

RAYMOND SCHIFFELERS

Professor of Nanomedicine

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Academic scientist with a strong track record in public private partnership projects and individual excellence grants.

EXPERIENCE

- 2015-Professor** **UMC Utrecht**
Head of CDL research with ~50 lab members
- 2004-2015 Assistant/Associate professor** **Utrecht University/UMC**
Tenure track position at dept Pharmaceutics, supervised 19 PhD theses
- 2002-2004 Post-doc** **Intradigm Co.**
International collaboration between Utrecht University and Intradigm Co (Washington DC)

EDUCATION

- 1996-2001 PhD** **Erasmus University**
Liposomal targeting of antimicrobial agents to bacterial infections. Supervisor: Prof. G. Storm
- 1989-1996 MSc** **Leiden University**
Major Biopharmaceutics
Minor Molecular Biology
- 1993-1994 Industrial trainee** **SmithKline&Beecham**
Internship in dept Vascular Biology (the Frythe, Welwyn, UK)

PERSONAL



Based on 360° feedback from colleagues within the Connecting Leaders Track of UMC Utrecht.

SCIENTIFIC FIELD

- Bio-inspired drug delivery systems**
Using natural nanoparticles, such as, extracellular vesicles, for delivery of biologicals, in particular RNA.
- Synthetic drug delivery systems**
Two research lines: Old drugs-new therapeutics, improving performance of existing drugs by widening the therapeutic window, and synthetic delivery stems for the delivery of biological therapeutics

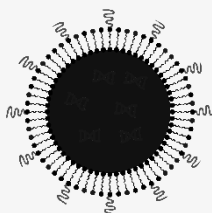
GRANT HIGHLIGHTS

Type	Year	€
H2020 RIA EXPERT* mRNA therapy; coordinator	2019	15 M
H2020 RIA B-SMART* siRNA brain delivery; coordinator	2017	6 M
NWO HTSM TORNADO* Cancer mRNA vaccine	2017	1.3 M
NWO-Dutch Cancer Society* Local delivery in glioblastoma	2016	0.8 M
Health Holland NANOCAR* Targeting thrombi	2016	0.8 M
ERC Consolidator MINDS Extracellular vesicles for drug delivery, for excellent researchers	2010	1.5 M
NWO Vidi Innovational Research For top 10% researchers	2008	1 M

*With industry

AWARDS

- Galenus Research Award** **2009**
Best pharmaceutical researcher in the Netherlands
- Utrecht University Pharmacy Silver Medal 2013**
For outstanding performance



ACADEMIC PERFORMANCE

I am head of research of CDL within the Division of Laboratories, Pharmacy & Biomedical Genetics of the UMC Utrecht. This Laboratory has 9 PIs in 4 research themes. Within my team we aim to enable innovative therapeutics using nanomedicines. We have a strong background in synthetic drug delivery systems and RNA delivery and are very active in the emerging field of extracellular vesicles.

These subjects form also the core of my teaching interests: I coordinate a Master course on Nanomedicine and participate in classes on Pharmaceutical Biotechnology, Nanomedicine, Nanotechnology and Hematology. I am also tutor in the Bachelor Biomedical Sciences.

In essentially all of our projects we work together with industry. This provides a clear focus on applicability of our research. In addition, since our move from the School of Pharmacy to the Medical Centre, we increasingly work together with clinicians to discuss the opportunities for our solutions in clinical practice. This leads to a much better understanding of the critical qualities that a nanomedicine must possible to be appropriate for use.

In my duties at Institutional level, I primarily focus on grant advise, given my extensive track record, as well as reform of the way we practice and appraise science.

RESEARCH

Publications >200	h-index 69 (Google scholar)	Times cited >21000
Editor International Journal Pharmaceutics Journal Controlled Release	Associate editor Journal Extracellular Vesicles Pharmaceutical Research	PhD theses Supervisor of >25 PhD students who successfully defended their thesis
Review past 5 years Member evaluation panel EuroNanoMed, E-RARE, Perspective grants, Norwegian Research Council	Review past 5 years Reviewer of individual applications NWO Veni, Vidi, HTSM grants, Deutsche Forschungs Gemeinschaft, Flemish Fundamental Research, Israel Science Foundation	Recognition Identified as 2020 Highly Cited Researcher By Clarivate Analytics
Vice chair European Technology Platform Nanomedicine	Scientific Advisory Board eTheRNA Immunotherapies Anjarium BioSciences SentryX	CSO Excycetx

