CURRICULUM VITAE - OKKE BATELAAN

Short bio

Okke Batelaan is Strategic Professor in Hydro(geo)logy at Flinders University since 2012. He was Dean of the School of the Environment at Flinders from 2015-2017. Formerly he was for more than 20 years faculty member at the Free University Brussels and the KU Leuven, Belgium. Professor Batelaan has a broad experience in teaching groundwater hydrology, groundwater modelling, GIS and remote sensing for hydrological applications. He has extensive research experience and a publication record in shallow groundwater hydrology and modeling, recharge-discharge estimation and modeling, urban hydrology and distributed modelling, ecohydrology and impacts of landuse and climate change on groundwater systems. He coordinated and participated in a large number of projects in Europe, Africa, South America, Asia and Australia. He has lead a large project on the groundwater resources of the Adelaide plains, funded by the Goyder Institute. He is editor-in-chief of Journal of Hydrology: Regional Studies as well as from MDPI-Hydrology.

Particulars

Name:	**BATELAAN**
First name:	**Okke**
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Scopus Author ID	http://www.scopus.com/authid/detail.url?authorId=6701427325
ResearchGate	https://www.researchgate.net/profile/Okke_Batelaan
Linkedin	https://www.linkedin.com/pub/okke-batelaan/7/30/5b8
Twitter	https://twitter.com/OkkeBatelaan

Academic study

04/2006	PhD 'Phreatology, characterizing groundwater recharge and discharge using remote sensing, GIS, ecology, hydrochemistry and groundwater modelling'
08/1989	M.Sc. Geology – Hydrogeology
01/1989 - 06/1989	Policy and Management, including a 3-month practical period at Delft Geotechnics
09/1988 - 12/1988	Environmental studies (Institute for Environmental studies, Amsterdam)
09/1987 - 08/1988	'Qualitative and Quantitative Recharge Study of the Southern Arava Valley, Israel' at the Jacob Blaustein-Institute for Desert Research Ben-Gurion University of the Negev in Sede Boqer, Israel
08/1984	Propaedeutic Geology
09/1983 - 08/1989	Geology, Free University of Amsterdam, specialisation: Hydrogeology

Career

13/8/2012 -	Full strategic professor (100%), College of Science and Engineering, Flinders University.
23/2/2015-30/6/17	Dean of the School of the Environment, Flinders University.
01/04/2013 -	Chief Investigator National Centre for Groundwater Research and Training.
1/10/2012-30/09/15	Associate professor (10%), Faculty of Engineering, Vrije Universiteit Brussel.
1/10/2012-31/12/14	Associate professor Hydrogeology (5%), Faculty of Science, Department Earth and Environmental Sciences, K.U.Leuven.

1/2/2011-30/9/12	Associate professor (100%), Faculty of Engineering, Vrije Universiteit Brussel.
1/1/2011-31/1/11	Associate professor (50%), Faculty of Engineering, Vrije Universiteit Brussel.
1/10/2010-30/9/12	Associate professor Hydrogeology (20%), Faculty of Science, Department Earth and Environmental Sciences, K.U.Leuven.
1/10/2007-30/9/10	Assistant professor Hydrogeology (20%), Faculty of Science, Department Earth and Environmental Sciences, K.U.Leuven.
1/11/2006-31/12/10	Assistant professor (50%), Faculty of Engineering, Vrije Universiteit Brussel.
2005 - 2008	Part-time professor ERASMUS higher technical school for BSc course 'Hydrologie en Waterwinning' (33 hrs).
1994 - 2012	Programme coordinator for the Vrije Universiteit Brussel of the Interuniversity (MSc) Programme in Water Resources Engineering (IUPWARE), organized by Vrije Universiteit Brussel and Catholic University of Leuven, sponsored by the Flemish Interuniversity Council.
1989 - 1994	Programme coordinator of the Inter-University Postgraduate (MSc) Programme in Hydrology (IUPHY), Laboratory of Hydrology, Vrije Universiteit Brussel.

