SHORT SCIENTIFIC CURRICULUM VITAE
Prof. dr. J. VANDENBERGHE

Scientific Profile

Research expertise and managing
Vandenberghe's general scientific expertise is in the field of geomorphology and sedimentology of river and wind deposits and inferred palaeoclimatological reconstructions. A main part of Vandenberghe's research activities focus on (former) periglacial (permafrost) and monsoonal environments. His research extended over many regions in western, central and eastern Europe, as well as in Surinam, China and Indonesia. Characteristic for his research is the multidisciplinary approach that was always a focus in his research group involving specialisations of palaeo-ecology, sedimentology, geomorphology, geomorphological modelling and climatic modelling. Within this research group some 10 international workshops and symposia have been organized.

Vandenberghe supervised a large number of master and PhD theses. He received national and international postdocs (13) and many trainees. Besides 20 guest-editorships of international journals, he has been (is) member of the editorial board of 7 international journals and 1 associate editorship, published 245 peer-reviewed papers in international journals and 4 monographs. He has given many key lectures at conferences and guest lectures at universities abroad. He has been member of the advisory nomination committee for several professorships and was member of review committees for scientific quality abroad and in The Netherlands. He was chair and full member of several Commissions of international Scientific Unions and international scientific organisations. He was also the coordinator of an EU-FP funded project EPECC (EV5V-CT93-0273). He was Faculty Board member and vice-dean at the Faculty of Earth Sciences at the VU Amsterdam (2005-2010).
H-index (per December 2018): 50 (Scopus); 55 (Google Scolar)

Research themes and main research achievements:
1. *Dynamics of sedimentary systems*, focusing on fluvial and aeolian systems: geomorphological and sedimentary processes and landform developments, mainly in relation to climate (changes).
Main scientific results:
-establishment of a new (non-linear) model of alternating fluvial erosion and incision as a result of climate change;
-emphasizing the role of internal developments in river systems as opposed to external forcing;-relating grain size of aeolian and fluvial deposits to processes of transport by wind and water.
2. *Quaternary palaeoclimatology*, focussing on methods of reconstruction, mainly to interpret fluvial and aeolian environments.
Main scientific results:
-interpretation of former sedimentary deformations (sand- and ice-wedge polygons, periglacial loading) due to the degradation of permafrost, as proxies for palaeo-temperatures;
-maps of palaeo-climate (especially palaeo-temperatures) and former permafrost extension;
-use of grain-size as a proxy for loess accumulation rates, resulting in the age determination of loess sediment series.
-detection of oldest loess deposits until now accompanying the start of monsoonal circulation in Asia (c. 30 Ma) (publ. in Nature 2014).

Promotor of PhD theses: completed at VU 30, 1x promotor at Kathol. Univ. Leuven; 2x ext. promotor in China; 1x co-promotor

Functions in international research organizations (only (vice-)chairs)
IGU Commission 'Climate change and periglacial environments' (chair 1995-2004), Official Liaison Officer between IPA (Int. Permafrost Assoc.) and IGU
FLAG (Fluvial Archives Group) (founding member. Daily Board member until 2012; chair 2006- 2010)
DEUQUA (Deutsche Quartär Vereinigung) vice-chair 2002-2006

Scientific Prizes:
*laureaat of the 'Koninklijke Academie voor Wetenschappen, Letteren en Schone Kunsten van België' (1973),
*medaille André Dumont (Geologica Belgica) (1994).
*C. Plantin price (Antwerpen, 2004).

Other functions/memberships
- Akademia Leopoldina member (Germany, since 2003)
-.Visiting professor at the Department of Geography, University of Novi Sad (Serbia); since 2009- Concurrent professor at the Department of Geography of the Nanjing University (China); since 2009

Publications: 245 papers and 20 guest-edited issues in international peer-reviewed journals
Publications: Recent Key publications past 5 years (2013-2018):
- Vandenberghe J. 2013 Grain size of fine-grained windblown sediment: a powerful proxy for process identification. Earth Science Rev 121, 18-30.
- Vandenberghe J., French H.M., Gorbunov A., Velichko A.A., Jin H., Cui Z., Zhang T., Wan X. 2014 The Last Permafrost Maximum (LPM) map of the northern hemisphere: permafrost extent and mean annual air temperatures, 25-17 ka BP. Boreas 43, 652-666.

