

Prof. Dr. Frank Bradke
Full Professor and Senior Research Group Leader

Institutional address:

DZNE e. V. Bonn
Axonal Growth and Regeneration
Sigmund-Freud-Strasse, Nr. 27
53127, Bonn, Germany

Email: frank.bradke@dzne.de

Overview: Summary including short C.V.

- 1. Full C.V.**
- 2. List of Publications**

Summary and short C.V.

Name: Frank Bradke (date of birth 16 October, 1969)

Present position: Senior Research Group Leader at the German Center for Neurodegenerative Diseases (DZNE) and Full Professor (W3) at the Rheinische Friedrich-Wilhelms-Universität Bonn, Germany

Education and academic career: Studies of Biochemistry, Anatomy and Developmental Biology in Berlin (FU) and London (UCL) (1989-95); Diploma (Biochemistry, FU, Berlin 1995); B.Sc. (Anatomy and Developmental Biology, UCL, London, 1995); Ph.D. in Biology (EMBL, Heidelberg, 1999); Postdoc at University of California, San Francisco (UCSF) & Stanford University (2000-2002); Habilitation in Neurobiology (2009); Head of an Independent Junior Research Group at the Max-Planck-Institute of Neurobiology, Martinsried (2003-2011); Certified Manager, St. Gallen, Helmholtz Management Academy (2011-2013); Head of a Senior Research Group at the DZNE and Full Professor (W3) at the Rheinische Friedrich-Wilhelms-Universität Bonn (2011-present); Topic Coordinator (Molecular Signaling) at the Helmholtz Research Programme of Diseases of the Nervous System (2013-present).

Scholarships and awards: German National Academic Foundation (1992-1995); EMBO long-term fellowship (2000); HFSP long-term fellowship (2001-2002); CDA award from HFSP (2003); selected Top 100 heads of tomorrow (2007); offered a Full Professorship in Cellular and Molecular Neurobiology (W3) at the Charité, Berlin - declined (2010); offered a Full Professorship in Zoology (W3) at the University of Ulm - declined (2011); offered a Professorship (W3) in Developmental Biology at the University of Heidelberg - declined (2011); Schellenberg-Prize (2011); EMBO member (2013); offered a Full Professorship in Cellular and Neurobiology at the ETH, Zurich - declined (2014); Member of the Leopoldina, the German Academy of Sciences (2014); Gottfried Wilhelm Leibniz-Prize-2016, the highest prize for Science in Germany (2016); Member of Academia Europaea (2018); Roger de Spoelberch Prize (2018).

Research Area: Mechanisms of neuronal polarization and axonal regeneration.

Approaches:

- Cell biological approaches to locally and reversibly manipulate neurons
- molecular biology (RNA interference, viral vectors)
- mouse genetics
- confocal and live cell imaging, *in vivo* imaging
- cytoskeletal dynamics, transcriptome analysis
- spinal cord injury models, whole tissue imaging

Third-Party Funding: > 6.000.000 € total since 2004

Recent key publications:

- Tedeschi A, Dupraz S, Laskowski C, Xue J, Ulas T, Beyer M, Schultze J, **Bradke F** (2016). The Calcium Channel Subunit Alpha2delta2 Suppresses Axon Regeneration in the Adult CNS. *Neuron* 92: 419–434
- 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). Systemic administration of epothilone B promotes axon regeneration and functional recovery. *Science* 348: 347-352.
- 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, Bamberg JR, Small JV, Witke W, **Bradke F** (2012). ADF/cofilin-mediated Actin Retrograde Flow Directs Neurite Formation in the Developing Brain. *Neuron* 76:1091-107.
- 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.
- 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.
- Neukirchen D, **Bradke F** (2011). Cytoplasmic Linker Proteins Regulate Neuronal Polarization through Microtubule and Growth Cone Dynamics. *J. Neurosci.* 31: 1528-38.
- Enes J, Langwieser N, Ruschel J, Carballosa-Gonzalez MM, Klug A, Traut MH, Ylera B, Tahirovic S, Hofmann F, Stein V, Moosmang S, Hentall ID, **Bradke F** (2010). Electrical activity suppresses axon growth through Cav1.2 channels in adult primary sensory neurons. *Current Biology* 20: 1154-64.
- Tahirovic T, Hellal F, Garvalov BK, Chrostek-Grashoff A, Brakebusch C, **Bradke F** (2010). Rac1 regulates neuronal polarization through the WAVE-complex. *J. Neurosci.* 30: 6930-43.
- Stiess M, Maghelli M, Kapitein L, Gomis-Rüth S, Wilsch-Bräuninger M, Hoogenraad CC, Tolić-Nørrelykke IM, **Bradke F** (2010). Axon extension occurs independently of centrosomal microtubule nucleation. *Science* 327: 704-707.

