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Esther N.M. Nolte-'t Hoen, PhD

Personal information:

Family name, first name: Nolte-'t Hoen, Esther N.M.
Date and place of birth: 8-July-1976, Hilversum, The Netherlands
URL for web site: <http://www.uu.nl/medewerkers/ENMNoltetHoen/0>

Education :

2003, Dec 1st: PhD degree at Utrecht University, Dept Immunology, Fac Veterinary Medicine, The Netherlands ('Tuning of T cell responses by regulatory T cells')
1999, Aug 18th : MSc degree (*with honor*) in Medical Biology at the Vrije Universiteit Amsterdam

Positions and employment

2004-2006 Postdoctoral fellow, Imperial College London, Div. Cell and Molecular Biology, London, UK
2006-2013 Senior Researcher, Department of Biochemistry & Cell Biology, Fac Veterinary Medicine, Utrecht University, Utrecht, The Netherlands
2013-present Assistant Professor and independent group leader, Department of Biochemistry & Cell Biology, Fac Veterinary Medicine, Utrecht University, Utrecht, The Netherlands

Research group:

Independent group leader since 2012, heading a research group focusing on 1) the role of extracellular vesicles during picornavirus infection; 2) unravelling the non-coding transcriptome of extracellular vesicles released by immune cells; 3) identification of vesicle-associated non-coding RNAs in body fluids as biomarkers for (chronic) inflammation

- Supervision of 7 PhD students (4 completed, 3 ongoing)
- Supervision of 1 technician
- Supervision of the intern ships within my group of >20 undergraduate students (Imperial College London and Utrecht University)

Other academic activities:

- Lecturing in immunology and cell biology classes for undergraduate students in Veterinary Medicine, Utrecht University
- Tutoring undergraduate students in Veterinary Medicine, Utrecht University
- Organization of master classes for PhD students, Utrecht University
- Lecturing in extracellular vesicle biology for master students and PhD students at Utrecht University, (Free) University of Amsterdam, and Eindhoven University of Technology
- Organization of "One Health Infection & Immunity" seminar series, Utrecht University

Funding:

- NWO ALW Open Programme (2017): 'The role of Extracellular Vesicles in picornavirus infections: Playing good cop, bad cop?'. Size 294 k€
- ERC starting grant (2013): 'Communication between immune cells via release of RNA-carrying vesicles: Lessons from viruses'. Size 1,500 k€
- Netherlands Organization for Scientific Research (NWO Enabling Technologies project nr 435002022). 'Characterization and quantification of maternal RNAs transferred to the child through breast milk; data ingestion via extracellular vesicles'. Size 35 k€

- Netherlands Genomics Initiative (Netherlands Organisation of Scientific Research) (2009-2011). ‘Comprehensive analysis of RNA species in immune cell exosomes and their effects on the transcriptome of target cells’ (93519013). Size 100 k€

Activities in the field of Extracellular Vesicles

2012-present	Member of the International Society for Extracellular Vesicles
2012-present	Editorial Board Member, Journal of Extracellular Vesicles
2012	Founding member of Vesiclepedia, a compendium of molecular data (lipid, RNA and protein) identified in different classes of extracellular vesicles
2012-present	Substitute Member Management Committee EU COST Action: BM1202 European Network on Microvesicles and Exosomes in Health and Disease
2013	Co-organizer of the third annual conference of the International Society for Extracellular Vesicles (Rotterdam, The Netherlands)
2015	Organizer of the second international ISEV research seminar on extracellular vesicle RNA (Utrecht, The Netherlands)
2014-present	Organizer/Trainer of the annual EMBL Advanced course ‘Extracellular Vesicles Purification, Identification and Translation’ in Heidelberg, Germany
2017	Coordinator of ISEV position paper on EV-associated RNA
2017	Founding board member of the Netherlands Society for Extracellular Vesicles (NLSEV)
2017-present	Organization of the annual meetings of NLSEV
2018-present	Associate editor for journal of Extracellular Vesicles
2020-2022	Vice-chair (2020) and chair (2022) of the Gordon Research Conference on Extracellular Vesicles

Selected publications:

