cost, since Liangping's two daughters have remained in Germany to study. He says it is not uncommon for scientists returning to China as professors to leave their families behind. Liangping misses his family, but he remains determined to achieve his goal of developing new cancer treatments.

Seeing his science progress from an idea to treating a patient is a long-term commitment for Liangping. He has spent his entire career working on cancer immunotherapy and hopes that before he retires he will see clinical success. "If I succeed in treating a patient, I will have achieved enough in my lifetime," he says.

Fittingly, Liangping's advice to young scientists is, "Be prepared to follow your dream, even if it takes all your life to realise it."

Yves Muller

Professor

Chair for Biotechnology, Department of Biology, Universität Erlangen-Nürnberg, Germany

In 1983 Yves Muller moved from Luxembourg to Freiburg to study chemistry at the Albert-Ludwig-University. His stay in Freiburg was extended by a Ph. D. in the group of Prof. Georg Schulz at the same university where he worked on the crystal structure elucidation of the thiamine pyrophosphate-dependent enzyme pyruvate oxidase. After receiving his Ph. D., he moved to Genetech Inc. in San Francisco (USA) as a postdoctoral fellow where he was involved in structural studies on proteins with biomedical relevance such as tissue factor and vascular endothelial growth factor. In 1996 he joined the group of Udo Heinemann at the MDC as a research assistant and started work on an independent research program that subsequently enabled him to attract multiple funding from the DFG (German Research Foundation). After finishing a habilitation in Biochemistry at Freie Universität Berlin he was first appointed a reader at University of Sussex in Brighton (UK) in 2001, before becoming a full professor at Friedrich-Alexander-University Erlangen-Nuremberg in 2003.

His major research interests still revolve around the elucidation of the structural determinants that rule the molecular function of biological macromolecules with an increasing interest in the mechanisms of host-pathogen interactions and protein design.

MORE

JBC **podcast** for an example of recent work from Yves Muller lab: https://soundcloud.com/asbmb/crystal-structure-of-hcmv-core-nuclear-egress-complex

Crystal clear advice for postdocs

By Arwen Cross, March 2016

“Ideally as a postdoc you should aim to publish as last as well as first author and gather experience writing grants,” says Professor Yves Muller. The crystallographer emphasises that postdocs aiming to become research group leaders need to enjoy independence and be ready to follow their own ideas.

Independent scientific thinking was a key theme in the advice Yves provided to postdocs at the MDC Alumni Talks and Career Pathways lecture series. His own move to the MDC in 1996 was part of a conscious plan to gain the research independence necessary to become a group leader.

Yves joined Professor Udo Heinemann's group, which provided a perfect environment to develop his European network and complete his habilitation through the FU Berlin. From 1996-2001 he worked on a variety of projects, exchanging knowledge of x-ray crystallography and structural biology with his colleagues.

Blood plasma transport proteins were the focus of Yves main project which he brought with him from his first postdoc. These proteins carry molecules that are too insoluble to move around the blood on their own. The globulin family of proteins make up a significant proportion of plasma proteins and include important drug targets. When Yves started work on one class of plasma globulins there was no structural information about them.

Yves' goal was to get a crystal structure of sex hormone-binding globulin (SHBG) which carries sex steroids like oestrogen or testosterone in blood. Getting the first structural information on a new family of proteins is exciting and since the globulins are drug targets the structures can help design pharmaceuticals that modulate their function.

Yves began his research on plasma proteins as a postdoc at Genentech Inc. in San Francisco. The biotech company allowed staff to publish in academic journals, which Yves says is very important, "Secretive companies that won't allow staff to publish are deadly to academic careers."

Rick Scavetta

Co-founder

Science Craft, Berlin, Germany

Rick Scavetta is from Toronto, Canada. After obtaining his B.Sc. (Toronto) and M.Sc. (Calgary), he moved to Germany for his Ph.D. at the University of Cologne, in collaboration with the MPI for Evolutionary Biology. During his academic career, Rick has always been engaged in student leadership, actively promoting the personal and professional development of his peers. Rick began his transition out of the laboratory while working as a post-doc in the Mass Spectrometry Core Facility of the MDC. The demands of this position helped Rick to develop his professional skills in three key areas. First, to communicate problems and solutions effectively; second, to expand on his data analysis skills; and third, to develop his teaching skills. As a co-founder of Science Craft, a company dedicated to training Life Scientists, Rick combines his infectious enthusiasm for science and its communication with a unique ability to inspire life scientists in their career development.

