CURRICULUM VITAE

Willem-Jan van Zeist
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Date of birth: 25 June, 1982, Middelburg

EMPLOYMENT

Researcher at Wageningen Economic Research, 09/2020 – Present

- Working with the MAGNET model.

Researcher Land Use and Climate at Planbureau voor de Leefomgeving, 10/2016 – 09/2020

- Working with the IMAGE modelling framework on the land component, focusing on amongst others agricultural intensification, agricultural economy effects, biodiversity impacts and food security.
- Improving data exchange between various subcomponents of the IMAGE framework to the IMAGE-land module.
- Scenario development and analysis in IMAGE and MAGNET, including improving the GEMPACK code where necessary for improving scenario implementations and adding features in MAGNET.
- Reporting outcomes for, amongst others, Shared Socioeconomic Pathways, AgMIP scenarios, Global Land Outlook 2 (focus on sub-Saharan Africa), and Post-2020 Global Biodiversity scenarios.
- Supervision of multiple master students.
- Active in Young PBL and Duurzaam PBL.

Freelance work, 2019

- Review of an animal production life cycle assessment tool (software developed by Blonk Consultants).

(Senior) Consultant/researcher at Blonk Consultants, 04/2011 – 09/2016

- Experienced researcher and consultant in environmental life cycle analyses and sustainability reporting, with a focus on agriculture, food production, food processing and related sectors.
- Project manager or principal consultant for various projects related to environmental impact analyses for various feed, food & beverage companies, industry associations, NGOs, and governments (e.g. Heineken International, Gelatine Manufacturers Europe, Productschap Diervoeder).
- Creating and applying data analysis models, as well as reporting tools for communicating results to clients.

Project leader Mobile Learning Initiative at Vrije Universiteit Amsterdam, 06/2010 - 03/2011

- Coordination of the deployment of digital learning methods and materials into the chemistry curriculum

Ph.D. theoretical chemistry at Vrije Universiteit Amsterdam, 06/2006 - 05/2010

- Title obtained, Cum Laude, on June 15, 2011. PhD Thesis: "Activating Bonds. Theoretical studies of chemical bonds and their catalytic activation by palladium"
- Research of chemical reactions via the use of quantum mechanical models
- Writing scientific papers for international journals and their presentation on (inter)national conferences
- Developing a data analysis program PyFrag (in Python) supporting research activities.
- Teaching activities (supervising students and lecturing)

Programmer (part-time) at Scientific Computing & Modelling, 10/2005 - 06/2006

- Development of the graphical user interface of the Amsterdam Density Functional program.

QUALIFICATIONS

- Broad programming experience (R, Python, amongst others), advanced Excel & VBA knowledge.
- Wide experience with the application and development of computer models to various problems.
- Experience in both in-depth scientific research as well as pragmatic 'getting things done' projects.
- Very independent worker and a fast learner in new working environments.
- Fluent in speaking and writing in Dutch and English.

COURSES

- 2019 - Three-day python course from Vortech (at PBL)
- 2019 - Scientific writing in English (Babel)
- 2018 - Five-day course on Global Environmental Governance (Lundt University)
- 2018 - Data challenge, week-long course/experiment at PBL.
- 2017 - GTAP 101: Computable General Equilibrium modelling (online)

EDUCATION

Theoretical chemistry, Vrije Universiteit Amsterdam — Master of Science, 09/2004 - 06/2006

- Master research project: "Tackling the chemical bond with Kohn-Sham DFT"
- Thesis: "Natural Bond Orbitals analyzed"
- Internship of 3 months at the University of Warwick in Coventry, England
- Special courses: science journalism; programming in Python; atmospheric chemistry

Chemistry, Vrije Universiteit Amsterdam — Bachelor of Science, 09/2001 - 06/2004

Atheneum, Buys Ballot College Goes, 09/1994 - 06/2000

Official transcripts from high school, university, and PhD can be downloaded via this link.

EXTRACURRICULAR ACTIVITIES

2017 - now:	Organizing informal lectures (Skeptics in the Pub Amsterdam) on science & skepticism.
2016 - now:	Board member of Stichting Skepsis (a Dutch organisation dedicated to the promotion and practice of scientific skepticism). Treasurer, responsible for yearly budget of ca. €100.000.
2011:	Treasurer, YES-DC (Young Energy Specialists and Development Co-Operation) network gorup
2007 - 2008:	Organisation of the introductory social weekends for first-year chemistry students
2007:	Member of the organisational committee for the international conference DFT2007 in Amsterdam
2003 - 2007:	Various functions as active member of the Vereniging Chemie Studenten aan de Vrije Universiteit
2005 - 2006:	Organisation of small-scale music festival 'Elastopop' at Uilenstede, Amstelveen
2001 - 2004:	Volunteer Wereldwinkel (Fair Trade Shop), Vrije Universiteit Amsterdam

PERSONAL INTERESTS

Scepticism, science & science fiction, chess, music

PUBLICATIONS

2020

J.C. Doelman, E. Stehfest, D van Vuuren, A. Tabeau, A.F. Hof, M.C. Braakhekke, D.E.H.J. Gernaat, M. van den Berg, W.J. van Zeist, V. Daioglou, H. van Meijl, and P.L. Lucas. **2020**. "Afforestation for Climate Change Mitigation: Potentials, Risks and Trade-Offs." Global Change Biology 26 (3).

