

Prof. Dr. Gunther Hartmann

Personal Data

Title	Prof. Dr. med.
First name	Gunther
Name	Hartmann
Current position	Full Professor (W3)
Current institution(s)/site(s), country	Director of the Institute of Clinical Chemistry and Clinical Pharmacology at the University Hospital Bonn
Identifiers/ORCID	orcid.org/0000-0003-1021-2018

Qualifications and Career

<u>Stages</u>	<u>Periods and Details</u>
Degree programme	MD, 1987 – 1993, Albert Einstein University, Ulm, Germany
Doctorate	1990 – 1994 Dr. med., Department of Clinical Genetics (H. Hameister), Albert Einstein University, Ulm, Germany
Stages of academic/professional career	Since 2007 Director of the Institute of Clinical Chemistry and Clinical Pharmacology, University Hospital of Bonn 2005 – 2007 Head of Clinical Pharmacology, University Hospital Bonn 2004 – 2005 Chief Resident, Division of Clinical Pharmacology, LMU, Munich, Germany 1999 – 2005 Principal Investigator, Division of Clinical Pharmacology, LMU, Munich, Germany 1997 – 1999 Postdoctoral DFG research fellow, (Prof. Arthur Krieg), Iowa, USA 1994 – 1996 Clinical Fellowship, Medizinische Klinik (Prof. P Scriba), LMU, Munich, Germany

Activities in the Research System

Committee involvement & activities in the field of academic self-governance:

2018 – pres.	Speaker, ImmunoSensation ² Cluster of Excellence, University Bonn
2018 – pres.	Speaker, DFG CRC 237 Nucleic Acid Immunity, University Bonn
2018 – pres.	Co-Speaker for Bonn, DFG CRC 259 Aortic Disease, University Bonn
2018 – pres.	Chair of Research and Co-Chair of the Board Comprehensive Cancer Center Köln-Bonn (CIO)
2018 – 2022	Chief-Editor of Trillium Immunology, the Journal of the DGfI
2017 – pres.	Member of the Scientific Advisory Council (SAC) of the Oligonucleotide Therapeutics Society
2017 – pres.	Chairman of the Tenure Committee of the Medical Faculty
2017 – 2018	Speaker of the scientific steering committee of the Translational Infrastructure Vaccine Development (TI Vaccine) of the German Center of Infectious Diseases (DZIF)
2017 – pres.	Vice Dean of Research of the Medical Faculty
2014	Founder Rigontec GmbH

2013 – pres.	Vice Speaker of DZIF Bonn-Cologne
2013 – pres.	Liaison lecturer of the German Academic Scholarship Foundation
2012 – 2019	Speaker, ImmunoSensation, Cluster of Excellence, University Bonn
2011 – 2012	Elected President of the Oligonucleotide Therapeutics Society (OTS)
2010	Elected Vice Speaker of the CRC 670
2009 – 2018	Elected member of the committee Krebs therapie-Studien of the German Cancer Aid
2008 – 2017	Head of Research Committee BONFOR

Academic Distinctions: Elected Founding President of the international *Nucleic Acid Immunity Society* (2023); Elected member German National Academy of Sciences Leopoldina (2017); Gottfried-Wilhelm Leibniz-Preis (2012); Dr.-Friedrich-Sasse-Preis, Berliner Medizinische Gesellschaft (2011); GoBio-Preis (BMBF, 2009); Wilhelm-Vaillant-Preis für Medizinforschung (2007); Biofuture Award (BMBF, 2004); Ludwig-Heilmeyer-Award (2004); Georg-Heberer-Award, Chiles Foundation, Portland (2004); Paul-Martini-Preis (2000); „Young Master“ der Deutschen Gesellschaft für Hämatologie und Onkologie (2000).

Scientific Results

Citations: 46179, h-index: 95, i10-index: 211 ([Google Scholar](#), 21.03.2024)

Category A (* corresponding author)