Courses

Current regular topics Flinders University

2015 -	'Hydrology' (ENVS2761)
2015 -	'Ecohydrology' (ENVS3731-8771)
2014 -	'Integrated water management' (ENVS9722) (Coordinator)

Publications

Publications (WoS; Scopus; Google Scholar)	119; 137; 414
H-index (WoS; Scopus; Google Scholar)	22; 23; 35
Total citations (WoS; Scopus; Google Scholar)	1545; 1815; 3448

Recnt Peer reviewed book chapters (2015-2017)

17. Hunt, R.J., Hayashi, M. and Batelaan, O., 2016, Ecohydrology and Its Relation to Integrated Groundwater Management. Integrated Groundwater Management: Concepts, Approaches and Challenges. A. J. Jakeman, O. Barreteau, R. J. Hunt, J.-D. Rinaudo and A. Ross. Cham, Springer International Publishing: 297-312, http://dx.doi.org/10.1007/978-3-319-23576-9_12
16. Quevauviller, P., Batelaan, O. and Hunt, R.J., 2016, Groundwater Regulation and Integrated Water Planning. Integrated Groundwater Management: Concepts, Approaches and Challenges. A. J. Jakeman, O. Barreteau, R. J. Hunt, J.-D. Rinaudo and A. Ross. Cham, Springer International Publishing: 197-227, http://dx.doi.org/10.1007/978-3-319-23576-9_8

Recent Peer reviewed publications in Science Citation Index journals (2015-2017)

108. Andrew, R.L., Guan, H. and Batelaan, O., 2017, Large-scale vegetation responses to terrestrial moisture storage changes. Hydrol. Earth Syst. Sci. 21(9), 4469-4478. https://doi.org/10.5194/hess-21-4469-2017
107. Andrew, R., Guan, H. and Batelaan, O., 2017, Estimation of GRACE water storage components by temporal decomposition. Journal of Hydrology 552, 341-350. http://dx.doi.org/10.1016/j.jhydrol.2017.06.016

106. Haidu, I., Batelaan, O., Crăciun, A.I. and Domniţa, M., 2017, GIS module for the estimation of the hillslope torrential peak flow. Environmental Engineering and Management Journal 16(5), 1137-1144.

105. Yenehun, A., Walraevens, K. and Batelaan, O., 2017, Spatial and temporal variability of groundwater recharge in Geba basin, Northern Ethiopia. Journal of African Earth Sciences 134: 198-212. https://doi.org/10.1016/j.jafrearsci.2017.06.006

104. Rogiers, B., Mallants, D., Batelaan, O., Gedeon, M., Huysmans, M. and Dassargues, A., 2017, Model-based classification of CPT data and automated lithostratigraphic mapping for high-resolution characterization of a heterogeneous sedimentary aquifer. PLOS ONE 12(5), e0176656. https://doi.org/10.1371/journal.pone.0176656

103. Abdollahi, K., Bashir, I., Verbeiren, B., Harouna, M.R., Van Griensven, A., Huysmans, M. and Batelaan, O., 2017, A distributed monthly water balance model: formulation and application on Black Volta Basin. Environmental Earth Sciences 76(5): 198, http://dx.doi.org/10.1007/s12665-017-6512-1; http://rdcu.be/pZsZ.

102. Batlle-Aguilar, J., Banks, E.W., Batelaan, O., Kipfer, R., Brennwald, M.S. and Cook, P.G., 2017, Groundwater residence time and aquifer recharge in multilayered, semi-confined and faulted aquifer systems using environmental tracers. Journal of Hydrology 546: 150-165, http://dx.doi.org/10.1016/j.jhydrol.2016.12.036.

101. El-Rawy, M., De Smedt, F., Batelaan, O., Schneidewind, U., Huysmans, M. and Zijl, W., 2016, Hydrodynamics of porous formations: Simple indices for calibration and identification of spatio-temporal scales. Marine and Petroleum Geology 78: 690-700, http://dx.doi.org/10.1016/j.marpetgeo.2016.08.018.

100. Bresciani, E., Goderniaux, P. and Batelaan, O., 2016, Hydrogeological controls of water table-land surface interactions. Geophysical Research Letters 43(18): 9653-9661, http://dx.doi.org/10.1002/2016GL070618.

99. Verbeiren, B., Nguyen, H.K., Wirion, C. and Batelaan, O., 2016, An Earth observation based method to assess the influence of seasonal dynamics of canopy interception storage on the urban water balance. Belgeo [online], 2, http://belgeo.revues.org/17806.

98. Schneidewind, U., van Berkel, M., Anibas, C., Vandersteen, G., Schmidt, C., Joris, I., Seuntjens, P., Batelaan, O. and Zwart, H.J., 2016, LPMLE3: A novel 1-D approach to study water flow in streambeds using heat as a tracer. Water Resources Research 52(8): 6596-6610, http://dx.doi.org/10.1002/2015WR017453.