Rick Scavetta speaks at the panel discussion, MDC Career Day 2013

Maliha Shah

Postdoctoral Researcher

Piramal Imaging, Berlin, Germany

Maliha comes from Mumbai, India, and completed her Bachelor‘s in Neuroscience (with Honors) & Master‘s in Biotechnology, both from the University of Pennsylvania, USA, in 2006. She wor- ked at SRL Ranbaxy Clinical Reference Laboratories (Mumbai), Actis Biologics Pvt. Ltd. (Mumbai), and simultaneously obtained a Post-Graduate Diploma in Clinical Research (ICRI), before commencing with her PhD in Parkinson’s disease at MDC in 2008. 4 years later, she entered Science Management as Coordinator of a DFG-funded International PhD Program & developed ties with the Indian Embassy. In 2013, she started at her current po- sition, spearheading a R & D project in Neuroradioimaging at Piramal, before defending with summa cum laude last year. All in all she has 11 years of scientific experience, comprising 3 publica- tions, 13 conferences & a home-base on 3 continents. Aside from science, she has completed several business courses online, speaks 6 languages, has travelled to 40 countries and is an amateur triathlete.

Maliha Shah leads the Networking Round-Table at the MDC Career Day 2015
(Copyright MDC/Michele Caliari)

Deimantė Šimaitė

Postdoctoral Researcher

Sanofi-Aventis Deutschland GmbH, Frankfurt am Main, Germany

Research Experience

Since 2015	*Postdoc at Sanofi-Aventis Deutschland GmbH, Frankfurt am Main, Germany*
2010 – 2015	*PhD project at Max-Delbrück Center for Molecular Medicine Berlin (Prof. Norbert Hübner) and Experimental and Clinical Research Center (Dr. Klemens Raile), Berlin, Germany*
2009 – 2010	*Erasmus internship and Master project at Biotechnology Center TU Dresden (Dr. Denis Corbeil), Dresden, Germany*
2009	*Erasmus internship at Center for Regenerative Therapies (Prof. Karsten Kretschmer), Dresden, Germany*
2006 – 2008	*Internships and Bachelor project at Institute of Biotechnology (Prof. Kęstutis Sasnauskas), Vilnius, Lithuania*

Education

2011 – 2015	*PhD with Honors in Molecular Biology, Humboldt University of Berlin, Germany*
2008 – 2010	*Master with Honors in Biochemistry, Vilnius University, Lithuania*
2009 – 2010	*Erasmus studies at Dresden University of Technology, Germany*
2004 – 2008	*Bachelor with Honors in Biochemistry at Vilnius University, Lithuania*

Awards / Fellowships

Jürgen Bierich Prize of German Society for Paediatric Endocrinology and Diabetology Forum Wachsen, ESPE and Welcome Trust Travel Grants Scholarships for Erasmus Studies and Placement

Dr Deimantė Šimaitė leads the Networking Round-Table at the MDC Career Day 2016 (Copyright MDC/ Harry Schnitger)

Yoshiaki Sunami

Research Group Leader

Klinikum Rechts der Isar, TU Munich, Germany

Since 2013	*Research Group Leader, Klinikum Rechts der Isar, Technical University of Munich, Munich, Germany*
2007 – 2012	*Postdoctoral Scientist, University of Ulm, Germany*
2006	*PhD degree, Louis Pasteur University, Strasbourg, France*
2002 – 2007	*PhD studies in the laboratory of Prof. Claus Scheidereit, MDC, Berlin-Buch, Germany, IGBMC, Strasbourg, France and the Louis Pasteur University, Strasbourg, France*
2001 – 2002	*Research training, IGBMC, Strasbourg, France*
2000 – 2001	*BSc. in Chemistry, Tokyo University of Science, Tokyo, Japan*

Yoshiaki Sunami joined the MDC in 2002 convinced by the very interesting projects and very nice colleagues. He worked on his doctoral thesis under the supervision of Prof. Claus Schedereit at the MDC, as well as Prof. Uwe Strähle and Dr Làszlò Tora at the IGBMC in Strasbourg.

