

Curriculum Vitae

Cindy De Jonge, PhD

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1. Research interests:

PALEOCLIMATE RECONSTRUCTION – LIPID BIOMARKER CLIMATE PROXY DEVELOPMENT – BIOCHEMICAL PATHWAYS THROUGH TIME – ECOSYSTEMS IN A CHANGING WORLD.

2. Current occupation:

Group leader - PRIMA fellow, ETH Zurich, Earth Science department.

01-12-2018 – 30-11-2023

SNSF PRIMA fellowship & ETH research grant.

Host: Geological Institute - Prof. Dr. Timothy Eglinton.

Tasks:

Supervision of 2 PhD students (since 09/2019, 100% positions) and 1 technician (20% position).

Supervision of collaborators in organic geochemistry laboratory lab that use lipid biomarkers for paleoclimate reconstruction, co-author on papers that result from these collaborations.

Responsible for validation (quality control) of laboratory measurements, expertise in HPLC-MS.

3. Professional history:

Postdoctoral researcher, Antwerp University, Biology department.

01-10-2016 – 30-11-2018

Research funding: Marie Skłodowska-Curie actions. MSCA-IF-EF-ST (Individual fellowship) 707270.

WISLAS: Warmed Icelandic soils, lipids and sequencing.

Host: Prof. Dr. Ivan Janssens

01-10-2015 – 30-09-2016

Research funding: Antwerp University BOF fund. ISLAS: Icelandic soil, lipid and sequencing.

Host: Prof. Dr. Ivan Janssens

4. Education:

PhD student, NIOZ Royal Netherlands Institute for Sea Research, The Netherlands.

01-07-2010 – 20-03-2015

PhD thesis title: Sources and sinks of branched tetraether lipids and bacteriohopanepolyols in a major river system (Yenisei River – Kara Sea): Implications for their application as geochemical tracers.

Doctoral supervisor: Prof. Dr. Ir. Jaap S. Sinninghe Damsté.

Date PhD defense: 20-03-2015

Master in Marine and Lacustrine Sciences, Ghent University, Belgium.

01-10-2008 – 30-06-2010

Master thesis title: A multi-proxy approach to the paleoceanographic variability within the last glacial cycle offshore Morocco.

Advisor: Prof. Dr. David Van Rooij.

Bachelor in Biology, Ghent University, Belgium.

01-10-2005 – 30-06-2008. Focus on Ecology and Evolution & Ecophysiology.

5. Approved research projects (reverse chronology):

ETH Research commission:

OKAPI: OKAvango catchment and Makgadikgadi paleolake: Paleoclimate Investigations using multiple lipid biomarker proxies (2020-2024). PhD student salary and project expenses.
236 900 CHF.

Swiss National Science Foundation:

MiCoDy-Lipids: Influence of microbial community dynamics on bacterial membrane lipid signatures (2018-2023). PI salary, PhD student salary, project expenses. 1 287 000 CHF.

European Research Commission:

WISLAS: Warmed Icelandic soils, lipids and sequencing. MSCA-IF-EF-ST (Marie Curie Individual fellowship) 707270 (2016-2018). PI salary and bench fee. 172 800 €.

Research Foundation (BOF) UAntwerpen:

SALADS: Swedish lipids and sequences (2018). Project expenses.
7500 €.

ISLAS: Icelandic soil, lipid and sequencing (2015). PI salary.
26 400 €.

6. Formal supervision of junior researchers at graduate and postgraduate level:

Graduate level: Robin Vandenbempt (UAntwerp, 2017), Rodney Calcoen (UAntwerp, 2018), Robin Halfman (UAntwerp, 2019), Pien Anjewierden (ETHZ, 2019), Sarah Rowan (ETHZ, 2020), Ricarda Roskopf (ETHZ, 2021).

Post-graduate level: Fatemeh Ajallooeian (2019-2023: Doctoral supervisor: Prof. Dr. Tim Eglinton, ETH Zurich)
Mike Vreeken (2020-2024: Doctoral supervisor: Prof. Dr. Tim Eglinton, ETH Zurich)

7. Teaching activities and continued education:

Institute	Course title (% course load)	Educational program	Academic year
Antwerp University	Global Change (20%)	MSc: Environmental Sciences	2017-2018 2018-2019
ETH Zurich	Micropalaeontology and Molecular Palaeontology (25%)	MSc: Earth Sciences	2019-2020 2020-2021 2021-2022

Continued education: Foundations of Teaching and Learning (55h) – 2019-2020

8. Scientific reviewing and service:

I have worked as an ad-hoc reviewer for the peer-reviewed journals *Nature Geoscience*, *Nature Communications*, *Earth and Planetary Science Letters*, *Geochimica et Cosmochimica Acta*, *Organic Geochemistry*, *Scientific Reports*, and the journal *Palaeogeography, Palaeoclimatology, Palaeoecology* and *Chemical Geology*. (list is non-exhaustive).

