

**Name :** Reinhart CEULEMANS, prof.dr., dr.hon.c.mult.

**Current job position/appointment**

- Full Professor at the Department of Biology, University of Antwerp
- Director of the Research Center of Excellence on Plants & Ecosystems (PLECO; 58 pers.)
- Visiting Professor at the Faculty of Sciences, University of Ghent

**Management of research infrastructures in international context**

- Since 2000: responsible for the management of the research infrastructures of the PLECO Center of Excellence: (i) three meteorological flux measuring towers / ecosystem observation stations (Scots pine forest in Antwerp Campine region; bio-energy plantation in East-Flanders; natural heathland in Limburg); (ii) experimental ecosystem manipulation field site consisting of four open top chambers (1996-2004), 16 outside controlled environment plant growth chambers (2005-present), plant growth and manipulation units (2010-present). Several of these research infrastructures were included in multiple European research projects as EUROFLUX, CARBO-EUROFLUX, CARBO-Europe IP, as well as ESFRI ICOS and ESFRI AnaEE.
- Since 2008: manager of the ICOS ecosystem observation stations as well as Belgian National Focal Point for the Belgian ICOS infrastructure.

**Top 10 publications**

1. Bradshaw H.D., R. Ceulemans, J. Davis & R.F. Stettler. 2000. Emerging model systems in plant biology: poplar (*Populus*) as a model forest tree. *Journal of Plant Growth Regulation* 19: 306-313.
2. Carrara A., A.S. Kowalski, J. Neiryck, I.A. Janssens, J. Curiel Yuste & R. Ceulemans. 2003. Net ecosystem CO<sub>2</sub> exchange of mixed forest in Belgium over 5 years. *Agricultural and Forest Meteorology* 119: 209-227.
3. Ceulemans R. & M. Mousseau. 1994. *Tansley Review* 71: Effects of elevated atmospheric CO<sub>2</sub> on woody plants. *New Phytologist* 127: 425-446.
4. Falge E., D. Baldocchi, R.J. Olson, P. Anthoni, M. Aubinet, C. Bernhofer, G. Burba, R. Ceulemans, R. Clement, ..... J. Tenhunen, K. Tu, S. Verma, T. Vesala, K. Wilson & S. Wofsy. 2001. Gap filling strategies for defensible annual sums of net ecosystem exchange. *Agricultural and Forest Meteorology* 107: 43-69.
5. Finzi A.C., R.J. Norby, C. Calfapietra, A. Gallet-Budynek, B. Gielen, W.E. Holmes, M.R. Hoosbeek, C.M. Iversen, R.B. Jackson, M.E. Kubiske, J. Ledford, M. Liberloo, R. Oren, A. Polle, S. Pritchard, D.R. Zak, W.H. Schlesinger & R. Ceulemans. 2007. Increases in nitrogen uptake rather than nitrogen-use efficiency support higher rates of temperate forest productivity under elevated CO<sub>2</sub>. *Proceedings National Academy of Sciences of the USA (PNAS)* 104: 14014–14019.
6. Norby R.J., S.D. Wullschleger, C.A. Gunderson, D.W. Johnson & R. Ceulemans. 1999. Tree responses to rising CO<sub>2</sub> in field experiments: implications for the future forest. *Plant, Cell and Environment* 22: 683-714.
7. Pita G., B. Gielen, D. Zona, A. Rodrigues, S. Rambal, I.A. Janssens & R. Ceulemans. 2013. Carbon and water vapor fluxes over four forests in two contrasting climatic zones. *Agricultural and Forest Meteorology* 180: 211-224.
8. Valentini R., G. Matteucci, A.J. Dolman, E.D. Schulze, C. Rebmann, E.J. Moors, A. Granier, P. Gross, N.O. Jensen, K. Pilegaard, A. Lindroth, A. Grelle, C. Bernhofer, T. Grünwald, M. Aubinet, R. Ceulemans, A.S. Kowalski, T. Vesala, U. Rannik, P. Berbigier, D. Loustau, J. Guomundsson, H. Thorgeirsson, A. Ibrom, K. Morgenstern, R. Clement, J. Moncrieff, L. Montagnani, S. Minerbi & P.G. Jarvis. 2000. Respiration as the main determinant of carbon balance in European forests. *Nature* 404: 861-865.
9. Zenone T., D. Zona, I. Gelfand, B. Gielen, M. Camino-Serrano & R. Ceulemans. 2016. CO<sub>2</sub> uptake is offset by CH<sub>4</sub> and N<sub>2</sub>O emissions in a poplar short rotation coppice. *Global Change Biology Bioenergy* 8: 524-538.
10. Zona D., I.A. Janssens, M. Aubinet, B. Gioli, S. Vicca, R. Fichot & R. Ceulemans. 2013. Fluxes of the greenhouse gases (CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O) above a short-rotation poplar plantation after conversion from agricultural land. *Agricultural and Forest Meteorology* 169: 100-110.

