Curriculum vitae

Name: Frank Bradke
Nationality: German
Address: German Center for Neurodegenerative Diseases (DZNE)
Axonal Growth and Regeneration
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Education

1994: B.Sc. in Anatomy and Developmental Biology, University College London
1995: Diploma in Biochemistry, Freie Universität Berlin
1999: Dr. rer. Nat., Biology, Ruprecht-Karls-Universität
2009: Habilitation, Neurobiology, Ludwig-Maximilians-Universität München

Professional experience

1995 - 1999: Ph.D. student, Cell Biology Program, EMBL, at the Ruprecht-Karls-Universität, Heidelberg. (with Dr. C. Dotti)
2000 - 2002: Post-Doctoral research associate, University of California, San Francisco & Stanford University (both HHMI) with Prof. Dr. M. Tessier-Lavigne (HFSP & EMBO Fellow)
2003 - 2011: Independent Junior Research Group Leader at Associate Professor level (C3), Max-Planck Institute for Neurobiology, Martinsried, Germany
2011 - to date: Full Professor level (W3) at the University of Bonn, Germany and Senior Research Group Leader for Axonal Growth and Regeneration at DZNE Bonn, Germany

Awards and Honors

2000: Long-Term Fellowship, EMBO, Heidelberg
2001: Long-Term Fellowship, Human Frontier Science Program, Strasbourg
2003: Carrer Development Award, Human Frontier Science Program, Strasbourg
2007: Selected Top 100 heads of tomorrow, Initiative of the Government of Germany
2011: Full Professorship (W3) in Cellular and Molecular Neurobiology, University of Bonn
2011: IRP-Schellenberg Prize
2013: Elected EMBO member
2014: Elected Leopoldina member, the German National Academy of Sciences
2016: Gottfried Wilhelm Leibniz-Prize

Five relevant publications

1. Ruschel J, Hellal F, Flynn KC, Dupraz S, Elliott DA, Tedeschi A, Bates M, Sliwinski C, Brook G, Dobrindt K, Peitz M, Brüstle O, Norenberg MD, Blesch A, Weidner N, Bunge MB, Bixby JL, Bradke F. (2015) Axonal regeneration. Systemic administration of epothilone B promotes axon regeneration after spinal cord injury. *Science*, 348(6232): 347-352.
2. Flynn KC, Hellal F, Neukirchen D, Jacobs S, Tahirovic S, Dupraz S, Stern S, Garvalov BK, Gurniak C, Shaw A, Meyn L, Wedlich-Söldner R, Bamburg JR, Small JV, Witke W, Bradke F. (2012). ADF/cofilinmediated Actin Retrograde Flow Directs Neurite Formation in the Developing Brain. *Neuron*, 76: 1091-107.
3. Ertürk A, Mauch CP, Hellal F, Förstner F, Keck T, Becker K, Jährling N, Steffens H, Richter M, Hübener M, Kramer E, Kirchhoff F, Dodt HU, Bradke F. (2011) 3D imaging of the unsectioned adult spinal cord to assess axon regeneration and glial responses after injury. *Nature Medicine*, 18: 166-171.
4. Hellal F, Hurtado A, Ruschel J, Flynn KC, Laskowski CJ, Umlauf M, Kapitein LC, Strikis D, Lemmon V, Bixby J, Hoogenraad CC, Bradke F. (2011). Microtubule Stabilization Reduces Scarring and Causes Axon Regeneration After Spinal Cord Injury. *Science*, 331: 928-31.
5. Stiess M, Maghelli M, Kapitein L, Gomis-Rüth S, Wilsch-Bräuninger M, Hoogenraad CC, Tolic-Nørrelykke IM, Bradke F. (2010) Axon extension occurs independently of centrosomal microtubule nucleation. *Science*, 327: 704-707.

Frank Bradke studied Biochemistry, Anatomy and Developmental Biology at the Freie Universität Berlin and the University College London. In 1994, he received a B.Sc. degree in Anatomy and Developmental Biology and in 1995 a degree in Biochemistry. During his thesis, he conducted research at the EMBL, Heidelberg. In 1999, he earned his PhD from the Ruprecht-Karls-Universität Heidelberg. Thereafter, in 2000, as a postdoctoral fellow he moved to Prof. Marc Tessier-Lavigne's laboratory at the University of California, San Francisco and Stanford. Then, in 2003, he became a Max Planck Institute Research Group Leader at the MPI of Neurobiology, Martinsried. In 2009, Frank Bradke habilitated in Neurobiology at the Ludwig Maximilians-University Munich. In 2011 he received the IRP-Schellenberg-Prize and became full professor at the University of Bonn and Senior Research Groupleader for Axonal Growth and Regeneration at the German Center for Neurodegenerative Diseases (DZNE) in Bonn. In 2013 Frank Bradke was elected to the European science organization EMBO. In 2014, he was elected a member of the Leopoldina, the German National Academy of Sciences. In 2016, Frank Bradke received the Gottfried Wilhelm Leibniz-Prize, the most important research prize in Germany.

Received scholarships and awards at a glance:

- Studienstiftung des deutschen Volkes (1992-1995)
- EMBO long-term fellow (2000)
- HFSP (Human Frontier Science Program long term fellow (2001-2002)
- CDA award from HFSP (2003)
- Selected Top 100 heads of tomorrow (2007)
- IRP-Schellenberg Prize (2011)
- elected EMBO member (2013)
- elected Leopoldina member, the German National Academy of Sciences (2014)
- Gottfried Wilhelm Leibniz-Prize (2016)

LAB DESCRIPTION

Research in the Bradke lab focuses on how nerve cells grow during development and how these processes can be reactivated to induce nerve regeneration in the injured spinal cord.

His laboratory has a special interest in the skeleton of the cell, called the cytoskeleton.
Bradke and his coworkers showed that manipulation of the cytoskeleton with low doses of anticancer drugs leads to regrowth of nerves and reduction of scarring.

His lab also developed a novel imaging technique that enables visualization of nerves at microscopic resolution within whole tissue.