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Date of Birth: 12. December 1946 in Waldtann / Crailsheim, Germany  
Abitur / High School finished: 02. March 1966  
Handwerksgeselle / craftsman: Guertler (trade test finished in September 1968)

### brief scientific profile

Richard Reinhardt studied chemistry (Diplom:01. July1974) and finished his PhD in 1978 (Röntgenstrukturanalytische Untersuchungen an homocyclischen und heterocyclischen Schwefelverbindungen (summa cum laude)) at FU Berlin.

Postdoctoral Fellow at TU/FU-Berlin (Prof. Steudel and Prof. Bradaczek) and since 1980 at MPI in Martinsried (Prof. Huber).

Since 1982 he is senior scientist at the Max-Planck-Institute for Molecular Genetics in Berlin-Dahlem. He became head of the scientific service- and the IT-computing group of the institute in 1990 and he is also heading the htpt-group (high throughput technology) at MPI-MG.

Positions and Employment: Permanent W2-position at MPIMG in Berlin-Dahlem

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### BIOGRAPHICAL SKETCH

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NAME Reinhardt, Richard	POSITION TITLE Dr.		
eRA COMMONS USER NAME			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Free University Berlin	PhD	1978	Chemistry
TU-Berlin and MPI Martinsried (Robert Huber)	PostDoc	1978 - 1982	Low-temp-Crystallography, Protein- Crystallography
MPI for molecular Genetics Berlin-Dahlem, Head of scientific Service- and IT-computing group, Head of high throughput technology group	Senior Scientist	1982  1990	