1. Full Curriculum Vitae - Prof. Dr. Frank Bradke

Personal Details

date of birth: 16 October, 1969
place of birth: Berlin
nationality: German
marital status: Married
current position: Senior Research Group Leader at DZNE and Full Professor (W3) in the Faculty of Molecular Biomedicine of the Rheinische Friedrich-Wilhelms-University Bonn, Germany

institutional address: German Center for Neurodegenerative Diseases (DZNE e.V.)
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Web: <https://www.dzne.de/en/research/research-areas/fundamental-research/research-groups/bradke/research-areasfocus/>

Education

Year	Degree	Subject	Institution
2013	Certified Manager	Management	Malik, St. Gallen, Helmholtz Management Academy
2009	Habilitation	Neurobiology	Ludwig-Maximilians-Universität, München
1999	Dr. rer. nat.	Biology	Ruprecht-Karls-Universität, Heidelberg
1995	Diplom	Biochemistry	Free University, Berlin
1995	B.Sc.	Anatomy and Developmental Biology	University College London, London

Academic Career

Year	Position	Institution
2013-present	Topic Coordinator	Molecular Signaling, Helmholtz Research Programme of Diseases of the Nervous System
April 2011-present	Senior Research Group Leader at Full Professor level (W3)	German Center for Neurodegenerative Diseases (DZNE), Bonn Rheinische Friedrich-Wilhelms-Universität, Bonn
2003-2011	Independent Junior Research Group Leader at Associate Professor level (C3)	Max-Planck Institute for Neurobiology, Martinsried
2000-2002	Postdoctoral Research Associate	University of California, San Francisco & Stanford University (both HHMI) with Prof. Dr. M. Tessier-Lavigne (HFSP & EMBO Fellow)
1995-1999	Ph.D. Student	Cell Biology Programme, EMBL, Heidelberg with Dr. C. Dotti

Awards

Year	Award	Institution
2018	Roger de Spoelberch Prize	Foundation Roger de Spoelberch
2018	Member	Academia Europaea
2016	Gottfried Wilhelm Leibniz-Prize	DFG - Deutsche Forschungsgemeinschaft
2014	Offered a Full Professorship in Cellular Neurobiology (declined)	Swiss Federal Institute of Technology Zurich (ETH Zurich)
2014	Member	Leopoldina, German National Academy of Sciences, Halle
2013	Member	EMBO, Heidelberg
2011	Full Professorship (W3) in Cellular and Molecular Neurobiology	University of Bonn

2011	Offered a Full Professorship (W3) in Developmental Biology (declined)	University of Heidelberg
2011	Offered a Full Professorship (W3) in Zoology (declined)	University of Ulm
2011	Schellenberg-Prize	IRP, Zurich
2010	Offered a Full Professorship (W3) in Cellular and Molecular Neurobiology (declined)	Charité, Berlin
2007	Selected Top 100 heads of tomorrow	Initiative of the Government of Germany
2003	Career Development Award	Human Frontier Science Program, Strasbourg
2001	Long-Term Fellowship	Human Frontier Science Program, Strasbourg
2000	Long-Term Fellowship	EMBO, Heidelberg
1992-1995	Scholarship	German National Academic Foundation, Bonn

Editorial Board:

Current Biology

Reviewer

a) Journals: *Cell, Science, Nature, Nature Neuroscience, Neuron, Developmental Cell, Nature Cell Biology, Nature Methods, Current Biology, Current Opinion in Neurobiology, Journal of Cell Biology, EMBO-Journal, EMBO-Reports, PNAS, PLoS Biology, Journal of Neuroscience, Journal of Cell Science, Nature Reviews Neuroscience, Molecular and Cellular Neuroscience, PLoS one, European Journal of Cell Biology, European Journal of Neuroscience, Journal of Biological Chemistry, Gene, Toxicological Sciences, Cell and Tissue Research.*

b) Funding agencies: *European Research Council (ERC), Deutsche Forschungsgemeinschaft (DFG), Medical Research Council (MRC), Association for International Cancer Research (AICR), Telethon (Italy), Wings for Life.*

Consultant

Novartis Venture Fund.

