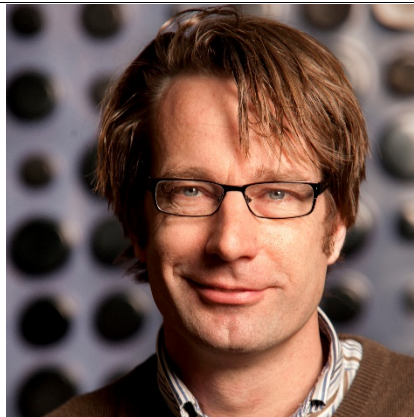


Curriculum Vitae Prof. dr. J.N.H. Reek



Joost Reek finished his masters at the University of Nijmegen in 1991 and received his PhD in 1996 at the same university. His research was done in the group of Prof. R.J.M. Nolte, where he acquired expertise in the field of supramolecular chemistry and synthesis. He attended the group of Prof. M.J. Crossley in Sydney as a postdoctoral fellow in 1996, where he got experienced in porphyrin chemistry and dendrimers. In a collaboration with Prof. K. Ghiggino he studied the photophysical properties of porphyrin functionalized dendrimers that served as models for the light harvesting II system.

In January 1998 he became lecturer (senior lecturer in 2003) in the group of Prof. Van Leeuwen where he got experienced with transition metal catalysis. Collaborative research activities with van Leeuwen focused on transition metal catalysis, catalyst immobilization and dendritic transition metal catalysis. In this period he started his own successful new line of research on the border transition metal catalysis and supramolecular chemistry, which has resulted in several patents, many papers in high impact journals and an appointment as full professor (chair supramolecular catalysis) at the University of Amsterdam in 2006. In addition, in 2006 he founded a company, Cat-fix, to commercialize some of the invention in the area of supramolecular catalysis, and InCatT (innovative catalyst technologies) has been launched as a second spin-off company in 2009. In 2005 he was elected a young member of royal Dutch academy of sciences (KNAW). As a young member of the KNAW he is active in visiting high schools, organizing meetings on interdisciplinary research topics and he is taking part in the committee judging the KNAW recognized research schools in the area of natural sciences. In 2013 he was elected as a new member of the Royal Holland Society of Sciences and Humanities (Koninklijke Hollandse Maatschappij der Wetenschappen, KHMW).

He received numerous grants including two CW-JC (Jonge chemici; special program for talented young chemists) and prestigious NWO VICI grant (2002) and TOP grants, a large grant from economic affairs and recently the ERC advance grant. The work also resulted in numerous collaborations with industry and academia. He was the coordinator of a successful European research training network, and is involved in other EU networks. He currently heads a research group of around 40 people, with 22 PhD students and 9 post-docs, working on various topics related to supramolecular chemistry and transition metal catalysis. He is member of the management team of the NRSCC (top research school catalysis), member of the International advisory board of the European journal of inorganic chemistry, and chair of the study group coordination chemistry and homogeneous catalysis of the NWO, boardmember of the KNCV (the royal dutch chemistry society). In addition, he is in the board of a national

research program that aims for the creation of artificial leaves towards new solutions for green energy. With more than 230 scientific papers published, his H-index is currently 48 (in 2010 he was on the 643th position in the top 1000 most cited chemists in the world, at the age of 43). He has (co)edited a book on dynamic combinatorial chemistry, a new field of science that is strongly inspired by natural selection events. In 2007 he was the lecture for the troisième cycle (in Switzerland) and in 2008 he was the DSM-lecture at the ICOMC in Rennes, in the Erdtman Lecture in 2009. In 2011 he was invited to a DoE workshop on CO₂ reduction, to advise the department of Energy in US. Since November 2013 he is scientific director of the HIMS institute.

Resume in bullets

PhD 1996 (promotor Prof dr. RJM Nolte, RU Nijmegen)
Post-doc 1996-1998 (University Sydney)
Assistent professor 1998 (UvA)
Associate professor 2003 (UvA)
Full Professor 2006 (UvA)
NWO-VICI grant 2002
Member of Young academy of science 2006-2011
Management team NRSCC since 2008
Director Cat-fix 2006-2009
Director InCatT since 2009
Management team Biosolarcel since 2010
Boardmember KNCV since 2009
NWO-TOP grant 2009
Chair of NWO work group Coordination and Catalysis since 2008
Member of program committee CHAINS 2011
Advisory Board *Eur. J. Inorg Chem.* Since 2008
Advisory Board *ChemplusChem* since 2011
Member of the Royal Holland Society of Sciences and Humanities (KHMW)
Member (Chair 2013-2016) UOC UvA (committee that advises the rector the board of UvA)
Director of research priority area sustainable chemistry UvA (2013)
ERC Advance grant (2013)

