

# QUINTEN Coucke



- Born in Knokke-Heist
- 15th December 1994
- Currently living in Zulte (9870)
- Curious and versatile researcher with a mind for technology and the future

## Education

- B.S. in Biochemistry and Biotechnology, KU Leuven division Kortrijk (KULAK), 2012-2016
- M.S. in Biochemistry, KU Leuven, 2016-2018 (Master thesis: Studying multimerization of Integrase during HIV infection using a FLIM-based FRET phasor analysis)
- Ph.D in Biochemistry, KU Leuven, 2018-2023 (expected June 2023))

## Work experience

- Summer 2018: Research Assistant (R&D)  
Nelson Labs NV (A Sotera Health Company)  
Duties included: Development of automated gas chromatography protocols  
Supervisor: Prof. F. De Smedt (Director of Lab Operations)
- Fall 2018: Research Assistant  
KU Leuven  
Duties included: Optimizing a homebuilt confocal time resolved microscope  
Supervisor: Prof. J. Hofkens

## Skills

- Teamwork
- A PhD learned me to optimize experimental work and interlaboratory collaborations with fellow researchers. I found a transparent environment with clear communication key and will always work with the team in mind.
- Problem Solving and microscopy protocol validation
- Having 5 years of experience building and adapting custom built confocal time-resolved microscopes I learned valuable and transferable skills on developing clear protocols and validating performance of such systems
- Microscopy
- Förster Resonance Energy Transfer (FRET) applications
- Fluorescence Lifetime Imaging Microscopy (FLIM) using Phasor Analysis
- Troubleshooting and alignment of custom microscopes (experience with Thorlabs setup equipment)
- Sample preparation involving fixations, FCS samples to check setup alignment (confocal volume), cell culture and transfections

## Publications

## Workshops

- NanoMacro Microscopy Workshop 5-7 sept 2018, Hasselt (attended & gave workshop)
- Organizer and presenter of the 'Feel the Force summer school' 2021. This was a 3 day intensive course to force measuring with biosensors and TFM. I was organizer, gave a plenary lecture on phasor-FLIM and in addition provided small group hands-on classes at the microscope. This was supported by the Arenberg Doctoral School (ADS)

## Conference presentations

- Pacifichem 2021 conference (online-only conference due to COVID-19 regulations)  
<https://pacifichem.org/>  
"Phasor for FLIM-FRET analysis of intracellular vinculin tension sensors"
- Plenary session on FRET analysis for biosensors at the 2021 'Feel the Force summer school' at KU Leuven  
(<https://www.kuleuven.be/english/summer-schools/feeltheforce/home>)  
"Analysis of FRET Data using Intensity and FLIM methods"
- Open presentation for the chemistry department  
"Phasor analysis for FLIM-FRET biosensor data:  
a case study of HIV-Integrase oligomerization and vinculin tension sensors"

## Conference poster presentations

- Dutch Biophysics 2018 Veldhoven, The Netherlands
- Satellite Workshop of the DGfB biannual meeting "Advanced Fluorescence Spectroscopy and Imaging" 2018 Düsseldorf, Germany
- 25th PicoQuant 'Single Molecule, Spectroscopy and Super-resolution Microscopy in the Life Sciences' meeting 3-6 sept 2019 Berlin, Germany
- Let there Be ...Light – Frans De Schryver Symposium – October 2019 Leuven
- EACR tumor microenvironment 2020 - March 2020, Lisbon, Portugal

## Software packages

- Illustrator
- Adobe Acrobat
- Microsoft Office applications
- Matlab (plotting, scripts and (image) data analysis)
- Python (self-thought basics)
- ImageJ
- OneNote (reports of meetings, logbook, data sharing hub, project pages)
- Teams/Zoom/Skype
- Audacity, Leica LasX, PicoQuant Sympyhotime64, GitHub

## Languages

- German (basic)
- French (basic)
- English (very good)
- Dutch (native)

## Teaching

- Advanced Fluorescence, a course by Prof. J. Hofkens (KU Leuven)

Course on the in-depth application of fluorescence spectroscopy and imaging. The course covers a broad range of imaging techniques from basics to advanced: Confocal vs widefield imaging STORM, PALM, TIRF, FLIM, STED, ... . Additionally students are introduced to optics, calculating fluorescence quantum yields and determining FRET efficiencies. As a master topic this course keeps a focus on research applied cases.

## Current job scope:

\*\* Currently open for job opportunities in the Ghent region \*\*