Talks at foreign institutions, plenary lectures, conferences (selection) during the last 10 years

EMBO Workshop, Weizmann Institute of Science, Ein Gedi, Israel	Dec	2018
NeuroRehab Consortium, Zurich, Switzerland	Nov	2018
7 th IMPRS-CMB Student Symposium, University Duisburg-Essen, Dortmund, Germany	Nov	2018
7 th CADD Symposium, Macquarie University, Sydney, Australia	Nov	2018
Satellite Symposium, Osaka University, Osaka, Japan	Sep	2018
CSHA Meeting 2018, Awaji, Japan	Sep	2018
LMB-IGBMC-Symposium, King's Collge, Cambridge, UK	Jul	2018
PhD Retreat DBM, University Basel, Basel, Switzerland	Jun	2018
Collaboration University of Hannover, Hannover, Germany	Jun	2018
EMBO Conference in Molecular Neurobiology, Crete, Greece	May	2018
Ringberg Meeting/Retreat, Max Planck Institute of Neurobiology, Munich, Germany	April	2018
Institute of Science and Technology Austria, Klosterneuburg, Austria	Feb	2018
Drexel University College of Medicine, Philadelphia, PA, USA	Feb	2018
VIB-KU Leuven Center for Brain & Disease Research, Leuven, Belgium	Jan	2018
International Symposium on Neural Regeneration, Asilomar, Pacific Grove, CA, USA	Nov	2017
Society for Neuroscience "Leibniz-Prize-Lecture", Washington DC, USA	Nov	2017
The Academy Colloquium "Cell biology of the axon", Amsterdam, Netherlands	Nov	2017
ERA-NET AxonRepair/Neuronal Control Consortium Meeting, Amsterdam, Netherlands	Sep	2017
CECAD Research Center - Excellent in Aging Research, Cologne, Germany	Jul	2017
European Cytoskeletal Forum Meeting, Helsinki, Finland	Jun	2017
Max-Planck-Institute for Biophysical Chemistry, Göttingen, Germany	Apr	2017
Christopher & Dana Reeve Foundation, Salk Institute, San Diego, CA, USA	Feb	2017