1. S. Marx, B.M. Kümmerer, C. Grützner, H. Kato, M. Schlee, M. Renn, E. Bartok, and **G. Hartmann*** “RIG-I-induced innate antiviral immunity protects mice from lethal SARS-CoV-2 infection” *Mol. Ther. Nucleic Acids* **2022**, 27, 1225–1234.
DOI: [10.1016/j.omtn.2022.02.008](https://doi.org/10.1016/j.omtn.2022.02.008).
2. S. Lambing, Y.P. Tan, P. Vasileiadou, S. Holdenrieder, P. Müller, C. Hagen, S. Garbe, R. Behrendt, M. Schlee, J.G. van den Boorn, E. Bartok*, M. Renn, **G. Hartmann*** “RIG-I immunotherapy overcomes radioresistance in p53-positive malignant melanoma.” *J. Mol. Cell Biol.* **2023**, 15, mjad001. DOI: [10.1093/jmcb/mjad001](https://doi.org/10.1093/jmcb/mjad001).
3. T. Ostendorf, T. Zillinger, K. Andryka, T.M. Schlee-Guimaraes, S. Schmitz, S. Marx, K. Bayrak, R. Linke, S. Salgert, J. Wegner, T. Grasser, S. Bauersachs, L. Soltesz, M.P. Hübner, M. Nastaly, C. Coch, M. Kettwig, I. Roehl, M. Henneke, A. Hoerauf, W. Barchet, J. Gärtner, M. Schlee, **G. Hartmann**, and E. Bartok* “Immune Sensing of Synthetic, Bacterial, and Protozoan RNA by Toll-like Receptor 8 Requires Coordinated Processing by RNase T2 and RNase 2” *Immunity* **2020**, 52, 591–605.
DOI: [10.1016/j.immuni.2020.03.009](https://doi.org/10.1016/j.immuni.2020.03.009).
4. A.-M. Herzner*, C.A. Hagmann, M. Goldeck, S. Wolter, K. Kübler, S. Wittmann, T. Gramberg, L. Andreeva, K.-P. Hopfner, C. Mertens, T. Zillinger, T. Jin, T.S. Xiao, E. Bartok, C. Coch, D. Ackermann, V. Hornung, J. Ludwig, W. Barchet, **G. Hartmann**, M. Schlee* “Sequence-specific activation of the DNA sensor cGAS by Y-form DNA structures as found in primary HIV-1 cDNA” *Nat. Immunol.* **2015**, 16, 1025–1033.
DOI: [10.1038/ni.3267](https://doi.org/10.1038/ni.3267).
5. C. Schuberth-Wagner, J. Ludwig, A.K. Bruder, A.-M. Herzner, T. Zillinger, M. Goldeck, T. Schmidt, J.L. Schmid-Burgk, R. Kerber, S. Wolter, J.-P. Stümpel, A. Roth, E. Bartok, C. Drosten, C. Coch, V. Hornung, W. Barchet, B.M. Kümmerer, **G. Hartmann**, M. Schlee* “A Conserved Histidine in the RNA Sensor RIG-I Controls Immune Tolerance to N₁-2'O-Methylated Self RNA” *Immunity* **2015**, 43, 41–51. DOI: [10.1016/j.immuni.2015.06.015](https://doi.org/10.1016/j.immuni.2015.06.015).

6. D. Goubau*, M. Schlee, S. Deddouche, A.J. Pruijssers, T. Zillinger, M. Goldeck, C. Schuberth, A.G. Van der Veen, T. Fujimura, J. Rehwinkel, J.A. Iskarpatyoti, W. Barchet, J. Ludwig, T.S. Dermody, **G. Hartmann**, C. Reis e Sousa* "Antiviral immunity via RIG-I-mediated recognition of RNA bearing 5'-diphosphates" *Nature* **2014**, 514, 372–375. DOI: [10.1038/nature13590](https://doi.org/10.1038/nature13590).
7. Y. Wang, J. Ludwig, C. Schuberth, M. Goldeck, M. Schlee, H. Li, S. Juranek, G. Sheng, R. Micura, T. Tuschl*, **G. Hartmann***, D.J. Patel* "Structural and functional insights into 5'-ppp RNA pattern recognition by the innate immune receptor RIG-I" *Nat. Struct. Mol. Biol.* **2010**, 17, 781–787. DOI: [10.1038/nsmb.1863](https://doi.org/10.1038/nsmb.1863).
8. M. Schlee, A. Roth, V. Hornung, C.A. Hagmann, V. Wimmenauer, W. Barchet, C. Coch, M. Janke, A. Mihailovic, G. Wardle, S. Juranek, H. Kato, T. Kawai, H. Poeck, K.A. Fitzgerald, O. Takeuchi, S. Akira, T. Tuschl, E. Latz, J. Ludwig, **G. Hartmann*** "Recognition of 5' triphosphate by RIG-I helicase requires short blunt double-stranded RNA as contained in panhandle of negative-strand virus" *Immunity* **2009**, 31, 25–34. DOI: [10.1016/j.immuni.2009.05.008](https://doi.org/10.1016/j.immuni.2009.05.008).
9. H. Poeck, R. Besch, C. Maihoefer, M. Renn, D. Tormo, S.S. Morskaya, S. Kirschnek, E. Gaffal, J. Landsberg, J. Hellmuth, A. Schmidt, D. Anz, M. Bscheider, T. Schwerd, C. Berking, C. Bourquin, U. Kalinke, E. Kremmer, H. Kato, S. Akira, R. Meyers, G. Häcker, M. Neuenhahn, D. Busch, J. Ruland, S. Rothenfusser, M. Prinz, V. Hornung, S. Endres, T. Tüting*, **G. Hartmann*** "5'-Triphosphate-siRNA: turning gene silencing and Rig-I activation against melanoma" *Nat. Med.* **2008**, 14, 1256–1263. DOI: [10.1038/nm.1887](https://doi.org/10.1038/nm.1887).
10. V. Hornung, J. Ellegast, S. Kim, K. Brzózka, A. Jung, H. Kato, H. Poeck, S. Akira, K.-K. Conzelmann, M. Schlee, S. Endres, **G. Hartmann*** "5'-Triphosphate RNA is the ligand for RIG-I" *Science* **2006**, 314, 994–997. DOI: [10.1126/science.1132505](https://doi.org/10.1126/science.1132505).