H. van Meijl, L. Shutes, H. Valin, E. Stehfest, M. Van Dijk, M. Kuiper, A. Tabeau, W.J. van Zeist, T. Hasegawa, and P. Havlik. **2020**. "Modelling Alternative Futures of Global Food Security: Insights from FOODSECURE." Global Food Security 25 (June): 100358.

A.M. Schipper, J.P. Hilbers, J.R. Meijer, L.H. Antão, A. Benítez-López, M.M.J. de Jonge, L.H. Leemans, E. Scheper, R. Alkemade, J.C. Doelman, S. Mylius, E. Stehfest, D van Vuuren, W.J. van Zeist, and M.A.J. Huijbregts. **2020**. "Projecting Terrestrial Biodiversity Intactness with GLOBIO 4." Global Change Biology 26 (2).

W.J. van Zeist, E. Stehfest, J.C. Doelman, H. Valin, K. Calvin, S. Fujimori, T. Hasegawa, P. Havlik, F. Humpenöder, P. Kyle, H. Lotze-Campen, D. Mason-D'Croz, H. van Meijl, A. Popp, T.B. Sulser, A. Tabeau, W. Verhagen, and K. Wiebe. **2020**. "Are Scenario Projections Overly Optimistic about Future Yield Progress?" Global Environmental Change. Tentatively accepted.

2019

E. Stehfest, W.J. van Zeist, H. Valin, P. Havlik, A. Popp, P. Kyle, A. Tabeau, D. Mason-D'Croz, T. Hasegawa, B.L. Bodirsky, K. Calvin, J.C. Doelman, S. Fujimori, F. Humpenöder, H. Lotze-Campen, H. van Meijl, and K. Wiebe. **2019**. "Key Determinants of Global Land-Use Projections." Nature Communications 10 (1).

A. Tabeau, W.J. van Zeist, E. Berkhout, J.C. Doelman, S. van der Esch, H. van Meijl, and E. Stehfest. **2019**. "Projections of African Agricultural Land and Agri-Food Sector Development: How Much Regional Aggregation of Africa Matter," 2019 Conference Paper. Presented at the 22nd Annual Conference on Global Economic Analysis, Warsaw, Poland.

2018

T. Hasegawa, S. Fujimori, P. Havlík, H. Valin, B.L. Bodirsky, J.C. Doelman, T. Fellmann, P. Kyle, J.F.L. Koopman, H. Lotze-Campen, D. Mason-D'Croz, Y. Ochi, I. Pérez Domínguez, E. Stehfest, T.B. Sulser, A. Tabeau, K. Takahashi, J. Takakura, H. van Meijl, W.J. van Zeist, K. Wiebe, and P. Witzke. **2018**. "Risk of Increased Food Insecurity under Stringent Global Climate Change Mitigation Policy." Nature Climate Change 8 (8).

D. Leclere, M. Obersteiner, R. Alkemade, R. Almond, M. Barrett, G. Bunting, N. Burgess, S. Butchart, A. Chaudhary, S. Cornell, A .De Palma, F. DeClerck, F. Di Fulvio, M .Di Marco, J.C. Doelman, M. Dürauer, S. Ferrier, R. Freeman, S. Fritz, S. Fujimori, M. Grooten, M. Harfoot, T. Harwood, T. Hasegawa, P. Havlik, S. Hellweg, M. Herrero, J.P. Hilbers, S. Hill, A. Hoskins, F. Humpenöder, T. Kram, T. Krisztin, H. Lotze-Campen, G. Mace, T. Matsui, C. Meyer, D. Nel, T. Newbold, H Ohashi, A. Popp, A Purvis, A.M. Schipper, G Schmidt-Traub, E. Stehfest, B Strassburg, A Tabeau, H Valin, H. van Meijl, D van Vuuren, W.J. van Zeist, P Visconti, C Ware, J Watson, W Wu, and L Young. **2018**. "Towards Pathways Bending the Curve Terrestrial Biodiversity Trends within the 21st Century." IIASA. Background report for paper currently under review at Nature.