The Miami Project Cure Paralysis, Miami, FL, USA	Feb	2017
Neuroscience Colloquium Winter 2016/2017, Berlin, Germany	Feb	2017
Nagoya University, Nagoya, Japan	Jan	2017
The University of Tokyo, Tokyo, Japan	Jan	2017
RIKEN Brain Science Institute, Wako, Japan	Jan	2017
Keio University, Tokyo, Japan	Jan	2017
Waseda University, Tokyo, Japan	Jan	2017
iCeMS, Kyoto University, Kyoto, Japan	Jan	2017
IRIBHM Seminar - Universite Libre de Bruxelles (ULB), Brussels, Belgium	Jan	2017
IRP-Research Council Meeting, Zurich, Switzerland	Jan	2017
Pharma Block Sciences (Nanjing) Inc., Nanjing, China	Dec	2016
Stazione Zoologica Anton Dohrn, Napoli, Italy	Nov	2016
Utrecht University Science for Life Conference, The Netherlands	Nov	2016
Intrinsic Neuronal Control Meeting, Wolfson Centre, King's College, London, UK	Oct	2016
Translational SCI-NGO Meeting 2016, Kartause Ittingen, Switzerland	Sep	2016
6 th Molecular Mechanisms of Axon Degeneration Meeting, Bar Harbor, ME, USA	Sep	2016
Axon Guidance, Synapse Formation & Regeneration, Cold Spring Harbor, NY, USA	Sep	2016
Boston Children's Hospital, Folkman Auditorium, Boston, MA, USA	Sep	2016
2 nd DZNE PI's Retreat 2016, University Clinic Campus, Tübingen, Germany	Sep	2016
GRC - Neuronal Development, Salve Regina University, Newport, RI, USA	Jul	2016
GRC - Cell Biology of the Neuron, Waterville Valley, NH, USA	Jun	2016
50 th Anniversary Spinal Cord Injury Symposium, Heidelberg, Germany	Jun	2016
International Symposium at Collège de France, Paris, France	Jun	2016
Rhein-Main-Neuroscience Network, Goethe-University, Frankfurt, Germany	Jun	2016
Center for Neuroregeneration, University of Edinburgh, UK	May	2016
Instituto de Neurociencias UMH-CSIC, Alicante, Spain	Apr	2016
18 th International Neuroscience Winterconference 2016, Sölden, Austria	Apr	2016
IRB Barcelona - Institute for Research in Biomedicine, Barcelona, Spain	Mar	2016
Temasek Life Sciences Laboratory, Singapore	Feb	2016
Cell Biology 2015 "ASCB Annual Meeting", San Diego, USA	Dec	2015
Institute of Science and Technology Austria, Klosterneuburg, Austria	Sep	2015
NSAS Course on "Spinal Cord Injury", Brixen/Varna, Italy	Sep	2015
The 30 th ECF Conference 2015, Postojna, Slovenia	Aug	2015
Janelia Farm Conference, Ashburn, VA, USA	Jun	2015
35 th Blankenese Conference, Hamburg-Blankenese, Germany	May	2015
Wings for Life Meeting, Salzburg, Austria	May	2015
EMBO "Emerging Concepts of the Neuronal Cytoskeleton, Puerto Varas, Chile	Mar	2015
BRIC, Copenhagen, Denmark	Feb	2015
Symposium "Spinal Cord Injury, San Diego, CA, USA	Feb	2015
Ferdinando Memorial Lecture, Turino, Italy	Feb	2015
University of Manchester, Manchester, UK	Dec	2014
Friedrich-Miescher Institute, Basel, Switzerland	Nov	2014
INSERM, Paris, France	Nov	2014
EMBO-Meeting, Heidelberg, Germany	Oct	2014
Biology of Size, La Jolla, CA, USA	Oct	2014
16 th Spinal Research Network Meeting, London, UK	Sep	2014
ICORD Symposium, Vancouver, Canada	Jun	2014
Wings for Life Scientific Meeting, Salzburg, Austria	May	2014
34 th Blankenese Conference, Hamburg-Blankenese, Germany	May	2014
LCBSB - Luxembourg Centre for Systems Biomedicine, Luxembourg	Feb	2014
Neuroscience Institute Cavalieri Ottolenghi (NICO), Turin, Italy	Jan	2014
The American Society for Cell Biology, New Orleans, LA, USA	Dec	2013
Symposium "Images on the Spinal Cord", Warsaw, Poland	Nov	2013
Belgian Society of Cellular Biology and Development, Liège, Belgium	Oct	2013
British Society for Developmental Biology Meeting, Aberdeen, UK	Aug	2013
GRC Conference Motile & Contractile Systems, New London, CT, USA	Jul	2013
XI Meeting on Glial Cells in Health and Disease, Berlin, Germany	Jul	2013
Yale University, New Haven, CT, USA	Jun	2013
Karolinska University, Stockholm, Sweden	May	2013
11 th Meeting of the French Neuroscience Society, Lyon, France	May	2013
BNA Festival of Neuroscience, London, UK	Apr	2013
Keystone Symposium 2013, Tahoe City, CA, USA	Mar	2013
National Institute for Medical Research, London, UK	Nov	2012
Meeting on Cellular Mechanisms of Neurodegeneration, Eibsee, Germany	Nov	2012