#### A. Positions and Honors.

#### Positions and Employment

## Permanent W2-position at MPIMG in Berlin-Dahlem

### B. Peer-reviewed publications since 2006 (in chronological order)

- Musat F, Galushko A, Jacob J, Widdel F, Kube M, Reinhardt R, Wilkes H, Schink B, Rabus R. «Anaerobic degradation of naphthalene and 2-methylnaphthalene by strains of marine sulfate-reducing bacteria.» *Environ Microbiol.* 2009 Jan;11(1):209-19 PMID: 18811643
- Omran H, Kobayashi D, Olbrich H, Tsukahara T, Loges NT, Hagiwara H, Zhang Q, Leblond G, O'Toole E, Hara C, Mizuno H, Kawano H, Fliegauf M, Yagi T, Koshida S, Miyawaki A, Zentgraf H, Seithe H, Reinhardt R, Watanabe Y, Kamiya R, Mitchell DR, Takeda H. «Ktu/PF13 is required for cytoplasmic pre-assembly of axonemal dyneins. » *Nature.* 2008 Dec 4;456(7222):611-6. PMID: 19052621
- Ferraresso S, Vitulo N, Mininni AN, Romualdi C, Cardazzo B, Negrisolo E, Reinhardt R, Canario AV, Patarnello T, Bargelloni L. «Development and validation of a gene expression oligo microarray for the gilthead sea bream (*Sparus aurata*). » *BMC Genomics.* 2008 Dec 3;9(1):580. PMID: 19055773
- Zhang Y, Rohde C, Tierling S, Stamerjohanns H, Reinhardt R, Walter J, Jeltsch A. «DNA methylation analysis by bisulfite conversion, cloning, and sequencing of individual clones. » *Methods Mol Biol.* 2009;507:177-87. PMID: 18987815
- Loges NT, Olbrich H, Fenske L, Mussaffi H, Horvath J, Fliegauf M, Kuhl H, Baktai G, Peterffy E, Chodhari R, Chung EM, Rutman A, O'Callaghan C, Blau H, Tiszlavicz L, Voelkel K, Witt M, Ziętkiewicz E, Neesen J, Reinhardt R, Mitchison HM, Omran H. «DNAI2 Mutations Cause Primary Ciliary Dyskinesia with Defects in the Outer Dynein Arm. » *Am J Hum Genet.* 2008 Nov;83(5):547-58, PMID: 18950741
- Jurkowska RZ, Anspach N, Urbanke C, Jia D, Reinhardt R, Nellen W, Cheng X, Jeltsch A. «Formation of nucleoprotein filaments by mammalian DNA methyltransferase Dnmt3a in complex with regulator Dnmt3L. » *Nucleic Acids Res.* 2008 Dec;36(21):6656-63, PMID: 18945701
- Choudhury K, Zander D, Kube M, Reinhardt R, Clos J. «Identification of a *Leishmania infantum* gene mediating resistance to ' and Sb(III).» *Int J Parasitol.* 2008 Oct;38(12):1411-23. PMID: 18457839 PMID: 18457839
- Burmeister T, Meyer C, Thiel G, Reinhardt R, Thiel E, Marschalek R. «A MLL-KIAA0284 fusion gene in a patient with secondary acute myeloid leukemia and t(11;14)(q23;q32).» *Blood Cells Mol Dis.* 2008 Sep-Oct;41(2):210-4. PMID: 18640063
- Kolmakov NN, Kube M, Reinhardt R, Canario AV. « Analysis of the goldfish *Carassius auratus* olfactory epithelium transcriptome reveals the presence of numerous non-olfactory GPCR and putative receptors for progesterin pheromones. » *BMC Genomics.* 2008 Sep 20;9:429. PMID: 18803863
- RAGE ligation affects T cell activation and controls T cell differentiation. Chen Y, Akirav EM, Chen W, Henegariu O, Moser B, Desai D, Shen JM, Webster JC, Andrews RC, Mjalli AM, Rothlein R, Schmidt AM, Clynes R, Herold KC. *J Immunol.* 2008 Sep 15;181(6):4272-8. PMID: 18768885
- Kube M, Migdoll AM, Müller I, Kuhl H, Beck A, Reinhardt R, Geider K. «The genome of *Erwinia tasmaniensis* strain Et1/99, a non-pathogenic bacterium in the genus *Erwinia*.» *Environ Microbiol.* 2008 Sep;10(9):2211-22 PMID: 18462403
- Dohm JC, Lange C, Reinhardt R, Himmelbauer H. «Haplotype divergence in *Beta vulgaris* and microsynteny with sequenced plant genomes.» *Plant J.* 2008 Aug 29. Epub, PMID: 18764921
- Sauer S, Freiwald A, Maier T, Kube M, Reinhardt R, Kostrzewa M, Geider K. «Classification and identification of bacteria by mass spectrometry and computational analysis. » *PLoS ONE.* 2008 Jul 30;3(7):e2843. PMID: 18665227
- Tran-Nguyen LT, Kube M, Schneider B, Reinhardt R, Gibb KS. «Comparative genome analysis of *Candidatus Phytoplasma australiense*" (subgroup tuf - Australia I; rp-A) and "*Ca. P. asteris*" strains OY-M and AY-WB.» *J Bacteriol.* 2008 Jun;190(11):3979-91; PMID: 18359806
- Kube M, Schneider B, Kuhl H, Dandekar T, Heitmann K, Migdoll AM, Reinhardt R, Seemüller E. «The linear chromosome of the plant-pathogenic mycoplasma '*Candidatus Phytoplasma mali*'.» *BMC Genomics.* 2008 Jun 26;9:306. PMID: 18582369
- Schmitz J, Zemann A, Churakov G, Kuhl H, Grützner F, Reinhardt R, Brosius J. «Retroposed SNOfall—A mammalian-wide comparison of platypus snoRNAs.» *Genome Res.* 2008 June, 18(6):1005-10. PMID: 18463303
- Auslander M, Yudkovski Y, Chalifa-Caspi V, Herut B, Ophir R, Reinhardt R, Neumann PM, Tom M. Pollution- «Pollution-affected Fish Hepatic Transcriptome and Its Expression Patterns on Exposure to Cadmium.» *Mar Biotechnol (NY).* 2008 May-Jun;10(3):250-61; PMID: 18213484
- Reusch TB, Veron AS, Preuss C, Weiner J, Wissler L, Beck A, Klages S, Kube M, Reinhardt R, Bornberg-Bauer E. «Comparative analysis of expressed sequence tag (EST) libraries in the seagrass *Zostera marina* subjected to temperature stress.» *Mar Biotechnol (NY).* 2008 May-Jun;10(3):297-309; PMID: 18239962
- Ralsler M, Nebel A, Kleindorp R, Krobitch S, Lehrach H, Schreiber S, Reinhardt R, Timmermann B. «Sequencing and genotypic analysis of the triosephosphate isomerase (TPI1) locus in a large sample of long-lived Germans. *BMC Genet.* 2008 May 29; 9:38. PMID: 18510744
- Warren WC, et al (MPI contributors 2/102: Kube M, Reinhardt R). «Genome analysis of the platypus reveals unique signatures of evolution.» *Nature.* 2008 May 8;453(7192):175-83. PMID: 18464734
- STAR Consortium, (MPI contributors 5/49: Beck A, Klages S, Kube M, Kuhl H, Reinhardt R). «SNP and haplotype mapping for genetic analysis in the rat.» *Nat Genet.* 2008 May;40(5):560-6. PMID: 18443594