97. Abdollahi, K., Guzmán, P., Huysmans, M. and Batelaan, O., 2016, Rainfall-runoff modelling using a spatially distributed electrical circuit analogue. Natural Hazards 82(2): 1279-1300, http://dx.doi.org/10.1007/s11069-016-2243-y.

96. Bresciani, E., Gleeson, T., Goderniaux, P., de Dreuzy, J.R., Werner, A.D., Wörman, A., Zijl, W. and Batelaan, O., 2016, Groundwater flow systems theory: research challenges beyond the specified-head top boundary condition. Hydrogeology Journal 24(5): 1087-1090, http://dx.doi.org/10.1007/s10040-016-1397-8; http://rdcu.be/mD1H.

95. Guzmán, P., Anibas, C., Batelaan, O., Huysmans, M. and Wyseure, G., 2016, Hydrological connectivity of alluvial Andean valleys: a groundwater/surface-water interaction case study in Ecuador. Hydrogeology Journal 24(4): 955-969, http://dx.doi.org/10.1007/s10040-015-1361-z; http://rdcu.be/mD3o.

94. Tam, V.T., Batelaan, O. and Beyen, I., 2016, Impact assessment of climate change on a coastal groundwater system, Central Vietnam. Environmental Earth Sciences 75(10):908,, http://dx.doi.org/10.1007/s12665-016-5718-y; http://rdcu.be/mD3H.

93. Possemiers, M., Huysmans, M., Anibas, C., Batelaan, O. and Steenwinkel, J., 2016, Reactive transport modeling of redox processes to assess Fe(OH)3 precipitation around aquifer thermal energy storage wells in phreatic aquifers. Environmental Earth Sciences 75(8):648, http://dx.doi.org/10.1007/s12665-016-5398-7; http://rdcu.be/mD3Y.

92. Yang, Y., Guan, H., Batelaan, O., McVicar, T.R., Long, D., Piao, S., Liang, W., Liu, B., Jin, Z., and Simmons, C.T., 2016, Contrasting responses of water use efficiency to drought across global terrestrial ecosystems. Scientific Reports 6: 23284, http://dx.doi.org/10.1038/srep23284.

91. Anibas, C., Schneidewind, U., Vandersteen, G., Joris, I., Seuntjens, P. and Batelaan, O., 2016, From streambed temperature measurements to spatial-temporal flux quantification: using the LPML method to study groundwater–surface water interaction. Hydrological Processes 30(2): 203-216, http://dx.doi.org/10.1002/hyp.10588.

90. Dams, J., Nossent, J., Senbeta, T.B., Willems, P. and Batelaan, O., 2015, Multi-model approach to assess the impact of climate change on runoff. Journal of Hydrology 529, Part 3: 1601-1616, http://dx.doi.org/10.1016/j.jhydrol.2015.08.023.

89. Vandecasteele, I., Marí Rivero, I., Sala, S., Baranzelli, C., Barranco, R., Batelaan, O. and Lavalle, C., 2015, Impact of shale gas development on water resources: A case study in Northern Poland. Environmental Management 55(6): 1285-1299, http://dx.doi.org/10.1007/s00267-015-0454-8; http://rdcu.be/mD5p.

88. Zomlot, Z., Verbeiren, B., Huysmans, M. and Batelaan, O., 2015, Spatial distribution of groundwater recharge and base flow: Assessment of controlling factors. Journal of Hydrology: Regional Studies 4, Part B: 349-368, http://dx.doi.org/10.1016/j.ejrh.2015.07.005.

87. Salvadore, E., Bronders, J. and Batelaan, O., 2015, Hydrological modelling of urbanized catchments: A review and future directions. Journal of Hydrology 529, Part 1: 62-81, http://dx.doi.org/10.1016/j.jhydrol.2015.06.028. 2nd most downloaded July-Sept 2015.

86. Possemiers, M., Huysmans, M. and Batelaan, O., 2015, Application of multiple-point geostatistics to simulate the effect of small-scale aquifer heterogeneity on the efficiency of aquifer thermal energy storage. Hydrogeology Journal 23(5): 971-981, http://dx.doi.org/10.1007/s10040-015-1244-3; http://rdcu.be/mD53.