Institute for Molecular & Cell Biology, Porto, Portugal	Oct	2012
Janelia Conference on Axon Degeneration, Asburn, VA, USA	Oct	2012
35 th Annual Meeting of the Japan Neuroscience Society, Nagoya, Japan	Sep	2012
8 th FENS FORUM OF NEUROSCIENCE, Barcelona, Spain	Jul	2012
AXREGEN Closing Seminar, Barcelona, Spain	Jul	2012
GRC - Cell Biology of the Neuron, Waterville, ME, USA	Jun	2012
9 th Annual World Congress for Brain Mapping, Toronto, Canada	Jun	2012
SFB Symposium 2012, Münster, Germany	May	2012
EMBO conference, Heidelberg, Germany	May	2012
MNI/Killam Seminar Series, Montreal, Canada	Mar	2012
CBMSO, Madrid, Spain	Apr	2012
National Hospital for Paraplegics Toledo, Spain	Apr	2012
2 nd FOR629 Symposium, Hannover, Germany	Feb	2012
Berlin Brain Days, Berlin, Germany	Dec	2011
Society for Neuroscience, Washington DC, USA	Nov	2011
Cold Spring Harbor Asia, Suzhou, China	Oct	2011
Leopoldina, Halle, Germany	Sep	2011
EMBO Meeting, Vienna, Austria	Sep	2011
International Spinal Research Trust, London, UK	Sep	2011
International Society of Neurochemistry, Athens, Greece	Sep	2011
IBRO Meeting, Florence, Italy	Jul	2011
Deutsche Gesellschaft für Zellbiologie, Potsdam, Germany	Jun	2011
Bristol-Myers-Squibb, Wallingford, CT, USA	Apr	2011
German Society for Cell Biology, Bonn, Germany	Mar	2011
Institute for Brain Research, Vienna, Austria	Mar	2011
SFB meeting, Heidelberg, Germany	Feb	2011
Columbia University New York, NY, USA	Jan	2011
Weizmann Institute of Science, Rehovot, Israel	Jan	2011
Frontiers in Brain Repair, Jerusalem, Israel	Jan	2011
Baylor College, Houston, Texas, USA	Dec	2010
Institute Curie, Paris, France	Nov	2010
University of Zurich, Zurich, Switzerland	Nov	2010
Harvard Medical School Portugal Program, IBMC Porto, Portugal	Oct	2010
German Society for Cell Biology, Jena, Germany	Sep	2010
University of Rio de Janeiro, Brazil	Sep	2010
Brazilian Neuroscience Meeting, Caxambu, Brazil	Sep	2010
Club Developpement des Réseaux neuronaux, Paris, France	June	2010
University of Córdoba, Córdoba, Argentina	May	2010
Biocenter, Basel, Switzerland	Sep	2009
University of Cambridge, Cambridge, UK	May	2009
Erasmus Medical Center, Rotterdam, The Netherlands	May	2009
Royal Netherlands Academy of Arts and Sciences, Amsterdam, The Netherlands	May	2009
German and Swiss Society for Cell Biology, Konstanz, Germany	Mar	2009
University of Colorado, Fort Collins, CO, USA	Feb	2009

Organizer, advisory boards

Organizer of the Cold Spring Harbor Asia Meeting "Assembly of Neuronal Circuits", Awaji, Japan, 2018.
Coordinator of the "Spinal Cord Injury Course - NSAS", San Servolo, Venice, Italy, 2018.
Organizer of the ASCB Doorstep Meeting "Cell Biology of Degeneration and Repair in the Nervous System", Philadelphia, USA, 2017.
Organizer of the "DZNE Bonn/Tübingen Retreat 2017", Bad Neuenahr, Germany, 2017.
Organizer of the EMBO Meeting "Cell Biology of the Neuron: Polarity, Plasticity and Regeneration", Crete, Greece, 2017.
Organizer of the "3rd Bonn Brain³ Meeting 2017", Bonn, Germany, 2017.
Member of the ZMNH (Zentrum fuer Molekulare Neurobiologie Hamburg) Scientific Committee, 2016-2019.
Member of the SFN (Society for Neuroscience) Program Committee, 2016-2019.
Member of the IRP (International Foundation for Research in Paraplegia) Scientific Committee, 2016-2019.
Jury of the IRP (International Foundation for Research in Paraplegia) Schellenberg Research Prize, 2016-2019.
Co-Chairman at the "18th International Neuroscience Winter Conference", Sölden, Austria, 2016.
Chairman of the 3. Session at the "Bonn Brain³ Meeting 2016", Bonn, Germany, 2016.
Organizer of the "DZNE Retreat 2015", Nürburg, Germany, 2015.
Organizer of the "Summer School - Spinal Cord Injury", Brixen, Italy, 2015.
Organizer of the "Neuronal Control Workshop", Bonn, Germany, 2015.
Symposium Chair at the "FEBS Congress", Berlin, Germany, 2015.
Organizer of the meeting "Axon Degeneration", Berlin, Germany, 2014.
Symposium Chair at the "ASCB Meeting", New Orleans, USA, 2013.
Symposium Chair at "SfN Annual Meeting 2011", Washington, USA, 2011.
Organizer of the EMBO workshop "Cell Biology of the Neuron: Polarity, Plasticity and Regeneration", Crete, Greece, 2011.
Symposium Chair at the "Cold Spring Harbor Meeting on Axon Guidance, Synapse Plasticity and Regeneration", Cold Spring Harbor, USA, 2010.
Organizer of the SFB-Symposiums "Axon, Dendrites, Calcium channels", 2006.
Organizer of the EU Research Training Network Meeting "Brain repair", 2006.
Member of the "appointment committee for caesar", Bonn, Germany.
Member of the "Scientific Advisory Board of the German Foundation for Paralysis (Deutsche Stiftung für Querschnittslähmung)", Nuremberg, Germany