H. Van Meijl, P. Havlik, H. Lotze-Campen, E. Stehfest, P. Witzke, I.P. Domínguez, B.L. Bodirsky, M. Van Dijk, J.C. Doelman, T. Fellmann, F. Humpenöder, J.F.L. Koopman, C. Müller, A. Popp, A. Tabeau, H. Valin, and W.J. van Zeist. **2018**. "Comparing Impacts of Climate Change and Mitigation on Global Agriculture by 2050." Environmental Research Letters 13 (6).

2014

L.P. Wolters, W.J. van Zeist, and F.M. Bickelhaupt. **2014**. "New Concepts for Designing d10-M(L)$_n$ Catalysts: D Regime, s Regime and Intrinsic Bite-Angle Flexibility." Chemistry - A European Journal 20 (36).

2013

Th.V. Vellinga, H Blonk, M Marinussen, W.J. van Zeist, and D A J Starmans. **2013**. "Methodology Used in FeedPrint: A Tool Quantifying Greenhouse Gas Emissions of Feed Production and Utilization." Report / Wageningen UR Livestock Research : 674. 364, LR - Milieu, : Wageningen UR Livestock Research.

2011

J. Pluimers, H. Blonk, R. Broekema, T.\ Ponsioen, and W.J. van Zeist. **2011**. "Milieuanalyse van Dranken in Nederland. Rapport Voor de Consumentenbond."

W.J. van Zeist and F.M. Bickelhaupt. **2011**. "Steric Nature of the Bite Angle. A Closer and a Broader Look." Dalton Transactions 40 (12).

W.J. van Zeist. **2011**. "PhD Thesis: Activating Bonds - Theoretical Studies of Chemical Bonds and Their Catalytic Activation by Palladium." Vrije Universiteit Amsterdam.

2010

C.T. Martha, W.J. van Zeist, F.M. Bickelhaupt, H. Irth, and W.M.A. Niessen. **2010**. "Tandem Mass Spectrometry of Silver-Adducted Ferrocenyl Catalyst Complexes." Journal of Mass Spectrometry 45 (11).

J. Wassenaar, E. Jansen, W.J. van Zeist, F.M. Bickelhaupt, M.A. Siegler, A.L. Spek, and J.N.H. Reek. **2010**. "Catalyst Selection Based on Intermediate Stability Measured by Mass Spectrometry." Nature Chemistry 2 (5).

W.J. van Zeist and F.M. Bickelhaupt. **2010**. "Comment on 'the Interplay between Steric and Electronic Effects in SN2 Reactions.'" Chemistry - A European Journal 16 (19).

W.J. van Zeist, and F.M. Bickelhaupt. **2010**. "The Activation Strain Model of Chemical Reactivity." Organic and Biomolecular Chemistry 8 (14).

W.J. van Zeist, Y. Ren, and F.M. Bickelhaupt. **2010**. "Halogen versus Halide Electronic Structure." Science China Chemistry 53 (1).

2009

W.J. van Zeist, R. Visser, and F.M. Bickelhaupt. **2009**. "The Steric Nature of the Bite Angle." Chemistry - A European Journal 15 (25).

W.J. van Zeist and F.M. Bickelhaupt. **2009**. "Trends and Anomalies in H-AH$_n$ and CH$_3$-AH$_n$ Bond Strengths (AH$_n$ = CH$_3$, NH$_2$, OH, F)." Physical Chemistry Chemical Physics 11 (44).

2008

M.J. van Eis, F.M. Bickelhaupt, S. van Loon, M. Lutz, A.L. Spek, W.H. de Wolf, and W.J. van Zeist. **2008**. "Tricarbonylchromium Complexes of [5]- and [6]Metacyclophane: An Experimental and Theoretical Study." Tetrahedron 64 (51).

L. Orian, W.J. van Zeist, and F.M. Bickelhaupt. **2008**. "Linkage Isomerism of Nitriles in Rhodium Half-Sandwich Metallacycles." Organometallics 27 (16).

W.J. van Zeist, A.H. Koers, L.P. Wolters, and F.M. Bickelhaupt. **2008**. "Reaction Coordinates and the Transition-Vector Approximation to the IRC." Journal of Chemical Theory and Computation 4 (6).

W.J. van Zeist, C.F. Guerra, and F.M. Bickelhaupt. **2008**. "PyFrag-Streamlining Your Reaction Path Analysis." Journal of Computational Chemistry 29 (2).

2005

J.C. Slootweg, W.J. van Zeist, F.J.J. De Kanter, M. Schakel, A.W. Ehlers, M. Lutz, A.L. Spek, and K. Lammertsma. **2005**. "Phosphaspiropentene as a Transient Intermediate." Organometallics 24 (21).