**Research financing obtained in the last 5 years**

Number of projects as main promotor (last 5 years): 11      Total budget: € 11,782,610

*Financing body:*            EU-FP7: Marie Curie – Intra-European Fellowship  
*Project title:*             Bio-LCA: Introduction of biodiversity in life cycle analysis (LCA)  
*Period:*                     01/04/2013 - 28/02/2015                     Budget: € 169,800

*Financing body:* National Forest Centre (Slovakia)  
*Project title:* Growth simulations for beech forests with ANAFORE growth simulator  
*Period:* 01/10/2013 - 31/12/2013      *Budget:* € 2,900

*Financing body:* Private company in Belgium  
*Project title:* Confidential  
*Period:* 01/10/2013 - 31/03/2016      *Budget:* € 299,900

*Financing body:* Hercules – Large scale infrastructure  
*Project title:* Ecotron  
*Period:* 17/10/2013 - 31/12/2018      *Budget:* € 547,530

*Financing body:* Fiscale recuperatie: projects  
*Project title:* ANAEE-Vlaanderen  
*Period:* 29/07/2014 - 28/07/2018      *Budget:* € 160,000

*Financing body:* EU-FP7: Marie Curie – International Incoming Fellowship  
*Project title:* Impact of bio-energy culture with poplars on emissions of ozon (SRF-OZO).  
*Period:* 01/11/2014 - 31/10/2016      *Budget:* € 227,800

*Financing body:* Methusalem  
*Project title:* Plant & Vegetation Ecology and global changes  
*Period:* 01/01/2015 - 31/12/2018      *Budget:* € 1,250,000

*Financing body:* H2020: Marie Curie – European Fellowship  
*Project title:* Physiological and environmental controls of water and ozone fluxes in a short-rotation culture of poplars (Physio-Pop)  
*Period:* 01/09/2015 – 31/08/2017      *Budget:* € 172,800

*Financing body:* STEREO III – Support and Exploitation of Research in Earth Observation  
*Project title:* Isoprene emissions based on hyperspectral data (HYPI)  
*Period:* 01/12/2015 – 31/07/2017      *Budget:* € 142,644

*Financing body:* H2020: Marie Curie - European fellowships  
*Project title:* Implementation of soil fauna effects into a forest ecosystem model (ANAFANA)  
*Period:* 01/05/2019 – 31/04/2021      *Budget:* € 160,800

*Financing Body:* Hercules / FWO  
*Project Title:* ESFRI infrastructure project Integrated Carbon Observation System (ICOS)  
*Period:* 01/01/2013 – 31/12/2018      *Budget:* € 8,648,436

Number of projects as co-promotor: 2      Total Budget: € 3,912,715

*Financing body:* BRAIN-be (Belgian Research Action through Interdisciplinary Networks)  
*Project title:* Study and simulation of the impact of land use on the West-European climate (MASC).  
*Period:* 01/10/2013 – 30/06/2018      *Budget:* € 176,175