85. Guzmán, P., Batelaan, O., Huysmans, M. and Wyseure, G., 2015, Comparative analysis of baseflow characteristics of two Andean catchments, Ecuador. Hydrological Processes 29(14): 3051-3064, http://dx.doi.org/10.1002/hyp.10422.

84. Yang, Y., Guan, H., Long, D., Liu, B., Qin, G., Qin, J. and Batelaan, O., 2015, Estimation of Surface Soil Moisture from Thermal Infrared Remote Sensing Using an Improved Trapezoid Method. Remote Sensing 7(7): 8250-8270, http://dx.doi.org/10.3390/rs70708250.

83. Yang, Y., Long, D., Guan, H., Liang, W., Simmons, C. and Batelaan, O., 2015, Comparison of three dual-source remote sensing evapotranspiration models during the MUSOEXE-12 campaign: Revisit of model physics. Water Resources Research 51(5): 3145-3165, http://dx.doi.org/10.1002/2014WR015619.

82. Ronchi, B., Barão, L., Clymans, W., Vandevenne, F., Batelaan, O., Govers, G., Struyf, E. and Dassargues, A., 2015, Factors controlling Si export from soils: A soil column approach. CATENA 133: 85-96, http://dx.doi.org/10.1016/j.catena.2015.05.007.

81. Baranzelli, C., Vandecasteele, I., Ribeiro Barranco, R., Mari i Rivero, I., Pelletier, N., Batelaan, O. and Lavalle, C., 2015, Scenarios for shale gas development and their related land use impacts in the Baltic Basin, Northern Poland. Energy Policy 84: 80-95, http://dx.doi.org/10.1016/j.enpol.2015.04.032.

80. El-Rawy, M.A., Batelaan, O. and Zijl, W., 2015, Simple Hydraulic Conductivity Estimation by the Kalman Filtered Double Constraint Method. Groundwater 53(3): 401-413, http://dx.doi.org/10.1111/gwat.12217.

79. Berezowski, T., Nossent, J., Chormański, J. and Batelaan, O., 2015, Spatial sensitivity analysis of snow cover data in a distributed rainfall-runoff model. Hydrol. Earth Syst. Sci. 19(4): 1887-1904, http://dx.doi.org/10.5194/hess-19-1887-2015.

78. Berezowski, T., Chormański, J. and Batelaan, O., 2015, Skill of remote sensing snow products for distributed runoff prediction. Journal of Hydrology 524: 718-732, http://dx.doi.org/10.1016/j.jhydrol.2015.03.025.

77. Ampe, E.M., Raymaekers, D., Hestir, E.L., Jansen, M., Knaeps, E. and Batelaan, O., 2015, A Wavelet-Enhanced Inversion Method for Water Quality Retrieval From High Spectral Resolution Data for Complex Waters. Geoscience and Remote Sensing, IEEE Transactions on 53(2):869-882, http://dx.doi.org/10.1109/TGRS.2014.2330251.

76. Vandersteen, G., Schneidewind, U., Anibas, C., Schmidt, C., Seuntjens, P. and Batelaan, O., 2015, Determining groundwater-surface water exchange from temperature-time series: Combining a local polynomial method with a maximum likelihood estimator. Water Resources Research, 51(2): 922-939, http://dx.doi.org/10.1002/2014WR015994.

75. Verheyen, D., Van Gaelen, N., Ronchi, B., Batelaan, O., Struyf, E., Govers, G., Merckx, R. and Diels, J., 2015, Dissolved phosphorus transport from soil to surface water in catchments with different land use. AMBIO 44(2): 228-240, http://dx.doi.org/10.1007/s13280-014-0617-5.

Projects Flinders University

2016-2020 Smart high-frequency environmental sensor networks for quantifying nonlinear hydrological process dynamics across spatial scales. Horizon 2020, Marie Skłodowska-Curie Research and Innovation Staff Exchange, 10-12-2016 – 10-12-2020, CI: Okke Batelaan.

2017-2019 Sustainable Expansion of Irrigated Agriculture and Horticulture in Northern Adelaide Corridor, Goyder Institute for Water Research. Flinders University share $100,054. 1-2-2017 – 31-3-2019, CI: Okke Batelaan.