2. List of publications

Research Papers

2018:

- 1) Chhatbar C, Detje CN, Grabski E, Borst K, Spanier J, Ghita L, Elliott DA, Jordão MJC, Mueller N, Sutton J, Prajeeth CK, Gudi V, Klein MA, Prinz M, **Bradke F**, Stangel M, Kalinke U. (2018). Type I Interferon Receptor Signaling of Neurons and Astrocytes Regulates Microglia Activation during Viral Encephalitis. *Cell Reports* 25: 118-129.
- 2) Sandner B, Puttagunta R, Motsch M, **Bradke F**, Ruschel J, Blesch A, Weidner N (2018). Systemic epothilone D improves hindlimb function after spinal cord contusion injury in rats. *Exp Neurol.* 306: 250-259.
- 3) Ruschel J, **Bradke F** (2018). Systemic administration of epothilone D improves functional recovery of walking after rat spinal cord contusion injury. *Exp Neurol.* 306: 243-249.

2017:

- 4) Prüss H, Tedeschi A, Thiriot T, Lynch L, Loughhead SM, Stutte SM, Mazo IB, Kopp MA, Brommer B, Blex C, Geurtz LC, Liebscher T, Niedeggen A, Dirnagl U, **Bradke F**, Volz MS, DeVivo MJ, Chen Y, von Andrian UH, Schwab JM (2017). A sympathetic-neuroendocrine adrenal reflex causes spinal cord injury-induced immunodeficiency. *Nature Neurosci.* 20: 1549-1559.
- 5) Justus D, Dalügge D, Bothe S, Fuhrmann F, Hannes C, Kaneko H, Friedrichs D, Sosulina L, Schwarz I, Elliott DA, Schoch S, **Bradke F**, Schwarz MK, Remy S (2017). Glutamatergic synaptic integration of locomotion speed via septoentorhinal projections. *Nature Neurosci.* 20: 16-19.

2016:

- 6) Alecu I, Tedeschi A, Behler N, Wunderling K, Lamberz C, Lauterbach MA, Gaebler A, Ernst D, Van Veldhoven PP, Al-Amoudi A, Latz E, Othman A, Kuerschner L, Hornemann T, **Bradke F**, Thiele C, Penno A (2016). Localization of 1 deoxysphingolipids to mitochondria induces mitochondrial dysfunction. *Journal of Lipid Res.* 58: 42-59.
- 7) Tedeschi A, Dupraz S, Laskowski C, Xue J, Ulas T, Beyer M, Schultze J, **Bradke F** (2016). The Calcium Channel Subunit Alpha2delta2 Suppresses Axon Regeneration in the Adult CNS. *Neuron* 92: 419-434.

2015:

- 8) 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). Systemic administration of epothilone B promotes axon regeneration and functional recovery. *Science* 348: 347-352.
- 9) Challagundla M, Koch JC, Ribas VT, Michel U, Kügler S, Ostendorf T, **Bradke F**, Müller HW, Bähr M, Lingor P (2015). AAV-mediated expression of BAG1 and ROCK2-shRNA promote neuronal survival and axonal sprouting in a rat model of rubrospinal tract injury. *Journal of Neurochem.* 134: 261-75.
- 10) Stuess M, Wegehingel S, Nguyen C, Nickel W, **Bradke F**, Cambridge SB (2015). A Dual SILAC Proteomic Labeling Strategy for Quantifying Constitutive and Cell-Cell Induced Protein Secretion. *Journal of Proteome Res.* 14: 3229–3238.
- 11) Raju D, Schonauer S, Hamzeh H, Flynn KC, **Bradke F**, Vom Dorp K, Dörmann P, Yildiz Y, Trötschel C, Poetsch A, Breiden B, Sandhoff K, Körschen HG, Wachten D (2015). Accumulation of glucosylceramide in the absence of the beta-glucosidase GBA2 alters cytoskeletal dynamics. *PLoS Genet.* 11: e1005063.
- 12) Ehret F, Vogler S, Pojar S, Elliott DA, **Bradke F**, Steiner B, Kempermann G (2015). Mouse model of CADASIL reveals novel insights into Notch3 function in adult hippocampal neurogenesis. *Neurobiology of Disease.* 75: 131-41.

