

Mihai G. NETEA, PhD

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Current position

Professor (W3) of Immunology and Metabolism, University of Bonn,
Professor of Experimental Medicine, Radboud Univ. Nijmegen Med. Ctr.

Research expertise

The goal of my research efforts is to translate information obtained through the assessment of human genetic variation in patients into novel diagnostic and therapeutic approaches. My group has a strong track record on translating genetic information into understanding pathophysiological mechanisms of disease. I have a broad expertise on the host mechanisms responsible for the recognition of bacterial and fungal pathogens and the activation of the innate immune system, on the one hand, and the genetic susceptibility to infections on the other hand. I have described the epigenetic mechanisms mediating innate immune memory ('trained immunity') for the first time.

Academic qualifications

1998 Doctorate, PhD, Radboud University Nijmegen, The Netherlands
1993 Medicine, University of Medicine and Pharmacy Cluj-Napoca, Romania

Postgraduate professional career

2007 - pres. Professor of Experimental Medicine, Department of Internal Medicine, Radboud University Nijmegen Medical Centre, The Netherlands
2005, 2007 Visiting post-doc scientist, Division of Infectious Diseases, University of Colorado Health Sciences Centre, Denver, Colorado, USA
2006 - 2007 Internist-infectious diseases specialist, senior staff member Department of Internal Medicine
2000 - 2005 Fellow internal medicine/ infectious diseases
1998 - 2000 Postdoctoral researcher, Department of Internal Medicine, Radboud University Nijmegen Medical Centre, The Netherlands

Honors and awards

2017 Honorary doctoral degree University of Aberdeen, United Kingdom
2016 Jessie Boden Lloyd Visiting Professor of Immunology at the University of Calgary
2016 Spinoza Prize of the Netherlands Organization for Scientific Research
2013 European Society for Clinical Investigation Award for "Translational Research"
2012 ERC Consolidator Grant
2011 Nijmegen University Center for Infection, Inflammation and Immunity Award
2011 Radboud Science Award
2008 Nijmegen University Center for Infectious Diseases Award
2006 WRO Goslingsprijs of the Infectious Diseases Society of the Netherlands
2005 European Society of Clinical Microbiology and Infectious Diseases Young Investigator Award
2003 Postdoctoral Investigator Award, International Cytokine Society
2003 SmithKline Beecham ICAAC Award
2002 International Sepsis Forum Young Investigator Award
2002 Dutch Society for Medical Microbiology Aventis Award

Memberships and professional functions

2016 Elected member of the Netherlands Royal Academy of Arts and Sciences (KNAW)
2015 Elected Member of Academia Europaea

Most important funding since 2012

2017 - 2021 TOP grant
2016 - 2020 Collaborative Project Romanian Government
2016 - 2020 Spinoza Prize
2016 - 2019 REPROGRAM Horizon 2020 grant
2015 - 2019 TOP grant
2013 - 2018 CVON grant
2012 - 2017 ERC Consolidator Grant
2010 - 2015 Vici Grant of the Netherlands Association for Scientific Research
2009 - 2013 CTMM grant "Molecular Diagnosis and Risk Stratification of Sepsis (MARS)"

Patents (issued)

2016 Galactosaminogalactan for use in the treatment of at least one inflammatory disease, US14/760,604
2015 Tumor necrosis factor alpha detection in whole blood samples (licensed), US61/933,716
2014 A novel method for diagnosing Q-fever using a cellular immunological test (licensed), EP6031158
2013 Novel method for diagnosing Lyme disease using a cellular immunological test (licensed), EP6030245
2009 Novel antagonists of the Toll-like receptor 4, EP2076282