Staff representative: University of Antwerp, Biology departmental council, 2017-2019.

AGU session chair/co-chair: B51, B53 (2019), PP017 (2021).

9. Fellowships:

Marie Skłodowska-Curie fellow: MSCA-IF-EF-ST (Individual fellowship) 707270 (2016-2018).

SNSF PRIMA fellow (2018-2023).

10. Career breaks:

I have taken several short-term career breaks, all in the interest of maternity or parental leave:

30-09-2012 – 29-01-2013 (4 months: maternity leave)

01-11-2014 – 30-08-2015 (10 months: maternity leave)

01-07-2017 – 31-07-2017 (one month: parental leave)

17-03-2020 – 31-05-2020 (reduced working hours: school closure ~ Corona pandemic)

Publication list

PUBLICATIONS IN PEER-REVIEWED JOURNALS (14)

2021

De Jonge, C., Kuramae, E.E., Radujković, D., Weedon, J.T., Janssens, I.A., Peterse, F., 2021. The influence of soil chemistry on branched tetraether lipids in mid- and high latitude soils: implications for brGDGT-based paleothermometry. *Geochimica et Cosmochimica Acta* 310, 95-112.

<https://doi.org/10.1016/j.gca.2021.06.037>

Lattaud, J., **De Jonge, C.**, Pearson, A., Elling, F.J., Eglinton, T.I., 2021. Microbial lipid signatures in Arctic deltaic sediments – Insights into methane cycling and climate variability. *Organic Geochemistry* 157, 104242.

<https://doi.org/10.1016/j.orggeochem.2021.104242>

Citations: 1

2020

Walker, T.W.N., Janssens, I.A., Weedon, J.T., ..., **De Jonge, C.**, ..., Verbruggen, E., 2020. A systemic overreaction to years versus decades of warming in a subarctic grassland ecosystem. *Nat Ecol Evol* 4, 101–108.

<https://doi.org/10.1038/s41559-019-1055-3>

Citations: 12

2019

De Jonge, C., Radujković, D., Sigurdsson, B.D., Weedon, J.T., Janssens, I., Peterse, F., 2019. Lipid biomarker temperature proxy responds to abrupt shift in the bacterial community composition in geothermally heated soils. *Organic Geochemistry* S0146638019301275.

<https://doi.org/10.1016/j.orggeochem.2019.07.006>

Citations: 29

2018

Weber, Y., Damsté, J.S.S., Zopfi, J., **De Jonge, C.**, Gilli, A., Schubert, C.J., Lepori, F., Lehmann, M.F., Niemann, H., 2018. Redox-dependent niche differentiation provides evidence for multiple bacterial sources of glycerol tetraether lipids in lakes. *PNAS* 115, 10926–10931.

<https://doi.org/10.1073/pnas.1805186115>

Citations: 45

2017

Lattaud J., Kim J.-H., **De Jonge C.**, Zell C., Sinninghe Damsté J. S., Schouten S. (2017) The C 32 alkane-1, 15-diol as a tracer for riverine input in coastal seas. *Geochimica et Cosmochimica Acta* 202, 146-158.

<https://doi.org/10.1016/j.gca.2016.12.030>

Citations: 46

2016

De Jonge C., Stadnitskaia A., Sinninghe Damsté J. S (2016). Branched glycerol dialkyl glycerol tetraethers and crenarchaeol record post-glacial sea level rise and shift in sources of terrigenous brGDGTs in the Kara Sea (Arctic Ocean). *Organic Geochemistry* 92, 42-54.

<https://doi.org/10.1016/j.orggeochem.2015.11.009>

Citations: 16

De Jonge C., Stadnitskaia A., Talbot H., Cherkashov G., Fedotov A., Sinninghe Damsté J. S. (2016). Bacterioplanepolyol distribution in Yenisei River and Kara Sea suspended particulate matter and sediments traces terrigenous organic matter input. *Geochimica et Cosmochimica Acta* 174, 85-101.