- Burmeister T, Reinhardt R. «A multiplex PCR for improved detection of typical and atypical BCR-ABL fusion transcripts.» *Leuk Res.* 2008 Apr;32(4):579-85. PMID: 17928051
- Fuhrmann C, Schmidt-Kittler O, Stoecklein NH, Petat-Dutter K, Vay C, Bockler K, Reinhardt R, Ragg T, Klein CA. «High-resolution array comparative genomic hybridization of single micrometastatic tumor cells.» *Nucleic Acids Res.* 2008 Apr; PMID: 18344524
- Rohde C, Zhang Y, Jurkowski TP, Stamerjohanns H, Reinhardt R, Jeltsch A. «Bisulfite sequencing Data Presentation and Compilation (BDPC) web server-a useful tool for DNA methylation analysis.» *Nucleic Acids Res.* 2008 Mar;36(5):e34. PMID: 18296484
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- Clark MS, Thorne MA, Purac J, Grubor-Lasjic G, Kube M, Reinhardt R, Worland MR. «Surviving extreme polar winters by desiccation: clues from Arctic springtail (*Onychiurus arcticus*) EST libraries.» *BMC Genomics.* 2007 Dec 21;8(1):475; PMID: 18154659
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- Knaust F, Kube M, Reinhardt R, Rabus R. «Analyses of the *vrl* gene cluster in *Desulfococcus multivorans*: homologous to the virulence-associated locus of the ovine footrot pathogen *Dichelobacter nodosus* strain 198.» *J Mol Microbiol Biotechnol.* 2007;13(1-3):156-64. PMID: 17693723
- Friedel S, Saar K, Sauer S, Dempfle A, Walitza S, Renner T, Romanos M, Freitag C, Seitz C, Palmason H, Scherag A, Windemuth-Kieselbach C, Schimmelmann BG, Wewetzer C, Meyer J, Warnke A, Lesch KP, Reinhardt R, Herpertz-Dahlmann B, Linder M, Hinney A, Remschmidt H, Schafer H, Konrad K, Hubner N, Hebebrand J. «Association and linkage of allelic variants of the dopamine transporter gene in ADHD.» *Mol Psychiatry.* 2007 Oct;12(10):923-33; PMID: 17579611
- Dohm JC, Tseng-Ayush E, Reinhardt R, Grützner F, Himmelbauer H. «Disruption and pseudoautosomal localization of the major histocompatibility complex in monotremes.» *Genome Biol.* 2007 Aug 29;8(8):R175 PMID: 17727704
- Richter M, Kube M, Bazylinski DA, Lombardot T, Glockner FO, Reinhardt R, Schuler D. «Comparative genome analysis of four magnetotactic bacteria reveals a complex set of group-specific genes implicated in magnetosome biomineralization and function.» *J Bacteriol.* 2007 Jul;189(13):4899-910; PMID: 17449609
- Wohlbrand L, Kallerhoff B, Lange D, Hufnagel P, Thiermann J, Reinhardt R, Rabus R. «Functional proteomic view of metabolic regulation in "*Aromatoleum aromaticum*" strain EbN1.» *Proteomics.* 2007 Jun 5; PMID: 17549795
- Averdam A, Kuhl H, Sontag M, Becker T, Hughes AL, Reinhardt R, Walter L. «Genomics and diversity of the common marmoset monkey NK complex.» *J Immunol.* 2007 Jun 1;178(11):7151-61. PMID: 17513764
- Chen W, Jensen LR, Gecz J, Fryns JP, Moraine C, de Brouwer A, Chelly J, Moser B, Ropers HH, Kuss AW. «Mutation screening of brain-expressed X-chromosomal miRNA genes in 464 patients with nonsyndromic X-linked mental retardation.» *Eur J Hum Genet.* 2007 Mar;15(3):375-8. PMID: 17180121
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- Hecht J, Kuhl H, Haas SA, Bauer S, Poustka AJ, Lienau J, Schell H, Stiege AC, Seitz V, Reinhardt R, Duda GN, Mundlos S and Robinson PN. «Gene Identification and Analysis of Transcripts Differentially Regulated in Fracture Healing by EST Sequencing in the Domestic Sheep.» *BMC Genomics;* 2006 Jul 5;7:172. PMID: 16822315
- Mohamed SA, Aherrahrou Z, Liptau H, Erasmi AW, Hagemann C, Wrobel S, Borzym K, Schunkert H, Sievers HH, Erdmann J. «Novel missense mutations (p.T596M and p.P1797H) in NOTCH1 in patients with bicuspid aortic valve. » *Biochem Biophys Res Commun.* 2006 Jul 14;345(4):1460-5. PMID: 16729972
- Burmeister T, Macleod RA, Reinhardt R, Mansmann V, Loddenkemper C, Marinets O, Drexler HG, Thiel E, Blau IW. «A novel sporadic Burkitt lymphoma cell line (BLUE-1) with a unique t(6; 20)(q15; q11.2) rearrangement. » *Leuk Res.* 20 Nov; 30 (11): 1417-23. PMID: 16697040