Key publications:

- V.C. Slagt, J.N.H. Reek*, P.C.J. Kamer and P.W.N.M. van Leeuwen, Assembly of Encapsulated Transition Metal Catalysts, *Angew. Chem. Int. Ed.*, **2001**, *40*, 4271-4274 (Front cover)
- D. de Groot, B.F.M de Waal, J.N.H Reek,* A.P.H.J. Schenning, P.C.J. Kamer, E.W. Meijer,* P.W.N.M. van Leeuwen, Noncovalently Functionalized Dendrimers as Recyclable Catalysts. *J. Am. Chem. Soc.* **2001**, *123*, 8453.
- V.F. Slagt, P.W.N.M. van Leeuwen, J.N.H. Reek*, Multicomponent porphyrin assemblies as functional bidentate phosphite ligands for regioselective rhodium-catalyzed hydroformylation. *Angew. Chem. Int. Ed.* **2003**, *42*, 5619.
- V. F. Slagt, P. C. J. Kamer, P. W. N. M. van Leeuwen, J. N. H. Reek* Encapsulation of Transition Metal Catalysts by Ligand-Template Directed Assembly, *J. Am. Chem. Soc.* **2004**, *126*, 1526.

- R. Chen, R.P.J. Bronger, P. C. J. Kamer, P. W. N. M. van Leeuwen, J. N. H. Reek* “Noncovalent anchoring of Homogeneous Catalysts to Silica Supports with well-defined Binding Sites” *J. Am. Chem. Soc.* **2004**, *126*, 14557.
- C. Muller, L. J. Ackerman, J. N. H. Reek*, P. C. J. Kamer, P. W. N. M. van Leeuwen* “Site-Isolation Effects in a Dendritic Nickel Catalyst for the Oligomerization of Ethylene” *J. Am. Chem. Soc.* **2004**, *126*, 14960.
- V. F. Slagt, M. Röder, P. C. J. Kamer, P. W. N. M. van Leeuwen, J. N. H. Reek* Supraphos: A Supramolecular Strategy To Prepare Bidentate Ligands. *J. Am. Chem. Soc. (communication)* **2004**, *126*, 4056.
- X.-B. Jiang, L. Lefort, P. E. Goudriaan, A. H. M. de Vries, P. W. N. M. van Leeuwen, J. G. de Vries, and J. N. H. Reek*, “Robotic screening of a supramolecular catalyst library in the search for selective catalysts for the asymmetric hydrogenation of a difficult enamide substrate” *Angew. Chem. Int. Ed.* **2006**, *45*, 1223. (Hot Article)
- M. Kuil, T. Soltner, P. W. N. M. van Leeuwen, J.N. H. Reek*, ”High-precision catalysts: regioselective hydroformylation of internal alkenes by encapsulated rhodium complexes” *J. Am. Chem. Soc. (communication)* **2006**, *128*, 11344.
- B. de Bruin, P. Hauwert, J.N.H. Reek*, “Dynamic Combinatorial Chemistry: The Unexpected Choice of Receptors by Guest Molecules” *Angew. Chem. Int. Ed.* **2006**, *45*, 2660.
- J. Flapper, J. N. H. Reek* “Templated Encapsulation of Pyridyl-Bian Palladium Complexes: Tunable Catalysts for CO/4-*tert*-Butylstyrene Copolymerization” *Angew. Chem. Int. Ed.* **2007**, *46*, 8590
- F.W. Patureau, M. Kuil, A.J. Sandee, J.N.H. Reek*, “METAMORPhos: Adaptive supramolecular ligands and their mechanistic consequences for asymmetric hydrogenation” *Angew. Chem. Int. Ed.* **2008**, *47*, 3180.
- F.W. Patureau, S. de Boer, M. Kuil, J. Meeuwissen, P.-A. R. Breuil, M.A. Siegler, A. L. Spek, A.J. Sandee, B. de Bruin, J.N.H. Reek*, “Sulfonamido-Phosphoramidite Ligands in Cooperative Dinuclear Hydrogenation Catalysis”. *J. Am. Chem. Soc.* **2009**, *131*, 6683-6685.
- A.M. Kluwer, R. Kapre, F. Hartl*, M. Lutz, A.L. Spek, A.M. Brouwer, P.W.N.M van Leeuwen*, J.N.H. Reek* “Self-assembled Biomimetic [2Fe2S]-Hydrogenase Based Photocatalyst for Molecular Hydrogen Evolution” *PNAS*, **2009**, *26*, 10460.
- P. R. Breuil, F. W. Patureau and J. N. H. Reek*’LEUPhos: Single hydrogen-bonded supramolecular ligands for highly selective rhodium-catalyzed hydrogenation of methyl 2-hydroxymethylacrylate and its derivatives’ *Angew. Chem. Int. Ed.*, **2009**, *48*, 2162.
- J. Wassenaar, E. Jansen, W.-J. van Zeist, F. M. Bickelhaupt*, M. A. Siegler, A. L. Spek, and J. N. H. Reek* Catalyst selection based on intermediate stability measured by mass spectrometry, *Nature Chemistry*, **2010**, *2*, 417, highlighted in C&E News.
- P. Dydio, W.I. Dzik, M. Lutz, B. de Bruin, J.N.H. Reek* “Remote Supramolecular Control of Catalyst Selectivity in the Hydroformylation of Alkenes” *Angew. Chem. Int. Ed.*, **2011**, *50*, 396-400.
- A. Cavarzan, A. Scarso*, P. Sgarbossa, G. Strukul, J.N.H. Reek*, ”Supramolecular Control on Chemo- and Regioselectivity via Encapsulation of (NHC)-Au Catalyst within a Hexameric Self-Assembled Host” *J. Am. Chem. Soc.* **2011**, *133*, 2848-2851.