Category B

Publications

1. C. Wuebben, E. Bartok, **G. Hartmann*** "Innate sensing of mRNA vaccines" *Curr. Opin. Immunol.* **2022**, 79, 102249. DOI: [10.1016/j.coi.2022.102249](https://doi.org/10.1016/j.coi.2022.102249).
2. E. Bartok, **G. Hartmann*** "Immune Sensing Mechanisms that Discriminate Self from Altered Self and Foreign Nucleic Acids" *Immunity* **2020**, 53, 54–77. DOI: [10.1016/j.immuni.2020.06.014](https://doi.org/10.1016/j.immuni.2020.06.014).
3. **G. Hartmann*** "Nucleic Acid Immunity" *Adv. Immunol.* **2017**, 133, 121–169. DOI: [10.1016/bs.ai.2016.11.001](https://doi.org/10.1016/bs.ai.2016.11.001).
4. M. Schlee, **G. Hartmann*** "Discriminating self from non-self in nucleic acid sensing" *Nat. Rev. Immunol.* **2016**, 16, 566–580. DOI: [10.1038/nri.2016.78](https://doi.org/10.1038/nri.2016.78).
5. M. Schlee, **G. Hartmann*** "The chase for the RIG-I ligand—recent advances" *Mol. Ther.* **2010**, 18, 1254–1262. DOI: [10.1038/mt.2010.90](https://doi.org/10.1038/mt.2010.90).
6. M. Schlee, E. Hartmann, C. Coch, V. Wimmenauer, M. Janke, W. Barchet, **G. Hartmann*** "Approaching the RNA ligand for RIG-I?" *Immunol. Rev.* **2009**, 227, 66–74. DOI: [10.1111/j.1600-065X.2008.00724.x](https://doi.org/10.1111/j.1600-065X.2008.00724.x).
7. **G. Hartmann*** "Gene silencing below the immune radar" *J. Clin. Invest.* **2009**, 119, 438–441. DOI: [10.1172/JCI38475](https://doi.org/10.1172/JCI38475).

8. V. Hornung, W. Barchet, M. Schlee, **G. Hartmann*** “RNA recognition via TLR7 and TLR8” *Handb. Exp. Pharmacol.* **2008**, 183, 71–86. DOI: [10.1007/978-3-540-72167-3_4](https://doi.org/10.1007/978-3-540-72167-3_4).
9. W. Barchet, V. Wimmenauer, M. Schlee, **G. Hartmann*** “Assessing the therapeutic potential of immunostimulatory nucleic acids” *Curr. Opin. Immunol* **2008**, 20, 389–395. DOI: [10.1016/j.coi.2008.07.007](https://doi.org/10.1016/j.coi.2008.07.007).
10. M. Schlee, W. Barchet, V. Hornung, **G. Hartmann*** “Beyond double-stranded RNA-type I IFN induction by 3pRNA and other viral nucleic acids” *Curr. Top. Microbiol. Immunol.* **2007**, 316, 207–230. DOI: [10.1007/978-3-540-71329-6_11](https://doi.org/10.1007/978-3-540-71329-6_11).