



# Chaïm De Mulder

## Experience

15/10/2015–  
present **PhD Candidate**, *Ghent University, Faculty of Bioscience engineering, Department of Mathematical Modeling, Statistics and Bioinformatics, BIOMATH group (Model based bioprocess analysis and optimisation).*



**Project** Model-based decision support, knowledge build-up and advanced modeling for the Wastewater Treatment Plant of Eindhoven, The Netherlands, in close collaboration with the operators (Waterboard De Dommel).

15/10/2014–  
15/10/2015 **Research Assistant**, *Ghent University, Faculty of Bioscience engineering, Department of Mathematical Modeling, Statistics and Bioinformatics, BIOMATH group (Model based bioprocess analysis and optimisation).*



### Projects

- Coupling a hydrodynamic model (using CFD) and a biokinetic model (using established wastewater treatment models) for the Wastewater Treatment Plant of Breda, The Netherlands.
- Constructing a model for the simulation of the High Rate Activated Sludge Process, based on two previously described models.

15/7/2013–  
6/9/2013 **Internship in combination with master thesis**, *DC Water, Research and Development Department, Washington DC, USA.*



**Project:** Batch experiments under different conditions to obtain AOB and NOB oxygen half-saturation constants through parameter estimation using a specific model describing the experimental procedure.

5/7/2012–  
31/8/2012 **IAESTE Internship**, *Aalto University, Department of Biotechnology and Chemical Technology, Espoo, Finland.*



**Project:** Catalysts used in the dehydration of xylose to furfural were characterized using micro-scale reactors, titration experiments and sugar-adsorption measurements.

## Education

2012–2014 **Master in Bio-Science Engineering: Environmental Technology**, *Ghent University.*

2009–2012 **Bachelor in Bio-Science Engineering: Environmental Technology**, *Ghent University.*

Johan Daisnestraat 26 – 9000 Gent

☎ +32 479 74 55 02 • ✉ [chaim.demulder@ugent.be](mailto:chaim.demulder@ugent.be)

Born 27/3/1991 in Ghent

## Extra-curricular



### IAESTE

(International Association for the Exchange of Students for Technical Experience)

2016-2017 LC Ghent Exchange Coordinator

Board member of the Local Committee of Ghent, day-to-day management of a 25-person team of students. Responsible for international internship exchange and networking, jobraising.

2015-2016 LC Ghent Vice-President & Summer Reception Officer

General support on local level (team management) and within international IAESTE groups (Western European region). Jobraising and organizing activities for incoming trainees.

2014-2015 LC Ghent supporting member & Summer Reception Officer

Design of IAESTE T-shirts, presenting IAESTE to companies, jobraising. Organizing activities for incoming trainees.

2013-2014 LC Ghent Secretary

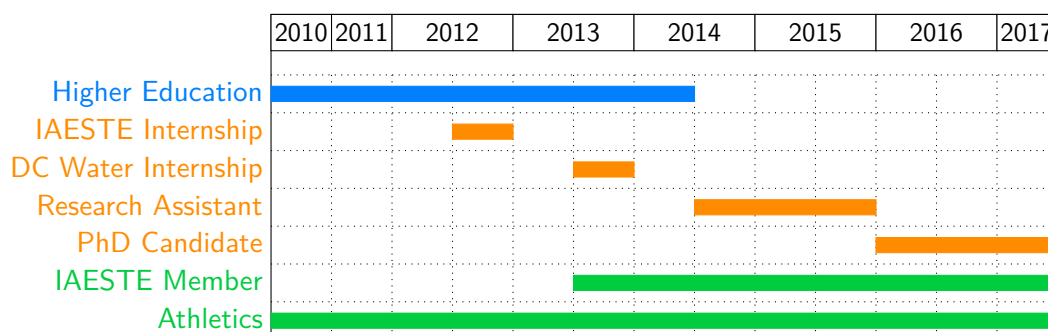
Responsible for meeting reports, jobraising.