- R. Bellini, S. H. Chikkali, G. Berthon-Gelloz,* J. N. H. Reek*, "Supramolecular control of ligand coordination and implications for hydroformylation reaction" *Angew. Chem. Int Ed.*, **2011**, *50*, 7342-7345.
- P. Dydio, C. Rubay, T. Gadzikwa, M. Lutz, and J. N. H. Reek* "Cofactor"-Controlled Enantioselective Catalysis, *J. Am. Chem. Soc.* **2011**, *133*, 17176 **highlighted in C&E News and C2W**.
- T. Gadzikwa, R. Bellini, H.L Dekker, and J. N. H. Reek* "Self-Assembly of a Confined Rhodium Catalyst for Asymmetric Hydroformylation of Unfunctionalized Internal Alkenes", *J. Am. Chem. Soc.* **2012**, *134*, 2860
- S.H. Chikkali, R. Bellini, B. de Bruin, J.I van der Vlugt, and J. N. H. Reek* "Highly Selective Asymmetric Rh-Catalyzed Hydroformylation of Heterocyclic Olefins", *J. Am. Chem. Soc.* **2012**, *134*, 6607.
- P. Dydio J. N. H. Reek* 'Supramolecular Control of Selectivity in Hydroformylation of Vinyl Arenes: Easy Access to Valuable Beta-Aldehyde Intermediates' *Angew. Chem. Int. Ed.*, **2013**, *52*, 3878. **Highlighted in Nature Chemistry**.
- P. Dydio, R. Detz, **J.N.H. Reek*** "Precise Supramolecular Control of Selectivity in the Rh-Catalyzed Hydroformylation of Terminal and Internal Alkenes" *J. Am. Chem. Soc.* **2013** *135*, 10817.

Key-reviews:

- G.E. Oosterom, J.N.H. Reek,* P.C.J. Kamer, and P.W.N.M. van Leeuwen,* Transition metal catalysis using functionalized dendrimers. *Angew. Chem. Int. Ed. Engl.* **2001**, *40*, 1828.
- R. van Heerbeek, P.C.J. Kamer, P.W.N.M. van Leeuwen, J. N. H. Reek,* Dendrimers as soluble support to anchor homogeneous catalysts" *Chem. Rev.*, **2002**, *102*, 3717.
- M. J. Wilkinson, P. W. N. M. van Leeuwen, J. N. H. Reek* Perspective article "New directions in supramolecular transition metal catalysis" *Org. Bio. Chem.* **2005** *3*, 2371.
- A.J. Sandee, J. N. H. Reek,* "Supramolecular ligands: the future for transition metal catalysis?" *Dalton. Trans.* **2006**, 2308
- T.S. Koblenz, J. Wassenaar J. N. H. Reek* "[Reactivity within a confined self-assembled nanospace](#)" *Chem. Soc. Rev.*, **2008**, *37*, 247 (**inside cover**)
- P.E. Goudriaan, P. W. N. M. van Leeuwen, M.N. Birkholz, J. N. H. Reek* "[Libraries](#) of bidentate phosphorus ligands; synthesis strategies and application in catalysis", *Eur. J. Inorg. Chem.* **2008**, 1309. (Front cover)
- J. Meeuwissen and J.N.H Reek*, "New directions in supramolecular catalysis," *Nature Chemistry*, **2010**, *2*, 615.
- D. Hetterscheid, J. N. H. Reek,* "Mononuclear water oxidation catalysts" *Angew. Chem. Int Ed.* **2012**, *51*, 9740.