Ten most cited papers

- Cancer siRNA therapy by tumor selective delivery with ligand-targeted sterically stabilized nanoparticle, RM Schiffelers, A Ansari, J Xu, Q Zhou, Q Tang, G Storm, G Molema, P Lu, PV Scaria, MC Woodle *Nucleic acids research* 32 (19), e149-e149, 2004. *1026 times*
- Vesiclepedia: a compendium for extracellular vesicles with continuous community annotation, H Kalra, et al *PLoS biology* 10 (12), e1001450, 2012. *538 times*
- RGD-based strategies for selective delivery of therapeutics and imaging agents to the tumour vasculature, K Temming, RM Schiffelers, G Molema, RJ Kok, *Drug resistance updates* 8 (6), 381-402, 2005. *451 times*
- Anti-tumor efficacy of tumor vasculature-targeted liposomal doxorubicin, RM Schiffelers, GA Koning, TLM ten Hagen, MHAM Fens, AJ Schraa, APCA Janssen, RJ Kok, G Molema, G Storm *Journal of Controlled Release* 91 (1-2), 115-122, 2003. *387 times*
- Curcumin nanoformulations: a review of pharmaceutical properties and preclinical studies and clinical data related to cancer treatment Naksuriya, S Okonogi, RM Schiffelers, WE Hennink *Biomaterials* 35 (10), 3365-3383, 2014. *350 times*
- Inhibition of ocular angiogenesis by siRNA targeting vascular endothelial growth factor pathway genes: therapeutic strategy for herpetic stromal keratitis B Kim, Q Tang, PS Biswas, J Xu, RM Schiffelers, FY Xie, AM Ansari, PV Scaria, MC Woodle, P Lu, BT Rouse. *The American journal of pathology* 165 (6), 2177-2185, 2004. *324 times*
- Thermosensitive and biodegradable polymeric micelles for paclitaxel delivery, O Soga, CF van Nostrum, M Fens, CJF Rijcken, RM Schiffelers, G Storm, WE Hennink, *Journal of Controlled Release* 103 (2), 341-353, 2005. *293 times*
- In vivo imaging reveals extracellular vesicle-mediated phenocopying of metastatic behavior, A Zomer, C Maynard, FJ Verweij, A Kamermans, R Schäfer, E Beerling, RM Schiffelers, E de Wit, J Berenguer, SJJ Ellenbroek, T Wurdinger, DM Pegtel, J van Rheenen, *Cell* 161 (5), 1046-1057, 2015. *287 times*
- Exosome mimetics: a novel class of drug delivery systems SAA Kooijmans, P Vader, SM van Dommelen, WW van Solinge, RM Schiffelers. *International journal of nanomedicine* 7, 1525, 2012. *228 times*
- Cellular stress conditions are reflected in the protein and RNA content of endothelial cell-derived exosomes OG de Jong, MC Verhaar, Y Chen, P Vader, H Gremmels, G Posthuma, RM Schiffelers, M Gucek, BWM van Balkom, *Journal of extracellular vesicles* 1 (1), 18396, 2012. *218 times*

CURRENT GRANTS

Type	Year	€
ZonMW TRIPLET Delivery of therapeutics to the placenta, 3 partners, main applicant	2020-2025	1.1 M
H2020 MCSA ProEVLifecycle Marie Skłodowska Curie fellowship program on extracellular vesicles in prostate cancer, 11 partners	2020-2024	0.3 M
NWO Refugees in Science TRITON Targeting RNA for Immuno Therapy in ONcology Together with Khalid Aldakkak	2019-2021	50 k
H2020 RIA EXPERT Expanding Platforms for Effective RNA Therapeutics mRNA delivery for immune therapy and tissue regeneration, 5 universities 5 industries, coordinator	2019-2024	15 M
H2020 RIA B-SMART Brain-Specific Modular & Active RNA Therapeutics siRNA delivery to the brain for treatment of Alzheimer's disease and Spinal Bulbar Muscular Atrophy, 4 universities 5 industries, coordinator	2017-2022	6 M
NWO HTSM TORNADO Targeting of RNA Driving Onco-immune therapy Delivery of immunogenic mRNA-based vaccine to boost tumor immunity; 2 universities 2 industries, main applicant	2017-2022	1.3 M
NWO-Dutch Cancer Society Local controlled release of radiation or antitumor drugs in glioblastoma 2 universities 2 industries, main applicant	2016-2021	0.8 M
Health Holland NANOCAR Nanoparticles for imaging and resolution of thrombi particularly in microvasculature; 1 university 1 industry, main applicant	2016-2021	0.8 M

ADDITIONAL

- **Coach for team members**
All my PhD graduates are employed in a position that matches their interest. Approximately 1/3 of them are active in academia. They have been successful in obtaining individual excellence grants, such as 2 x ERC starting grant, 3 x NWO Veni grants, 3 x Marie Curie Fellowships
- **Grant advisor**
Advisor within UMC Utrecht and University for European grants and individual excellence grants
- **Science in Transition Committee**
Member of a committee in UMC Utrecht that establishes new measures of appraisal for science and scientists beyond the currently used bibliometric parameters.
- **Chair OpenScience-library committee**
Chair of a committee to turn the university library into an expertise center for OpenData and OpenAccess.