Yoshiaki Sunami at the MDC Alumni Meeting, December 2012
(Copyright: MDC/ David Ausserhofer)

Lab website: www.chir.med.tum.de/personal/sunami

Hakan Toka

Assistant Professor

Division of Nephrology and Hypertension, Eastern Virginia Medical School, Norfolk, Virginia, USA

Since 2014	*Assistant Professor, Division of Nephrology and Hypertension at Eastern Virginia Medical School, USA*
2011 – 2014	*Research Scientist, Department of Nephrology, Harvard Medical School, Boston, USA*
Since 2010	*Instructor in Medicine, Harvard Medical School, Boston, USA*
Since 2008	*Associate physician, Department of Nephrology, Brigham and Women's Hospital and Harvard Medical School, Boston, USA*
2008 – 2011	*Renal research fellowship, Harvard Medical School, Boston, USA*
2007 – 2008	*Renal fellow training, Massachusetts General Hospital /Brigham and Women's Hospital joint Nephrology fellowship program, Boston, USA*
2004 – 2007	*Residency, Internal Medicine, Univeristy of Massachusetts, Worcester, USA*
2000 – 2004	*Postdoctoral fellowship, Department of Genetics, Yale University, New Haven, USA*
1994 – 2000	*Doctoral studies in the laboratory of Prof. Friedrich Luft, MDC, Berlin-Buch, Germany*
1990 – 1997	*Studies in Medicine at the Ludwig-Maximilans University, Munich, Germany and the Charité – Universitätsmedizin Berlin, Humboldt University, Berlin, Germany*

Hakan joined the MDC as an M.D./Ph.D. student in the laboratory of Prof. Friedrich Luft. After receiving his M.D./Ph.D. degree, he decided to continue working as a postdoctoral fellow at Yale University (USA). He also continued his clinical training, and worked as a researcher at Harvard Medical School. Since 2014 he is Assistant Professor at the Eastern Virginia Medical School (USA). He considers that his research at the MDC laid the foundation for his current career as a physician-scientist. Hakan has many wonderful memories from his 6-year long stay at the MDC, especially from the three years he lived in the guest house.

MORE

Hakan Toka

Article “Forscher finden Gen, das den Blutdruck drastisch erhöht”, Tagesspiegel, 2015: www.tagesspiegel.de/wissen/seltener-gendefekt-forscher-finden-gen-das-den-blutdruck-drastisch-erhoeht/11778106.html

New feature „The Case of the Short-fingered Musketeer” by Russ Hodge, MDC Insights, 2015 (and the book, published in 2013): https://insights.mdc-berlin.de/en/2015/05/the-case-of-the-short-fingered-musketeer-2/

Alexei Verkhratsky

Full Professor

Member of the Academia Europaea, Member of Leopoldina, German National Academy of Sciences

Since 2002	*Professor of Neurophysiology, Faculty of Life Sciences, The University of Manchester, Manchester, UK*
2002 – 2004	*Chairman of the Division of Neuroscience, School of Biological Sciences, The University of Manchester, Manchester, UK*
2001 – 2002	*Reader in Neurophysiology, School of Biological Sciences, The University of Manchester, Manchester, UK*
1999 – 2001	*Senior Lecturer, School of Biological Sciences, The University of Manchester, Manchester, UK*
1995 – 1999	*Senior Research Scientist, laboratory of Helmut Kettenmann, MDC, Berlin, Germany*
1993 – 1995	*Head of the Research Group of Cellular Neuroscience, Bogomoletz Institute of Physiology, Kyiv, Ukraine*
1993	*Guest Scientist, laboratory of Helmut Kettenmann, MDC, Berlin, Germany*
1992 – 1995	*Deputy director of the International Center of Molecular Physiology of the Ukrainian National Academy of Sciences*
1992	*Guest Scientist at the Research Group of Cellular Neurophysiology, Max Planck Institute for Biophysical Chemistry, Göttingen, Germany*
1990 – 1993	*Senior Research Scientist, Department of General Physiology of the Nervous System, Bogomoletz Institute of Physiology, Kyiv, Ukraine*
1989 – 1990	*Research Scientist, Institute of Neurobiology, Heidelberg University, Germany*
1986 – 1989	*Junior Research Scientist, Department of General Physiology of the Nervous System, Bogomoletz Institute of Physiology, Kyiv, Ukraine*