<https://doi.org/10.1016/j.gca.2015.11.008>

Citations: 9

2015

De Jonge C., Stadnitskaia A., Hopmans E. C., Cherkashov G., Fedotov A., Sinninghe Damsté J. S (2015). Drastic changes in distributions of branched tetraether lipids in suspended matter and sediments from the Yenisei River and Kara Sea (Siberia): Implications for the use of GDGT-based proxies in coastal marine sediments. *Geochimica et Cosmochimica Acta* 165, 200-225.

<https://doi.org/10.1016/j.gca.2015.05.044>

Citations: 66

Weber Y., **De Jonge C.**, Rijpstra W. I. C., Hopmans E. C., Stadnitskaia A., Schubert C. J., Lehmann M. F., Sinninghe Damsté J. S., Niemann H (2015). Identification and carbon isotope composition of a novel branched

GDGT isomer in lake sediments: Evidence for lacustrine brGDGT production. *Geochimica et Cosmochimica Acta* 154,118-119.

<https://doi.org/10.1016/j.gca.2015.01.032>

Citations: 98

De Jonge C., Stadnitskaia A., Streletskaya I. D., Sinninghe Damsté J. S (2015). Impact of riverine suspended particulate matter on the branched glycerol dialkyl glycerol tetraether composition of lakes: The outflow of the Selenga River in Lake Baikal (Russia). *Organic Geochemistry* 83, 241-252.

<https://doi.org/10.1016/j.orggeochem.2015.04.004>

Citations: 22

2014

De Jonge C., Hopmans E. C., Zell C. I., Kim J.-H., Schouten S. and Sinninghe Damsté J. S. (2014) Occurrence and abundance of 6-methyl branched glycerol dialkyl glycerol tetraethers in soils: implications for palaeoclimate reconstruction. *Geochimica et Cosmochimica Acta* 141, 97-112.

<https://doi.org/10.1016/j.gca.2014.06.013>

Citations: 282

De Jonge C., Stadnitskaia A., Hopmans E. C., Cherkashov G., Fedotov A. and Sinninghe Damsté J. S. (2014) In situ produced branched glycerol dialkyl glycerol tetraethers in suspended particulate matter from the Yenisei River, Eastern Siberia. *Geochimica et Cosmochimica Acta* 125, 476–491.

<https://doi.org/10.1016/j.gca.2013.10.031>

Citations: 177

2013

De Jonge C., Hopmans E. C., Stadnitskaia A., Rijpstra W. I. C., Hofland R., Tegelaar E. and Sinninghe Damsté J. S. (2013) Identification of novel penta- and hexamethylated branched glycerol dialkyl glycerol tetraethers in peat using HPLC–MS², GC–MS and GC–SMB-MS. *Organic Geochemistry* 54, 78–82.

<https://doi.org/10.1016/j.orggeochem.2012.10.004>

Citations: 158

MONOGRAPHS (2)

De Jonge C. (2012). A multi-proxy approach to the paleoceanographic variability within the last glacial cycle offshore Morocco. MSc Dissertation. Publisher: Ghent University. Available at <http://lib.ugent.be/>.

Citations: 5

De Jonge C. (2015). Sources and sinks of branched tetraether lipids and bacteriohopanepolyols in a major river system (Yenisei River – Kara Sea): Implications for their application as geochemical tracers. Dissertation. Publisher: Utrecht University. ISBN: 978-94-6203-808-0.

CONFERENCE ABSTRACTS - ORAL PRESENTATIONS

* denotes oral presentations delivered by the applicant (C. De Jonge).

* **De Jonge C.**, Zachary L. Using supervised and unsupervised statistical approaches to elucidate the presence of environmental brGDGTs clusters that reflect different bacterial producers, International Meeting on Organic Geochemistry 2021, Sep 12-17, Online.

* Rowan S., Berg J., Vogel H., **De Jonge C.** Using brGDGT lipids to determine Holocene climate variations in Swiss alpine Lake Cadagno, 18th Swiss Geoscience Meeting, online, 6-7 November 2020.

Bittner L., Bliedtner M., Grady D., Gil-Romera G., Martin-Jones C., Lemma B., Lamb H. F., **De Jonge C.**, Meyer H., Glaser B., Zech M. Revisiting Lake Garba Guracha, high altitude lake in the Bale Mountains, Ethiopia: reconstructing Late Glacial – Holocene lake level history using $\delta^2\text{H}/\delta^{18}\text{O}$ biomarker analyses, EGU General Assembly 2020, Online, 4–8 May 2020.