2014:

- 13) Belle M, Godefroy D, Dominici C, Heitz-Marchaland C, Zelina P, Hellal F, **Bradke F**, Chédotal A (2014). A Simple Method for 3D Analysis of Immunolabeled Axonal Tracts in a Transparent Nervous System. *Cell Reports* 9: 1-11.
- 14) Kleele T, Marinković P, Williams P R, Stern S, Weigand E E, Engerer P, Naumann R, Hartmann J, Karl R M, **Bradke F**, Bishop D, Herms J, Konnerth A, Kerschsteiner M, Godinho L, Misgeld T (2014). A novel assay to image neuronal microtubule dynamics in mice. *Nat Commun.* 12.5: 4827.
- 15) Puttagunta R*, Tedeschi A*, Grando Soria M, Herver A, Lindner R, Rathore KI, Gaub P, Joshi Y, Nguyen T, Schmandke A , Laskowski CL, Boutillier A-L, **Bradke F**, Di Giovanni (2014). PCAF-dependent epigenetic changes promote axonal regeneration in the central nervous system. *Nat Commun.* 5: 3527.
- 16) Gomis-Rüth S, Stuess M, Wierenga CJ, Meyn L., **Bradke F** (2014). Single cell axotomy of cultured hippocampal neurons integrated in neuronal circuits. *Nature Protoc.* 9: 1028-37.

2013:

- 17) Govindarajan N, Rao P, Burkhardt S, Sananbenesi F, Schlüter OM, **Bradke F**, Lu J, Fischer A (2013). Reducing HDAC6 ameliorates cognitive deficits in a mouse model for Alzheimer's disease. *EMBO Mol Med.* 5: 52-63.

2012:

- 18) 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, Bamberg JR, Small JV, Witke W, **Bradke F** (2012). ADF/cofilin-mediated Actin Retrograde Flow Directs Neurite Formation in the Developing Brain. *Neuron* 76: 1091-107.
- 19) Ertürk A, Becker K, Jährling N, Mauch CP, Hojer CD, Egen JG, Hellal F, **Bradke F**, Sheng M, Dodt HU (2012). Three-dimensional imaging of solvent-cleared organs using 3DISCO. *Nature Protoc.* 11: 1983-95.
- 20) Beck H, Flynn K, Lindenberg KS, Schwarz H, **Bradke F**, di Giovanni S, Knöll B (2012). Serum Response Factor (SRF)-cofilin-actin signaling axis modulates mitochondrial dynamics. *Proc Natl Acad Sci U S A* 109: E2523-32.

2011:

- 21) 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.
- 22) Ibricu I, Huiskonen JT, Döhner K, **Bradke F**, Sodeik B, Grünwald K (2011). Cryo Electron Tomography of Herpes Simplex Virus during Axonal Transport and Secondary Envelopment in Primary Neurons. *Plos Pathogens*: 1002406.
- 23) Schmidt MV, Schülke JP, Liebl C, Stuess M, Avrabos C, Bock J, Wochnik GM, Davies HA, Zimmermann N, Scharf SH, Trümbach D, Wurst W, Zieglgänsberger W, Turck C, Holsboer F, Stewart MG, **Bradke F**, Eder M, Müller MB, Rein T (2011). Tumor suppressor down-regulated in renal cell carcinoma 1 (DRR1) is a stress-induced actin bundling factor that modulates synaptic efficacy and cognition. *Proc Natl Acad Sci U S A* 108: 17213-8.
- 24) 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.
- 25) Neukirchen D, **Bradke F** (2011). Cytoplasmic Linker Proteins Regulate Neuronal Polarization through Microtubule and Growth Cone Dynamics. *J. Neurosci.* 31: 1528-38.

2010:

- 26) Enes J, Langwieser N, Ruschel J, Carballosa-Gonzalez MM, Klug A, Traut MH, Ylera B, Tahirovic S, Hofmann F, Stein V, Moosmang S, Hentall ID, **Bradke F** (2010). Electrical activity suppresses axon growth through Cav1.2 channels in adult primary sensory neurons. *Current Biology* 20: 1154-64.
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Patents

Use of microtubule stabilizing compounds to induce axon regeneration
 European Patent no. 1858498; European patent application EP 11 00 9155.0; U.S. patent application 11/908,118.