### Sports and general interests

2006-present Athletics (recreational and competition), music, climate related, environmental and social issues, Nordic culture

## Skills

- Software
  - o Advanced: WEST (Mike by DHI), Python, GitHub,  $\text{\LaTeX}$
  - o Basic: MS Office, OpenFOAM, Matlab - Simulink, Inkscape, Drupal, command line tools
- Soft skills
  - o Social and open-minded
  - o Enthusiastic, engaged, motivated
- Languages
  - o Native: Dutch
  - o Fluent: English
  - o Basic: French, Swedish



## References

- [1] D. Seuntjens, M. Han, F-M. Kerckhof, Boon, A. Al-Omari, I. Takacs, F. Meerburg, **C. De Mulder**, B. Wett, C. Bott, S. Murthy, J.M. Carvajal Arroyo, H. De Clippeleir, and S.E. Vlaeminck. Pinpointing wastewater and process parameters controlling the aob to nob activity ratio in sewage treatment plants. *Water Research*, 138:37–46, 2018.

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- [2] **C. De Mulder**, T. Flameling, J. Langeveld, S. Weijers, I. Nopens, and Y. Amerlinck. From online data to model input: a flexible open source data analysis tool. In *Proceedings of the IWA 2017 Conference on Sustainable Wastewater Treatment and Resource Recovery: Research, Planning, Design and Operation*, Chongqing, China, 2017.
- [3] **C. De Mulder**, T. Flameling, J. Langeveld, Y. Amerlinck, S. Weijers, and I. Nopens. Automating the raw data to model input process using flexible open source tools. In Giorgio Mannina, editor, *Proceedings of the Frontiers International Conference on Wastewater Treatment*, pages 92–97, Palermo, Italy, 2017.
- [4] **C. De Mulder**, U. Rehman, W. Audenaert, Y. Amerlinck, T. Flameling, S. Weijers, and I. Nopens. Sensor location in WRRFs: easy change, big win. In *Proceedings of the 12<sup>th</sup> IWA Specialized Conference on Instrumentation, Control and Automation*, Québec, Canada, 2017.
- [5] D. Seuntjens, B.L.M. Bundervoet, H. Mollen, **C. De Mulder**, E. Wypkema, A. Verliefde, I. Nopens, J.G.M. Colsen, and S.E. Vlaeminck. Energy efficient treatment of a-stage effluent: pilot-scale experiences with shortcut nitrogen removal. *Water Science and Technology*, 2016.
- [6] **C. De Mulder**, S. Van Hoey, S. Van Hulle, S.N. Agathos, P. Cauwenberg, P. Mergen, P. Seuntjens, I. Smets, G. De Guedre, A. Mouton, D. Schowanek, B. Meesschaert, W. Verstraete, and I. Nopens. Pressing topics in the belgian water sector anno 2015. *Sustainability of Water Quality and Ecology*, 2016.
- [7] D. Seuntjens, B.L.M. Bundervoet, H. Mollen, **C. De Mulder**, E. Wypkema, A. Verliefde, I. Nopens, J.G.M. Colsen, and S.E. Vlaeminck. Energy efficient treatment of A-stage effluent: pilot-scale experiences with shortcut nitrogen removal. In *IWA Nutrient removal and recovery conference, papers*, Gdansk, Poland, 2015.
- [8] U. Rehman, Y. Amerlinck, M. Arnaldos, J. Porro, **C. De Mulder**, and I. Nopens. Computational fluid dynamic modeling of nitrous oxide in a full scale WWTP. In *Watermatex, 9<sup>th</sup> IWA Symposium on system analysis and integrated water management*, Gold Coast, Queensland, Australia, June 2015. IWA.
- [9] D. Seuntjens, **C. De Mulder**, H. De Clippeleir, S. Murthy, Z. Li, K. Chandran, I. Nopens, and S.E. Vlaeminck. Investigating AOB and NOB kinetic parameters for oxygen under moderate climate wastewater conditions. In *ENC, 19<sup>th</sup> European Nitrogen Cycle Conference, Abstracts*, Ghent, Belgium, September 2014.