Alexei Verkhratsky is an internationally recognised scholar in the field of cellular neurophysiology. His research is concentrated on the mechanisms of inter- and intracellular signalling in the CNS, being especially focused on two main types of neural cells, on neurones and neuroglia. He made important contributions to understanding the chemical and electrical transmission in reciprocal neuronal-glial communications and on the role of intracellular Ca^{2+} signals in the integrative processes in the nervous system. Many of Alexei's studies are dedicated to investigations of cellular mechanisms of neurodegeneration. Alexei was the first to perform intracellular Ca^{2+} recordings in old neurones in isolation and in situ, which provided direct experimental support for "Ca^{2+} hypothesis of neuronal ageing". In recent years he studies the glial pathology in Alzheimer disease. He authored a pioneering hypothesis of astroglial atrophy as a mechanism of neurodegeneration.

MORE

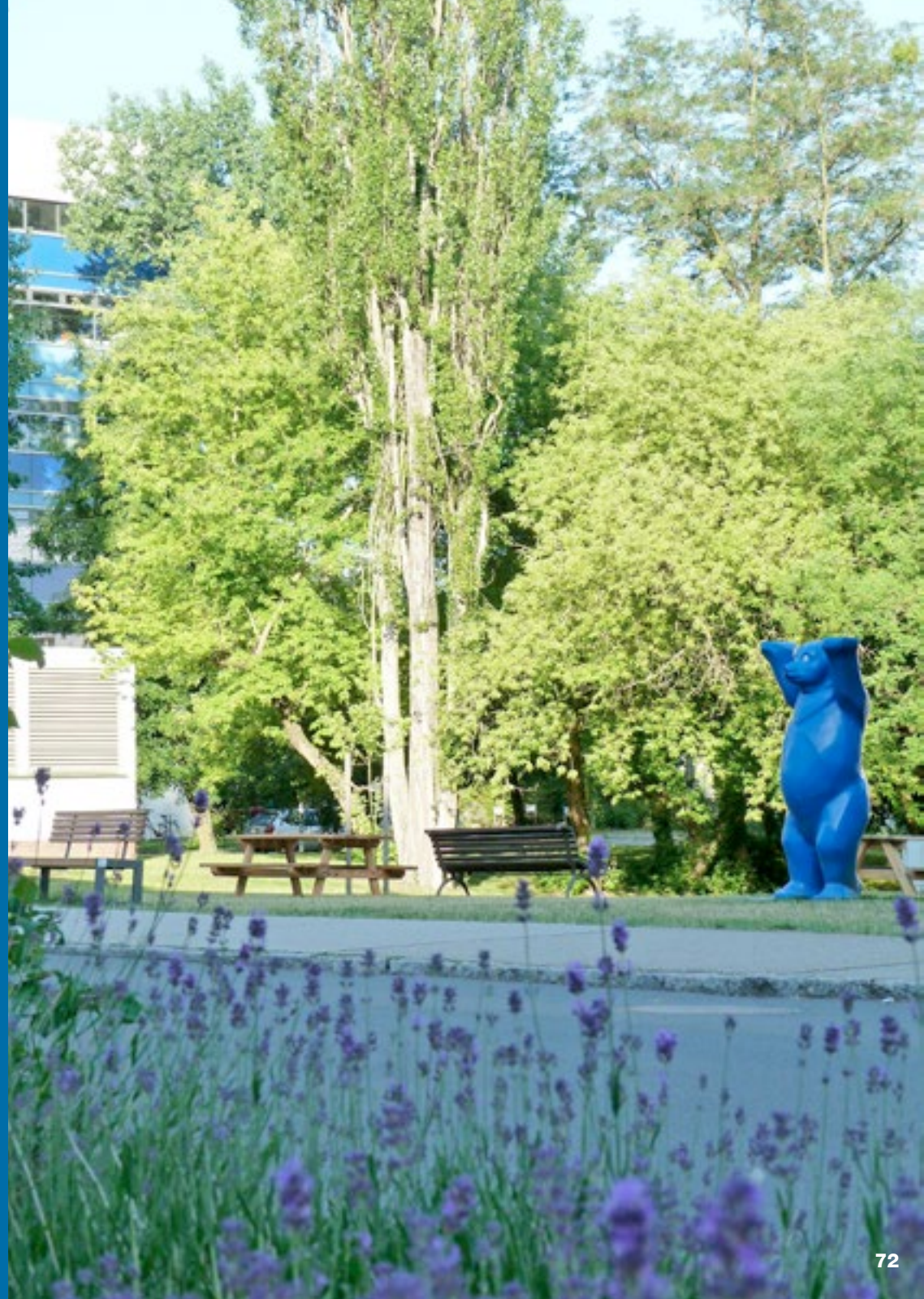
Video lecture “Where the thoughts dwell: Physiology of neuronal glial networks”, 2010: http://videolectures.net/alexej_verkhratsky/