- Driedonks TAP, Mol S,....., Nolte-'t Hoen ENM. Y-RNA subtype ratios in plasma extracellular vesicles are cell type- specific and are candidate biomarkers for inflammatory diseases. *J Extracellular Vesicles*, 2020
- Kuipers ME, Nolte-'t Hoen ENM, van der Ham AJ, Ozir-Fazalalikhhan A, Nguyen DL, de Korne CM, Koning RI, Tomes JJ, Hoffmann KF, Smits HH, Hokke CH DC-SIGN mediated internalisation of glycosylated extracellular vesicles from *Schistosoma mansoni* increases activation of monocyte-derived dendritic cells. *J Extracellular Vesicles*, 2020
- van der Grein SG, Defourny KAY, Rabouw HH, Galiveti CR, Langereis MA, Wauben MHM, Arkesteijn GJA, van Kuppeveld FJM, Nolte-'t Hoen ENM. Picornavirus infection induces temporal release of multiple extracellular vesicle subsets that differ in molecular composition and infectious potential. *PLoS Pathog*. 2019
- Driedonks TAP, van der Grein SG, Ariyurek Y, Buermans HPJ, Jekel H, Chow FWN, Wauben MHM, Buck AH, 't Hoen PAC, Nolte-'t Hoen ENM. Immune stimuli shape the small non-coding transcriptome of extracellular vesicles released by dendritic cells. *Cell Mol Life Sci*. 2018
- Libregts SFWM, Arkesteijn GJA, Németh A, Nolte-'t Hoen ENM, Wauben MHM. Flow cytometric analysis of extracellular vesicle subsets in plasma: impact of swarm by particles of non-interest. *J Thromb Haemost*. 2018
- B. Mateescu, E.J. Kowal, ..., E.N.M. Nolte-'t Hoen. Obstacles and opportunities in the functional analysis of extracellular vesicle RNA - an ISEV position paper. *J Extracell Vesicles*. 2017
- E.N.M. Nolte-'t Hoen, T. Cremer T, R.C. Gallo, L.B. Margolis. Extracellular vesicles and viruses: Are they close relatives? *Proc Natl Acad Sci U S A*. 2016
- T.G. Kormelink, G.J.A. Arkesteijn, F.A. Nauwelaers, G. van den Engh, E.N.M. Nolte-'t Hoen, M.H.M. Wauben. Prerequisites for the analysis and sorting of extracellular vesicle subpopulations by high-resolution flow cytometry. *Cytometry A*. 2015 Feb 16
- S.G. van der Grein, E.N.M. Nolte-'t Hoen. "Small Talk" in the Innate Immune System via RNA-Containing Extracellular Vesicles. *Front Immunol*. 2014 Oct 29;5:542

- A.F. Hill, D.M. Pegtel, U. Lambertz, T. Leonardi, L. O'Driscoll, S. Pluchino, D. Ter-Ovanesyan, E.N.M. Nolte-'t Hoen. ISEV position paper: extracellular vesicle RNA analysis and bioinformatics. *J. Extracellular Vesicles*. 2013 Dec 23;2
- Esther N.M. Nolte-'t Hoen, Henk P. J. Buermans, Maaïke Waasdorp, Willem Stoorvogel, Marca H.M. Wauben, and Peter A. C. 't Hoen. Deep sequencing of RNA from immune cell-derived vesicles uncovers the selective incorporation of small noncoding RNA biotypes with potential regulatory functions. *Nucleic Acids Research* 2012 Oct;40(18):9272-85
- Els J. van der Vlist*, Esther N.M. Nolte-'t Hoen*, Willem Stoorvogel, Ger J.A. Arkesteijn, and Marca H.M. Wauben. Fluorescent labeling of nano-sized vesicles released by cells and subsequent quantitative and qualitative analysis by high-resolution flow cytometry. *Nature Protocols* 2012 Jun 14;7(7):1311-26.
- Esther N.M. Nolte-'t Hoen, Els J. van der Vlist, Marian Aalberts, Hendrik C.H. Mertens, Berend Jan Bosch, Willem Bartelink, Enrico Mastrobattista, Ethlenn V.B. van Gaal, Willem Stoorvogel, Ger J.A. Arkesteijn, and Marca H.M. Wauben. Quantitative and qualitative flow cytometric analysis of nano-sized cell-derived membrane vesicles. *Nanomedicine* 2012 Jul;8(5):712-20.