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- International Human Chromosome 3 Consortium. (MPI contributors 9/109: Sudbrak R, Hennig S, Kube M, Lehrach H, Reinhardt R . «The DNA sequence, annotation and analysis of human chromosome 3.» *Nature*. 2006 Apr 27;440(7088):1194-8. PMID: 16641997
- Tzschach A, Lenzner S, Moser B, Reinhardt R, Chelly J, Fryns JP, Kleefstrab T, Raynaud M, Turner G, Ropers HH, Kuss A, Jensen LR . «Novel JARID1C/SMCX mutations in patients with X-linked mental retardation.» *Hum Mutat*. 2006 Apr;27(4):389. PMID: 16541399
- Goyal R, Reinhardt R, Jeltsch A . «Accuracy of DNA methylation pattern preservation by the Dnmt1 methyltransferase.» *Nucleic Acids Res*. 2006 Feb 25;34(4):1182-8. PMID: 16500889
- Hoffken HW, Duong M, Friedrich T, Breuer M, Hauer B, Reinhardt R, Rabus R, Heider J . «Crystal structure and enzyme kinetics of the (S)-specific 1-phenylethanol dehydrogenase of the denitrifying bacterium strain EbN1.» *Biochemistry*. 2006 Jan 10;45(1):82-93. PMID: 16388583

### **C. Research Support :**

New projects with start in 2009:

**BMBF project** "Resistence and Susceptibility to Intestinal Infections" 03/2009 – 12/2011

**EU-projects:** LIFECYCLE and ASSEMBLE expected start in March 2009

#### Ongoing Research Support

Member of **BMBF projects:**

NGFN-2 SMP-DNA "Teilprojekt-2 Chimp" (07/2005 – 02/2009) [1.300 K€]

NGFN-2 SMP-DNA "Teilprojekt-16 Resequenzierung" (07/2005 – 01/2009) [190K€]

NGFN-2 SMP-Epigenetic "Teilprojekt DNA-Methylierungsprofil..." (05/2005 – 04/2008) [115 K€]

NGFN-2 EP RNomics (11/2004 – 12/2008) [345K€]

NGFN-PLUS „RNomics of infectious Diseases“ (09/2008 – 08/2011) [1.560 K€]

BioChance Plus: "Werkzeuge für die Genomforschung..." AZ 0313867 C (10/2006 - 05/2009) [270 K€]