* **De Jonge C.**, Radujkovic D., Janssens I., Weedon J., Kuramae E. E., Peterse F. What are global empirical calibrations hiding? The case of brGDGT membrane lipids. AGU Fall Meeting 2018, Washington, D.C., USA. Invited author

* **De Jonge C.**, Peterse F., Weedon J., Radujkovic D., Janssens I. Soil branched GDGTs measured along an Icelandic temperature gradient change only when the bacterial community changes. International Meeting on Organic Geochemistry 2017, Florence.

* **De Jonge C.**, Peterse F., Weedon J., Radujkovic D., Janssens I. Soil branched GDGTs measured along an Icelandic temperature gradient change only when the bacterial community changes. Goldschmidt 2017, Paris.

* **De Jonge C.**, Stadnitskaia A., Talbot H. M., Sinninghe Damsté J. S. (2015). Sources and Sinks of Branched Glycerol Dialkyl Glycerol Tetraethers and Bacteriohopanepolyols in the Major Yenisei River System and Kara Sea (Siberia). Goldschmidt 2015, Prague.

Weber Y., **De Jonge C.**, Rijpstra W. I. C., Hopmans E. C. , Stadnitskaia A., Schubert C. J., Lehmann M. F., Sinninghe Damsté J. S., Niemann H. EGU General Assembly Conference 2014, Vienna, Austria.

Weber Y., **De Jonge C.**, Rijpstra W. I. C., Hopmans E. C. , Stadnitskaia A., Schubert C. J., Lehmann M. F., Sinninghe Damsté J. S., Niemann H. GDGT workshop 2014, Texel, The Netherlands.

* **De Jonge C.**, Hopmans E. C., Zell C. I., Kim J.-H., Schouten S. and Sinninghe Damsté J. S. Novel branched glycerol dialkyl glycerol tetraethers: occurrence in the environment and implications for the use of the CBT/MBT proxies. GDGT workshop 2014, Texel, The Netherlands.

* **De Jonge C.**, Hopmans E. C., Zell C. I., Kim J.-H., Schouten S. and Sinninghe Damsté J. S. Novel branched glycerol dialkyl glycerol tetraethers: occurrence in the environment and implications for the use of the CBT/MBT proxies. International Meeting on Organic Geochemistry 2013, Spain.

CONFERENCE ABSTRACT - POSTER PRESENTATIONS – ONLY FIRST AUTHOR

De Jonge C., Halfman R., Lembrechts J., and Nijs I.: Testing a thermometer of the past: abiotic and biotic drivers of the brGDGT-based temperature proxy along a subarctic elevation gradient., EGU General Assembly 2021, online, 19–30 Apr 2021.

De Jonge C., Fiskal, A., Han, X., and Lever, M.: Biomarker (brGDGT) degradation and production in lacustrine surface sediments: Implications for paleoclimate reconstructions, EGU General Assembly 2020, Online, 4–8 May 2020

De Jonge C., Hopmans E., Stadnitskaia A., Schouten S. S. and Sinninghe Damsté, J. S. 6-Methyl branched glycerol dialkyl glycerol tetraethers: occurrence in the environment (soils, SPM) and implications for the palaeoclimate reconstructions. Gordon Research Conference for Organic Geochemistry 2014, Holderness, USA.

De Jonge C., Stadnitskaia A., Cherkashov G., Fedotov A., Vasiliev A. and Sinninghe Damsté J. S. Tracing the transport of terrestrial soil membrane lipids in a major river (Yenisei, Russia) and its interaction with the marine system (Kara Sea). Gordon Research Conference for Organic Geochemistry 2012, Holderness, USA.

De Jonge C., Stadnitskaia A., Cherkashov G., Fedotov A., Vasiliev A. and Sinninghe Damsté J. S. Branched GDGTs in the Yenisei river catchment; the trans-Siberian CBT/MBT signature of river and lake particulate matter. Pergamon workgroup and MC meeting, Brussels, Belgium.

De Jonge C., Stadnitskaia A., Cherkashov G., Fedotov A., Vasiliev A. and Sinninghe Damsté J. S. Branched GDGTs in the Yenisei river catchment; the trans-Siberian CBT/MBT signature of river and lake particulate matter. International Meeting on Organic Geochemistry 2011, Interlaken, Switzerland.

De Jonge C., Stadnitskaia A., De Mol L., Blamart D., Henriot J.-P., Sinninghe Damsté J. S., Van Rooij, D. A multiproxy approach to assess oceanographic variability in the Southern Gulf of Cadiz during the last glacial cycle. XRF workshop 2010, Texel, The Netherlands.