

## Nikolaus Rajewsky

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### Curriculum vitae

Since 2008	Scientific Director, BIMSB, MDC, Berlin
Since 2006	Full professor (W3) for Systems Biology, Charité (MDC), Berlin
2003 – 2006	Assistant professor, Department of Biology and Courant Institute for Mathematical Sciences, New York University (tenure track)
1999 – 2002	Postdoctoral fellow, The Rockefeller University, New York, US
1998 – 1999	Postdoctoral fellow, Rutgers University, New Brunswick, US
1995 – 1997	PhD in Theoretical Physics, Universität zu Köln
1994 – 1995	Diploma in Theoretical Physics, Universität zu Köln

### Research fields

Our group combines theoretical/computational and experimental methods to understand gene regulation in animals with major focus on:

- Post-transcriptional gene regulation by small RNAs (for example microRNAs) and RNA binding proteins
- Interdisciplinary approaches employing techniques from molecular biology and biochemistry on different model organisms
- Analysis with tools and concepts from bioinformatics, statistics, and physics

### Activities in the scientific community, honors, awards

2017	Coordinator, Marie Skłodowska-Curie Innovative Training Networks, European Commission (3.5 million Euros)
2016, 2017	Visiting professor for research activities, Sapienza – University of Rome, IT
2014	Honorary PhD in Human Genetics and Medical Biology, Sapienza – University of Rome, IT
2013-2017	131 invited talks at international conferences
Since 2012	Member, advisory board ‘Wissenschaftskolleg Berlin’
2012	Gottfried Wilhelm Leibniz Prize, German Research Foundation (DFG)
Since 2010	Member, Science Advisory Board, Medical Research Council (MRC) Institute ‘London Clinical Sciences’, UK
2010	Member, European Molecular Biology Organization (EMBO)
2009	Berliner Wissenschaftspreis, presented by the Governing Mayor of Berlin
Since 2008	Global Distinguished Professor of Biology, New York University, US
2008	Initiator and founding director, BIMSB, institutionalized and supported by the Federal Ministry of Education and Research (BMBF), (ca. 20 million Euros p.a.)
2008	Awardee, Entrepreneurial Regions program, Federal Ministry of Education and Research (BMBF), (11.5 million Euros)

## Selected publications

- Piwecka M, Glazar P, Hernandez-Miranda LR, Memczak S, Wolf SA, Rybak-Wolf A, Filipchuk A, Klironomos F, Cerda Jara CA, Fenske P, Trimbuch T, Zywitza V, Plass M, Schreyer L, Ayoub S, Kocks C, Kuhn R, Rosenmund C, Birchmeier C, Rajewsky N. Loss of a mammalian circular RNA locus causes miRNA deregulation and affects brain function. *Science* 2017; 357:eaam8526
- Karaiskos N, Wahle P, Alles J, Boltengagen A, Ayoub S, Kipar C, Kocks C, Rajewsky N\*, Zinzen RP\*. The *Drosophila* embryo at single-cell transcriptome resolution. *Science* 2017; 358:194-199 | \*corresponding authors
- Solana J, Irimia M, Ayoub S, Orejuela MR, Zywitza V, Jens M, Tapial J, Ray D, Morris Q, Hughes TR, Blencowe BJ, Rajewsky N. Conserved functional antagonism of CELF and MBNL proteins controls stem cell-specific alternative splicing in planarians. *Elife* 2016; 5: e16797
- Rybak-Wolf A, Stottmeister C, Glazar P, Jens M, Pino N, Giusti S, Hanan M, Behm M, Bartok O, Ashwal-Fluss R, Herzog M, Schreyer L, Papavasileiou P, Ivanov A, Ohman M, Refojo D, Kadener S, Rajewsky N. Circular RNAs in the Mammalian Brain Are Highly Abundant, Conserved, and Dynamically Expressed. *Mol Cell* 2015; 58:870-885
- Jens M, Rajewsky N. Competition between target sites of regulators shapes post-transcriptional gene regulation. *Nat Rev Genet* 2015; 16:113-126
- Rybak-Wolf A, Jens M, Murakawa Y, Herzog M, Landthaler M, Rajewsky N. A variety of dicer substrates in human and *C. elegans*. *Cell* 2014; 159:1153-1167
- Grun D, Kirchner M, Thierfelder N, Stoeckius M, Selbach M, Rajewsky N. Conservation of mRNA and protein expression during development of *C. elegans*. *Cell Rep* 2014; 6:565-577
- Grosswendt S, Filipchuk A, Manzano M, Klironomos F, Schilling M, Herzog M, Gottwein E, Rajewsky N. Unambiguous identification of miRNA:target site interactions by different types of ligation reactions. *Mol Cell* 2014; 54:1042-1054
- Ashwal-Fluss R, Meyer M, Pamudurti NR, Ivanov A, Bartok O, Hanan M, Evantal N, Memczak S, Rajewsky N\*, Kadener S\*. circRNA biogenesis competes with pre-mRNA splicing. *Mol Cell* 2014; 56:55-66 | \*corresponding authors
- Memczak S, Jens M, Elefsinioti A, Torti F, Krueger J, Rybak A, Maier L, Mackowiak SD, Gregersen LH, Munschauer M, Loewer A, Ziebold U, Landthaler M, Kocks C, le Noble F, Rajewsky N. Circular RNAs are a large class of animal RNAs with regulatory potency. *Nature* 2013; 495:333-338