DFG-Schwerpunkt: SPP 1174 Deep Metazoan Phylogeny DFG (03/2006-02/2010) [390 K€]

**EU-projects:**

EURATools: "European Rat Tools for Functional ..." EU-FP6-2004-LIFESCIHEALTH-5 (03/2006 – 02/2010) [270 K€]

**MPG projects:** joint genome project with MPI Bremen:

"Umweltgenomic" Institutsüber. Projektförderung: MPI'en Berlin und Bremen: 06/2004 – 05/2009 [240 K€]

#### Completed Research Support Project grants since 2000:

**Expired projects:**

"European schizosaccharomyces genome sequencing project" (EU BIO4-CT 96-0159, 12/1996 – 12/2001) [270 KDM]

"Genomic sequence analysis of human chromosome 21 and selected regions of the human genome" (BMBF 01KW97065, 05/1997 – 06/2001) [1.755 KDM]

"European Leishmania major Friedlin genome sequencing project" (EU BIO-98-0079, 12/1998 – 11/2001) [380 KDM]

„Funktionelle Genomanalyse umweltrelevanter mariner Bakterien“ (BMBF 03F0279C, 04/2000 – 03/2002) [385 K€]

"Magnetic nanoparticles for medical and biological diagnostics and devices" (Magnanomed EU CT00-00375, 01/2001 – 12/2003) [250 K€]

„Genomanalyse noch nicht kultivierter mariner und terristischer methanoxidierender Mikroorganismen und Konsortien“ Netzwerk GenoMik Göttingen (BMBF Uni Göttingen 031U113A / U213A, 07/2001 – 10/2004) [455K€]

“Disease gene-oriented genomic sequence analysis of medically important regions of the human genome and homologous regions of the mouse genome” (BMBF 01KW0001, 01/2001 – 02/2005) [243 K€]  
STREP: STAR “A SNP and haplotype map for the rat” EU-FP6-2003-LIFESCIHEALTH-I (01/2005 – 01/2007) [255K€]  
NGFN-Kernbereich “genomic sequencing and mapping” (BMBF 01GR0105, Plattform 1.1, 03/2001-06/2005) [4.900 K€]  
NGFN-Kernbereich “Wave-technology” (BMBF 01GR0105, Plattform 6.2, 03/2001 – 06/2005) [1.000 K€]  
NGFN-Kernbereich “Comparative candidate gene seq.” (BMBF 01GR0105, Plattform 6.8.2, 06/2002-06/2005) [410 K€]  
NGFN-2 SMP-DNA “Teilprojekt-5 SNP-map Rat” (11/2004 – 10/2007) [450K€]  
BioProfile Nutrigenomik: “Real Time Nano-PCR” Project-No.: 1202-03 (10/2004 - 06/2007) [155K€]  
NoE “Marine Genomics“ EU- FP6-2002-GLOBAL-1 Member of SSC( 03/2004 – 08/2008 ) [530 €]  
IP : « AquaFirst » EU- FP6 (11/2004-05/2008)  
NEST: “Sleeping Beauty: Dormancy of cells ...” EU-FP6-2003-NEST-B-1 #012674-2 (01/2005 –08/2008) [405 K€]

### **Patents:**

Method and Device for processing extremely small substance quantities, PCT/EP99/02964 Verfahren und Vorrichtung zum Prozessieren von Kleinstsubstanzen DE 198 23 719 A1 Kalkum, M.; Müller, M; Nordhoff, E.; Reinhardt, R.; Eickhoff, H; Rauth, H.

Verfahren zum Anbinden von Nukleinsäuren an eine Festphase. PCT/EP00/08807, DE, EU, US Rauth, H; Reinhardt, R; Nordhoff, E.

Verfahren zur Umkehrphasenaufreinigung und -konzentrierung von Peptiden und Proteinen an magnetischen Partikeln. PCT Nr. 60/175,958, Rauth, H.; Reinhardt, R.; Nordhoff, E.

Verfahren und Vorrichtung zur Gelelektrophorese DE 199 26 985.8 Rauth, H.; Reinhardt, R.; Starke, A.