

**Press release****DFG-Forschungszentrum für Regenerative Therapien TU Dresden****Franziska Clauß**

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<http://idw-online.de/en/news664501>Organisational matters, Personnel announcements  
Biology, Chemistry, Medicine, Nutrition / healthcare / nursing  
transregional, national**Dr. Olaf Bergmann supports neurodegeneration research at the CRTD**

**Dynamics and mechanisms of cell renewal: Dr. Olaf Bergmann supports neurodegeneration research at the CRTD** On November 1st 2016, Dr. Olaf Bergmann started as a research group leader at the DFG-Center for Regenerative Therapies Dresden (CRTD) - Cluster of Excellence at the TU Dresden. Dr. Bergmann focuses on organ systems that show a low level of regenerative capacity, such as the human brain and heart. With his research group at the CRTD, he wants to identify new mechanisms of cell renewal in these organs.

Dresden. Dr. Olaf Bergmann, who started at the CRTD in November, is investigating the dynamics and mechanisms of cell renewal. The physician, who was awarded the prestigious Ragnar-Söderberg research prize, is looking forward to his work at the CRTD after many years of working abroad: "Thanks to new methods, major advances have been achieved in the field of cell turnover characterization in the human body during the last years. With the help of the radio carbon method, we discovered that both within the brain and the heart (two organs that were classified as non renewable) new functional cells can be generated. At the CRTD, we will now try to identify the signaling pathways that are responsible for cell regeneration, before making therapeutic use of this", says Olaf Bergmann. Bergmann and his research team, among other approaches, will use animal models that enable better identification of dividing cells.

"With Olaf Bergmann we garner an excellent researcher who wants to establish innovative techniques to answer key questions of regenerative medicine here at the CRTD", says Prof. Ezio Bonifacio, Director of the CRTD.

An improved understanding of cell turnover could give completely new insights into the causes and treatments of illnesses. Therefore, the objective of the Bergmann group is to identify the mechanisms and dynamics of cell renewal. "Our studies will form the basis for therapeutic strategies that will help damaged organs with their self-healing, the healing from within", states Olaf Bergmann.

Olaf Bergmann is from Germany and obtained his doctoral degree (Dr. med.) at the Charité in Berlin, in 2006. He obtained a PhD in Cell and Molecular Biology at the Karolinska Institutet, Stockholm, Sweden in 2010. From 2011 to 2012 he worked as Research Assistant at Lund University in Sweden, before becoming an Assistant Professor at Karolinska Institutet (a position he is still holding). Olaf Bergmann began working as a research group leader at the CRTD in November 2016.

Research group on the CRTD website

<http://www.crt-dresden.de/research/research-groups/core-groups/crt-d-core-groups/dynamics-and-mechanisms-of-cell-renewal/>

## Publications

Bergmann O, Braun T. Caught Red-Handed: Cycling Cardiomyocytes. *Circ Res*. 2016 Jan 8;118(1):3-5. doi: 10.1161/CIRCRESAHA.115.307936. PubMed PMID: 26837736.

Alkass K, Panula J, Westman M, Wu TD, Guerquin-Kern JL, Bergmann O. No Evidence for Cardiomyocyte Number Expansion in Preadolescent Mice. *Cell*. 2015 Nov 5;163(4):1026-36. doi: 10.1016/j.cell.2015.10.035. PubMed PMID: 26544945.

Bergmann O, Zdunek S, Felker A, Salehpour M, Alkass K, Bernard S, Sjöström SL, Szewczykowska M, Jackowska T, Dos Remedios C, Malm T, Andrä M, Jashari R, Nyengaard JR, Possnert G, Jovinge S, Druid H, Frisén J. Dynamics of Cell Generation and Turnover in the Human Heart. *Cell*. 2015 Jun 18;161(7):1566-75. doi: 10.1016/j.cell.2015.05.026. Epub 2015 Jun 11. PubMed PMID: 26073943.

Bergmann O, Jovinge S. Cardiac regeneration in vivo: mending the heart from within? *Stem Cell Res*. 2014 Nov;13(3 Pt B):523-31. doi: 10.1016/j.scr.2014.07.002. Epub 2014 Jul 16. Review. PubMed PMID: 25108891.

Spalding KL, Bergmann O, Alkass K, Bernard S, Salehpour M, Huttner HB, Boström E, Westerlund I, Vial C, Buchholz BA, Possnert G, Mash DC, Druid H, Frisén J. Dynamics of hippocampal neurogenesis in adult humans. *Cell*. 2013 Jun 6;153(6):1219-27. doi: 10.1016/j.cell.2013.05.002. PubMed PMID: 23746839; PubMed Central PMCID: PMC4394608.