- Licht A., Van Cappelle M., Abels H.A., Ladant J.B., Trabucho-Alexandre J., France-Lanord C., Donnadieu Y., Vandenberghe J., Rigaudier T., Lécuyer C., Terry Jr. D., Adriaens R., Boura A., Guo Z., Naing Soe A., Quade J., Dupont-Nivet G., Jaeger J.J. 2014 Asian monsoons in a late Eocene greenhouse world. Nature 513, 501-506.
- Vandenberghe J. 2015 River terraces as a response to climatic forcing: formation processes, sedimentary characteristics and sites for human occupation. Quat Int 370, 3-11.
- Vandenberghe, J., Sun, Y., Wang, X., Abels, H.A. andLiu, X. 2018 Grain-size characterization of reworked fine-grained aeolian deposits. Earth Science Rev 177, 43-52.
-Vandenberghe, J., French, H.M., Jin, H., Wang,X., Yi, S., He, R. 2019 The extent of permafrost during the Last Permafrost Maximum (LPM) on the Ordos Plateau, north China. Quat Sc Rev 214, 87-97.

Key publications selection (1991-2012)

-Bohncke S., Vandenberghe J. 1991 Palaeohydrological development inthe Southern Netherlands during the last 15000 years. In: "Temperatepalaeohydrology" (eds L. Starkel, K. Gregory, J. Thornes), Wiley, 253-281.
- Vandenberghe J., Pissart A. 1993 Permafrost changes in Europe duringthe Last Glacial. Permafrost Periglacial Proc 4, 121-135.
- Vandenberghe J., Kasse C., Bohncke S., Kozarski S. 1994 Climate-related river activity at the Weichselian-Holocene transition: a comparative study of the Warta and Maas rivers. Terra Nova 6, 476-485.
- Vandenberghe J. 1995 Timescales, climate and river development. Quat Sc Rev 14, 631-638.
- Vandenberghe J., An Z., Nugteren G., Lu H., Van Huissteden J. 1997 New absolute time scale for the Quaternary climate in the Chinese loess region by grain-size analysis. Geology 25-1, 35-38.
- Konert M., Vandenberghe J. 1997 Comparison of layer grain size analysis with pipette and sieve analysis: a solution for the underestimation of the clay fraction. Sedimentology 44, 523-535.
- Huijzer A.S., Vandenberghe J., 1998 Climatic reconstruction of the Weichselian Pleniglacial in north-western and central Europe. Journal of Quaternary Science 13, 391-417.
- Vandenberghe J., 2002 The relation between climate and river processes, landforms and deposits during the Quaternary. Quat Int 91, 17-23.
- Vandenberghe J. Lowe J., Coope G.R., Litt T., Zöller L. 2004 Climatic and environmental variability in the Mid-Latitude Europe sector during the last interglacial-glacial cycle. In 'Past Climate Variability through Europe and Africa' eds. Battarbee R., Gasse F., Stickley C., PEPIII Conf Proc, Kluwer, Dordrecht, 393-416.
- Vandenberghe J., Renssen H., Van Huissteden J., Nugteren G., Konert M., Lu H., Dodonov A., Buylaert J.-P. 2006 Penetration of Atlantic westerly winds into Central and East Asia. Quat Sc Rev 25, 2380-2389.
- Vandenberghe J. 2008 The fluvial cycle at cold-warm-cold transitions in lowland regions: a refinement of theory. Geomorphology 98, 275-284.
- Vandenberghe J., Renssen H., Roche D., Goosse H., Velichko A., Gorbunov A., Levavasseur G. 2012 Eurasian permafrost instability constrained by reduced sea-ice cover. Quat Sc Rev 34, 16-23.