Erik Pieter Adriaan Couzijn

Hanna-Kunath-Straße 11, D-28199 Bremen, Germany
Mobile (+49)-151-2373 8960 • epa_couzijn@yahoo.com
linkedin.com/in/epacouzijn • http://couzijn.125mb.com/

Profile

R&D Scientist in Life Science Mass Spectrometry, working with Orbitrap technology. Expert in physical organic and computational chemistry and organometallic synthesis applied to homogeneous catalysis. Independent project manager and supervisor, technically very skilled and strong in abstract problem solving.

Education

Doctorate in Organic Chemistry 2002–2007
VU University Amsterdam (Prof. Dr. Koop Lammertsma)

- Studied physico-chemical properties of unusual organosilicon and -phosphorus reactive intermediates, and resolved mechanisms for stereochemical non-rigidity.

Master's in Chemistry, *cum laude* 1998–2002
VU University Amsterdam; Organic Chemistry, Minor: Physical Chemistry
Course program included multiple Pharmacochemistry and Biochemistry courses

Gymnasium, *cum laude* 1992–1998
OSG Willem Blaeu, Alkmaar; 2 extra Science subjects

Courses:

- Ab Initio and Density Functional Theory, ETH Zürich 2008
- Computational Photochemistry, University of Amsterdam 2005
- Bio-Organic Synthesis, Holland Research School of Molecular Chemistry 2004
- Molecular Modeling, Holland Research School of Molecular Chemistry 2003
- Advanced NMR Spectroscopy, Holland Research School of Molecular Chemistry 2003

Work Experience

R&D Scientist 2014–now
Thermo Fisher Scientific (Bremen) GmbH

Postdoctoral fellow 2007–2013
ETH Zürich, Physical Organic and Organometallic Chemistry (Prof. Dr. Peter Chen)

- Purchased a tandem mass spectrometer, designed and implemented extensive hardware modifications for measuring gas-phase energetics, and developed an efficient acquisition method and supporting software.
- Investigated transition-metal complexes and their gas-phase energetics to elucidate and improve relevant processes in homogeneous catalysis and to benchmark quantum-chemical methods.
- Devised intuitive quantum-chemical descriptors of ligand electronic properties for multivariate structure–activity relationships for homogeneous catalysts.

Postdoctoral fellow Jan–Jun 2007
VU University Amsterdam, Organic Chemistry; collaboration with ThermPhos International B.V.

Stand-in NMR spectroscopy specialist summers 2004–2006
VU University Amsterdam, Organic Chemistry; performed measurements for Avantium Technologies B.V.

Freelance software developer 1999–present
Projects for PosEdge B.V., Bridge Systems B.V., Melexis N.V., VU University Amsterdam, Trammell Crow Nederland, and KPN Telecom

Research Skills

- Organometallic and physical organic chemistry: synthesis, Schlenk and glovebox techniques, reactive intermediates, catalyst optimization, reaction kinetics, stopped-flow method, photochemistry
- ESI-MS/MS: also in-house customization of mass spectrometers, servicing/troubleshooting
  NMR: 2D heteronuclear and VT, also technical expertise
  UV-Vis, IR, GC-MS
- Expert in advanced (quantum-)chemical computations and analyses
  Methods: DFT, ab initio, semi-empirical, molecular mechanics
  Areas: mechanistics, physico-chemical properties, bonding analyses, conformational searching
- Experience with a femtosecond laser setup, constructed an optical autocorrelator

Management Experience

- Technical Manager for extensive mass spectrometer customizations — several occasions 2007–2013
- Educating and supervising PhD and postdoctoral colleagues on physical organic chemistry, mass-spectrometric experiments, and computational chemistry
- Teaching and Research Assistant; Laboratory Manager; supervising PhD, (under)graduate, and secondary school students — several occasions 1999–2013
- Educational advisory board member for Chemistry and Pharmaceutical Sciences — 1999–2002
- Treasurer, auditor, and vice-secretary of the Chemistry students' association VCSVU — 2000–2002
- Organizing member of the 21st National and 34th International Chemistry Olympiads — 2000, 2002

Computer and Language Skills

- Chemistry and chemical information retrieval programs: ChemDraw, MestReNova, Beilstein, SciFinder, CSD
- Molecular modeling software: Gaussian, ADF, Spartan
- Software programming: Delphi/Pascal, C/C++, assembly – incl. algorithms, Object-Oriented Programming, OpenGL; scripting: VBA, Unix Bash, Thermo ICL; web development: HTML, CSS, JavaScript, PHP, SQL
- Developed scientific programs for e.g. computational chemistry visualization, isotope patterns, kinetic modeling
- CAD programs: AutoCAD, UGS NX, SIMION
- Office and imaging programs: MS Office, PhotoShop, CorelDraw
- Languages: Dutch (native), English (business fluent), German (fluent)
- Swiss settlement permit, Niederlassungsbewilligung C

Honors

Several awards at (inter)national Science fairs and conferences, including:

- Poster presentation Prizes at Chemistry conferences — 2003, 2004
- Scholarship for Excellent Chemistry Students, Association of the Dutch Chemical Industry VNCI — 2000
- Silver Medal, 30th International Chemistry Olympiad, Melbourne — 1998
- First Prize, International Conference for Young Scientists, Visegrád — 1998

Publications and Presentations

18 Publications in peer-reviewed international journals.
Oral and poster presentations at numerous international conferences.
A full publication list and research summary are available upon request.