2017-2019 Geophysics to Enhance Agricultural Productivity and Livelihoods of Smallholder Farmers through Improved Groundwater Management of the Vientiane Plain, Lao PDR, Society of Exploration Geophysicists-Geoscientists without Borders, $66,785. 1-7-2017 – 30-6-2019, CI: Okke Batelaan.

2016-2017 Provision of hydrology research to better include faults & aquitards in Australian regional groundwater models to improve assessment of impacts of CSG extraction – CSIRO. $222,000, PI.

2016-2017 Groundwater-surface water interactions in metropolitan areas, Universities Australia – Germany Joint Research Co-operation Scheme. $24,500. 1-1-2016 – 31-12-2017, CI: Okke Batelaan.

2016 Development of Adelaide Plains (AP) Groundwater Model. Department of Environment, Water and Natural Resources, $30,000. CI's: Prof Okke Batelaan; Dr Etienne Bresciani.

2016-2019 LP150100588–Cross-Cultural Management of Fresh Water on Resource Constrained Islands, ARC-Linkage grant $420,000. CI's: Prof Okke Batelaan; Dr Vincent Post; Prof Adrian Werner; Prof Michael Christie (CDU); Prof Karina Meredith (ANSTO); A/Prof JC Gaillard (Uni of Auckland).

2015-2018 Hyporheic Zone Processes – A training network for enhancing the understanding of complex physical, chemical and biological process interactions (HYPOTRAIN). External partner in EU funded MSCA-ITN-2014-ETN: Marie Skłodowska-Curie Innovative Training Networks (ITN-ETN), Grant agreement no: 641939 total for network EUR 3,090,951.60.

2014 Near-surface geophysics for water supply investigation for the water constrained aboriginal community of Milingimbi Island, Australia. Society of Exploration Geophysicists Foundation, Geoscientists Without Borders, 55,000 AUD.

2014-2018 Integrated water, soil and nutrient management for sustainable farming systems in South Central Coastal Vietnam and Australia. Co-promoter project SMCN/2012/069 Australian Centre for International Agricultural Research. 146,948 AUD

2013-2015 Goyder Facilitating Long-Term Outback Water Solutions: Stage 2 (G-Flows Stage-

2). Co-promotor Goyder Institute for Water Research project Flinders University-CSIRO, 306,891 AUD.

2013-2015 Goyder Institute for Water Research PhD Supplement for PhD research of Robert Andrew, Natural and managed hydrological changes and the implications for urban planning and water management. CI's O. Batelaan, H. Guan, 1/1/2013-31/12/2015, 30,000 AUD.

2013-2015 Assessment of Adelaide Plains Groundwater Resources. Coordinator for consortia Flinders University-CSIRO. Goyder Institute for Water Research project. Total value of project 3,000,000 AUD.

91 Projects VUB
13 Projects K.U.Leuven

Scientific Committees

Editor-in-Chief: Journal of Hydrology: Regional Studies (Elsevier, 2013-); Hydrology (MDPI, 2013-).
Associate Editor: Journal of Hydrology (2012-2015); Hydrogeology Journal (2008-2011).
Guest Editor: Special issue on 'Hydrological Remote Sensing', Remote Sensing (MDPI), http://www.mdpi.com/journal/remotesensing/special_issues/hydrological
Member editorial board: Geograghia Technica (since 2010); Journal of Water - Environment - Rural Areas, IMUZ, Poland (since 2012); Journal of Water and Land Development, IMUZ, Poland (since 2012).
Reviewer: of 17 Journals; Proposals of: Nederlandse Organisatie voor Wetenschappelijk Onderzoek (NWO), Fonds de la Recherche Scientifique (FNRS), Qatar National Research Fund, Fullbright.
Member of 23 Scientific Advisory Conference Committees/Convener

Supervising MSc students

Supervisor of 4 Honours students Flinders University
Supervisor of 8 MSc students Flinders University
Promotor of 135 MSc. Student Theses VUB
Promotor of 8 MSc. Student Theses K.U.Leuven
Co-promotor 2 MSc. Student Theses K.U.Leuven

Supervising doctorates

(Co-)Supervisor of 9 current PhD students Flinders University
Supervisor of 20 completed PhD's VUB
Co-supervisor of 1 completed PhD's VUB
Supervisor of 4 completed PhD's KU Leuven
(Co-)supervisor of 3 completed PhD's other universities
Advisor of 4 completed PhD's VUB
Member of 42 PhD exam committee
Member of 1 Habilitation jury