

Aquiles Carattino

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Profile

Physicist and entrepreneur. With a deep technical background in optics, spectroscopy, and nanotechnology, I have focused my career on developing scientific instruments that can generate a broad impact on society. My ambition is to combine my deep technical knowledge with business development opportunities. I have experience translating user requirements, leading interdisciplinary teams, and managing the entire life-cycle of physical (high-tech) products.

Experience

2019-2023 **Founder, CTO, DisperTech**, The Netherlands

I co-founded this deep-tech company to translate basic research into a product. I was in charge of leading both product and business development, grow the team, and fundraise. I lead the effort to develop two scientific instruments from the ground up, including hardware, software, and go-to-market strategy.

Core skills: Project management, team leadership, product and business development

2017-Present **Consultant, Instructor, Python for the Lab**, The Netherlands/Remote

I help companies and research organizations to adopt new and more efficient software development practices. I organize workshops for researchers who need help controlling their instruments. I'm also the author of the book *Python for the Lab*, and the website pythonforthelab.com

Core skills: Public speaking, workshop organization, content creation

2019-2022 **Lead developer/Volunteer, Klimaat Helpdesk**, The Netherlands

Design, develop, deploy, and maintain the web application klimaathelpdesk.org. I volunteered my time and technical knowledge to create a platform for the exchange of information between academic researchers and society.

Core skills: Website Design, Django, server management, Heroku, AWS

2018-2018 **Postdoc, Nano photonics group**, Utrecht Univ., The Netherlands

Part-time postdoc position focused on the development of PyNTA, a software package to perform nanoparticle tracking analysis in real-time and to develop a business plan to bring nanoparticle tracking devices to market.

Core skills: Business strategy, proposal writing, real-time data analysis

2017-2018 **Founder, Uetke**, The Netherlands/Remote

Software development and consulting. Focused on building open-source software for controlling setups and managing data. Consulting on topics relative to information technology infrastructure in research labs.

Core skills: Python, software design, contract negotiation

2012-2017 **PhD in Physics, Prof. Michel Orrit Lab**, Leiden Univ., The Netherlands

The main focus of my research project was the understanding of the processes behind the luminescence of gold-nanoparticles. I built a confocal microscope, with optical tweezers and photothermal imaging options. I developed new techniques to image nanoparticles and measure their temperature with far-field optics.

Core skills: Team work, project management, time management, optical microscopy, nanotechnology

2011-2012 **Research Assistant**, Tenaris, Argentina

I worked in the department of Reheat Furnaces at the R&D division. I employed finite element analysis (FEM) methods to optimize industrial processes.

Core skills: Time management, experiment design, industrial safety

Education

2004-2010 **Physics, University of Buenos Aires**, Argentina, Final grade: 9.08/10

Combined bachelor and master studies.

○ Undergraduate research lab: Single-molecule anisotropy studies in polymer thin films.

Courses and training

- 2022 Unlock_ incubation program
- 2018 Utrecht Inc. Science Venture Program
- 2016 Nyenrode Business Orientation Week

Grants and Others

- 2020 Take-Off Phase 2 (NWO), convertible loan, assigned to DisperTech BV. Total budget: 150k€.
- 2019 Seed investment from Nascent Ventures B.V. to develop and commercialize the nanoCET platform through DisperTech BV
- 2018 Take-Off Phase 1 (NWO) to perform commercial viability studies. Budget: 40k€.
- 2012 Ph.D. funded by FOM in Leiden, The Netherlands. The total budget for the project, besides salary: 150k€.

Publications

- 2020 "Python for the Lab", ISBN: 979-1716517685
- 2019 "PyNTA: An Open Source Software Application for Live Particle Tracking", S Faez, A Carattino, A Mosk. Preprints
- 2018 "Gold nanoparticles as absolute nanothermometers", A.Carattino, M. Caldarola, M. Orrit. Nano letters 18 (2), 874-880
- 2016 "In situ tuning of gold nanorod plasmon through oxidative cyanide etching", A Carattino, S Khatua, M Orrit. Physical Chemistry Chemical Physics 18 (23), 15619-15624
- 2016 "Background suppression in imaging gold nanorods through detection of anti-stokes emission", A Carattino, VIP Keizer, MJM Schaaf, M Orrit. Biophysical Journal 111 (11), 2492-2499
- 2014 "Influence of the glass transition on rotational dynamics of dyes in thin polymer films: Single-molecule and ensemble experiments", B Araoz, A Carattino, D Tauber, C Von Borczyskowski, PF Aramendia. The Journal of Physical Chemistry A 118 (45), 10309-10317

Extra Activities

- 2015–2017 Coordinator of the network of Argentine scientists in The Netherlands
- 2018–Present Tutorial development for Python for the Lab
- 2015 Editor of *Thesis*, Leiden Ph.D. association magazine
- 2014 Vice Chair, Treasurer, and Webmaster of Leiden Ph.D. association

Communication Skills

- 2019-2023 Several presentations at conferences, pitching competitions, customer interactions
- 2017-Present Several Python for the Lab Workshops organized

Languages

Spanish	Mother tongue	
English	Advanced	<i>Professionally fluent</i>
Portuguese	Advanced	<i>Professionally fluent</i>
Italian	Advanced	<i>Professionally fluent</i>
Dutch	Basic	<i>Basic words and phrases only, B1 level.</i>
French	Studying	<i>Basic words and phrases only, A1 level.</i>

Interests and Hobbies

- Tango Dancing
- Making websites & apps
- Sailing
- Photography