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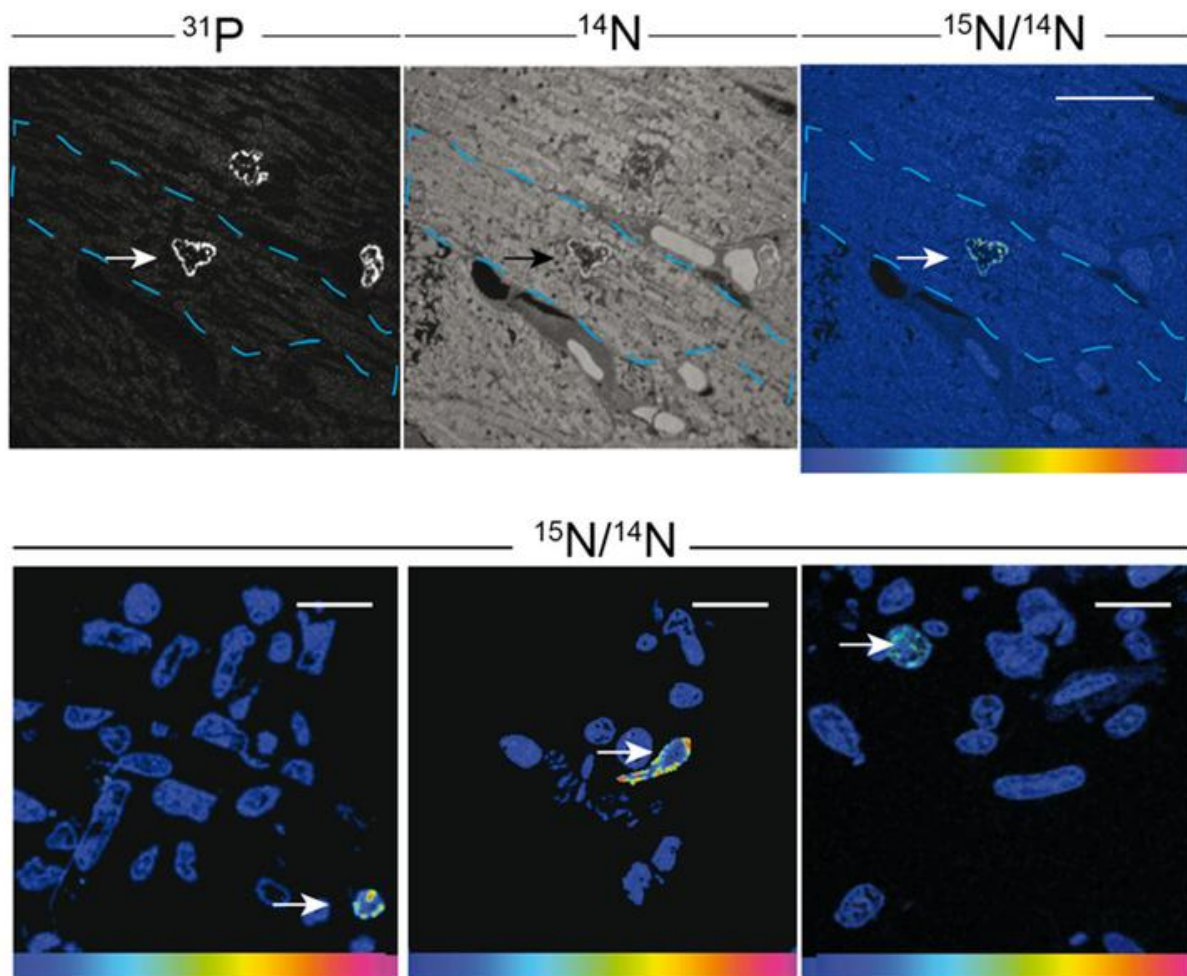
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Founded in 2006, the DFG Research Center for Regenerative Therapies Dresden (CRTD), Cluster of Excellence at the TU Dresden has now passed the second phase of the Excellence Initiative which aims to promote top-level research and improve the quality of German universities and research institutions. The goal of the CRTD is to explore the human body's regenerative potential and to develop completely new, regenerative therapies for hitherto incurable diseases. The key areas of research include haematology and immunology, diabetes, neurodegenerative diseases, and bone regeneration. At present, eight professors and ten group leaders are working at the CRTD – integrated into an interdisciplinary network of 87 members at seven different institutions within Dresden. In addition, 21 partners from industry are supporting the network. The synergies in the network allow for a fast translation of results from basic research to clinical applications. [www.crt-dresden.de](http://www.crt-dresden.de)



Dr. Olaf Bergmann  
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Cell cycle activity of heart muscle cells detected through the incorporation of stable isotopes ( $^{15}\text{N}$  Thymidin) within the DNA. (adapted from Alkass et. Al. 2015, Cell).  
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