Alexei Verkhratsky is among 30 top-cited European scientists in the field of “Basic Neurosciences”, Publication Analysis 2007-2013 by Kathleen Gransalke, Labtimes 01/2016: www.labtimes.org/labtimes/ranking/2016_01/index2.lasso

My Road to the MDC

My road to the MDC begun in Heidelberg in 1989, when Helmut Kettenmann invited me to work on glial cells in his laboratory at the University campus in Neuenheimer Feld.

This changed my scientific life and defined my future career: my PhD was in cardiac physiology, and after coming to Heidelberg I became a neurogliologist. This was a singular luck, because Helmut in those remote days was one of the very few researchers studying neuroglia. His impact on these studies was critical and long-lasting; in short, he created the neuroglial community of Europe. My collaboration with Helmut flourished and in 1995 I moved to Berlin, when Helmut became the head of the division of neuroscience at the MDC. Next five years were exciting and led to many conceptual advances; one to remember was an introduction of the concept of calcium excitability of neuroglia that we formalised in a paper in Physiological Reviews1 (written with the late Dick Orkand, who was brilliant scientist and close friend). I left Berlin in 1999 to take up a faculty position at Manchester University, UK, but close connections remained. In 2011 we published another conceptual paper in Physiological Reviews2 (together with Mami Noda and Use Karsten Hanish. This review became the most sited paper published in the last 5 years in this journal. We continue to collaborate and it is always a pleasure to see the MDC campus and meet old friends. It was my special honour to deliver the first lecture of the Alumni Talk Series in March 2016, and I continue to look forward for new meetings and further exciting developments in neurogliobiology at the MDC.



Lena Wartosh

Research Fellow and Research Associate

Cambridge Institute for Medical Research, Cambridge, UK

Since 2010	*Postdoctoral Fellow/ Research Associate, Cambridge Institute for Medical Research, Cambridge, UK*
Since 2011	*College Research Associate at Jesus College Cambridge, UK*
Since 2011	*EMBO Long-Term Postdoctoral Fellowship*
2010 – 2011	*FEBS Long-Term Postdoctoral Fellowship*
2003 – 2010	*PhD training and postdoctoral fellow in the laboratory of Prof. Thomas Jentsch, Centre of Molecular Neurobiology Hamburg and MDC/FMP, Berlin-Buch, Germany*
2004 – 2006	*Boehringer Ingelheim Fonds (PhD fellowship)*
2001 – 2003	*Studienstiftung des deutschen Volkes*

Lena Wartosch came to the MDC and FMP when the group of Prof. Thomas Jentsch moved to Berlin from the ZMNH in Hamburg. She considers choosing the right group for her PhD was crucial for the advancement of her career. Working in a multidisciplinary group, leading in its field, was fun and shaped her understanding of science. It also opened up many doors when applying for postdoc positions and fellowships, not last due to the publications she obtained from her results. Lena joined CIMR as an EMBO and FEBS Long-Term fellow. Her main research interest focuses on the lysosome. Lena currently investigates the molecular machinery that regulates the fusion of endosomes (membrane-enclosed vesicles which the cell uses to pick up material from its surroundings) with lysosomes. In her free time Lena enjoys the outdoors, travelling, riding Icelandic horses, and spending time with her two daughters.

MORE

Video highlight “Traffic study of lysosome fusion control”, The CIMR, 2015: https://youtu.be/4CKjK8XowpY

"Belonging to both the MDC and the FMP, I had easy access to all the resources and collaborations that Ineeded to successfully finish my PhD research."

Lena Wartosch

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