*Financing body:* Flemish Department of Science, Innovation and Media / FWO ESFRI  
*Project title:* ANAEE  
*Period:* 01/01/2017 – 31/12/2018      *Budget:* € 3,736,000

Total budget as promotor + co-promotor, period 2012-2018: € 15,695,325

### **International recognition, Awards and Honours**

- Doctor Honoris Causa, Université d'Orléans, France, 2012
- Doctor Honoris Causa, Mendel University, Brno, Czech Republic, 2010
- Member of the Royal Academy of Belgium for Sciences and the Arts, since 2009
- Corresponding member of the Slovenian Academy of Sciences and Arts, Ljubljana, since 2015
- Titular of Belgian Francqui Chair at Université Catholique de Louvain, academic year 2006-2007
- Scientific Achievement Award of the International Union of Forestry Research Organizations (IUFRO), 1990
- Fulbright-Hays Grantee, University of Washington, Seattle, USA, 1987-1988

### **Analysis of publication record**

- (Co-)editor of 9 books on plant responses to environment, on tree physiology and global changes
- Over 340 publications in peer-reviewed (A1) scientific journals
- Total number of citations: 16,207 (Web of Knowledge) or 27,823 (Google Scholar)
- H-index: 57 (Web of Knowledge) or 77 (Google Scholar)
- Overall average number of citations per published article: 46.6
- Total of 22 book chapters in scientific volumes
- Over 80 publications in scientific volumes, proceedings and popularizing journals
- Over 100 abstracts of lectures, seminars and poster presentations
- Over the period 1999-2005: among the 20 most cited authors in plant science (rank number: 17, total number of citations: 2069, number of articles: 104) (*source*: LabTimes, February 2007).

### **International functions of trust, panels, committees and positions (selection; last 5 years)**

- Chair of Scientific Review Group on Life, Earth and Environmental Sciences of ESF (European Science Foundation), 2008-2015
- Chair of the Working Group 'Biodiversity' of the Federal Council for Durable Development (FRDO-CFDD), 2006-2018
- Member of the Advisory Board of EUFORINNO, Slovenian Forestry Institute (2011-2015)
- Vice-Chair of the Scientific & Ethical Advisory Board of CzechGlobe Research Centre, Brno (2011-present)
- Member of the Scientific Advisory Board AnaEE France (2014-present)
- Member of the International Scientific Advisory Board of the Lab of Excellence ARBRE, INRA-Nancy (since 2014)
- Member of the Scientific Advisory Board of JPI FACCE, 2013-2018
- Member of the jury Lauriers de l'INRA Awards, Paris, France (2014-present)
- Chair of International Evaluation Panel of FACCE SURPLUS program, 2017
- Chair of the Comité d'Evaluation de l'Unité EEF, INRA-Nancy, France (2012)
- Member of international evaluation panel on Forestry, Academy of Finland, Helsinki (2006-2011; 2017-present)
- Member of the Conseil Scientifique du Département EFPA, INRA, France (2016-present)

### **Teaching, supervision of students and researchers**

- Courses on: Ecology; Plant Ecology; Plant Ecophysiology; Bioenergy and Environment (currently 200 course hours per year) in Bachelor, Master and Post-graduate Master programs
- Teacher of 7 training schools on Scientific Writing (in Slovenia; Czech Republic; Liège, Belgium)
- Supervisor of 27 completed and successfully defended Ph.D. theses between 1999-2018
- Supervisor/promotor of more than 50 M.Sc. students
- Member of >25 Ph.D. jury's in Belgium and >40 Ph.D. jury's abroad (France, UK, Sweden, Finland, Germany,...)

### **International experience, positions abroad**

- Visiting Professor, University of Paris-XI, Orsay, France (1989; 4 months)
- Visiting Professor & NATO Research Fellow, University of Washington, Seattle, USA (1987-1988; 2 years)
- Visiting scientist and consultant, Rubber Research Institute of Malaysia (1979, 1980; 1 month each)
- Consultant to the United Nations, FAO in China (1996; 1 month)
- Consultant to the Water Research Commission of South Africa (1986; 1 month)