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Publications

1. Cheng, S.C., Scicluna, B.P., Arts, R.J., Gresnigt, M.S., Lachmandas, E., Giamarellos-Bourboulis, E.J., Kox, M., Manjeri, G.R., Wagenaars, J.A., Cremer, O.L., Leentjens, J., van der Meer, A.J., van de Veerdonk, F.L., Bonten, M.J., Schultz, M.J., Willems, P.H., Pickkers, P., Joosten, L.A., van der Poll, T., and **Netea, M.G.** (2016). Broad defects in the energy metabolism of leukocytes underlie immunoparalysis in sepsis. *Nat Immunol* 17, 406-413.
2. **Netea, M.G.**, Joosten, L.A., Latz, E., Mills, K.H., Natoli, G., Stunnenberg, H.G., O'Neill, L.A., and Xavier, R.J. (2016). Trained immunity: A program of innate immune memory in health and disease. *Science* 352, aaf1098.
3. Schirmer, M., Smeekens, S.P., Vlamakis, H., Jaeger, M., Oosting, M., Franzosa, E.A., Horst, R.T., Jansen, T., Jacobs, L., Bonder, M.J., Kurilshikov, A., Fu, J., Joosten, L.A., Zhernakova, A., Huttenhower, C., Wijmenga, C., **Netea, M.G.**, and Xavier, R.J. (2016). Linking the Human Gut Microbiome to Inflammatory Cytokine Production Capacity. *Cell* 167, 1897.
4. Li, Y., Oosting, M., Smeekens, S.P., Jaeger, M., Aguirre-Gamboa, R., Le, K.T., Deelen, P., Ricano-Ponce, I., Schoffelen, T., Jansen, A.F., Swertz, M.A., Withoff, S., van de Vosse, E., van Deuren, M., van de Veerdonk, F., Zhernakova, A., van der Meer, J.W., Xavier, R.J., Franke, L., Joosten, L.A., Wijmenga, C., Kumar, V., and **Netea, M.G.** (2016). A Functional Genomics Approach to Understand Variation in Cytokine Production in Humans. *Cell* 167, 1099-1110 e1014.
5. Ter Horst, R., Jaeger, M., Smeekens, S.P., Oosting, M., Swertz, M.A., Li, Y., Kumar, V., Diavatopoulos, D.A., Jansen, A.F., Lemmers, H., Toenhake-Dijkstra, H., van Herwaarden, A.E., Janssen, M., van der Molen, R.G., Joosten, I., Sweep, F.C., Smit, J.W., Netea-Maier, R.T., Koenders, M.M., Xavier, R.J., van der Meer, J.W., Dinarello, C.A., Pavelka, N., Wijmenga, C., Notebaart, R.A., Joosten, L.A., and **Netea, M.G.** (2016). Host and Environmental Factors Influencing Individual Human Cytokine Responses. *Cell* 167, 1111-1124 e1113.
6. Cheng, S.C., Quintin, J., Cramer, R.A., Shepardson, K.M., Saeed, S., Kumar, V., Giamarellos-Bourboulis, E.J., Martens, J.H., Rao, N.A., Aghajani-refah, A., Manjeri, G.R., Li, Y., Ifrim, D.C., Arts, R.J., van der Veer, B.M., Deen, P.M., Logie, C., O'Neill, L.A., Willems, P., van de Veerdonk, F.L., van der Meer, J.W., Ng, A., Joosten, L.A., Wijmenga, C., Stunnenberg, H.G., Xavier, R.J., and **Netea, M.G.** (2014). mTOR- and HIF-1alpha-mediated aerobic glycolysis as metabolic basis for trained immunity. *Science* 345, 1250684.
7. Saeed, S., Quintin, J., Kerstens, H.H., Rao, N.A., Aghajani-refah, A., Matarese, F., Cheng, S.C., Ratter, J., Berentsen, K., van der Ent, M.A., Sharifi, N., Janssen-Megens, E.M., Ter Huurne, M., Mandoli, A., van Schaik, T., Ng, A., Burden, F., Downes, K., Frontini, M., Kumar, V., Giamarellos-Bourboulis, E.J., Ouweland, W.H., van der Meer, J.W., Joosten, L.A., Wijmenga, C., Martens, J.H., Xavier, R.J., Logie, C., **Netea, M.G.**, and Stunnenberg, H.G. (2014). Epigenetic programming of monocyte-to-macrophage differentiation and trained innate immunity. *Science* 345, 1251086.
8. Quintin, J., Saeed, S., Martens, J.H., Giamarellos-Bourboulis, E.J., Ifrim, D.C., Logie, C., Jacobs, L., Jansen, T., Kullberg, B.J., Wijmenga, C., Joosten, L.A., Xavier, R.J., van der Meer, J.W., Stunnenberg, H.G., and **Netea, M.G.** (2012). *Candida albicans* infection affords protection against reinfection via functional reprogramming of monocytes. *Cell Host Microbe* 12, 223-232.
9. van de Veerdonk, F.L., Plantinga, T.S., Hoischen, A., Smeekens, S.P., Joosten, L.A., Gilissen, C., Arts, P., Rosentul, D.C., Carmichael, A.J., Smits-van der Graaf, C.A., Kullberg, B.J., van der Meer, J.W., Lilic, D., Veltman, J.A., and **Netea, M.G.** (2011). STAT1 mutations in autosomal dominant chronic mucocutaneous candidiasis. *N Engl J Med* 365, 54-61.
10. **Netea, M.G.**, Quintin, J., and van der Meer, J.W. (2011). Trained immunity: a memory for innate host defense. *Cell Host Microbe* 9, 355-361.