

# Jordan Claus

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🆔 Jordan Claus







## Education

- 2020 – 2023 **Ph.D., Physics, University of Lille, France**  
Title : *Characterization, microsolvation and reactivity of aerosols precursors by microwave and infrared spectroscopy and quantum chemistry calculations.*  
Institute : Laboratory Physique des Lasers, Atomes et Molécules (PhLAM) - UMR 8523  
Supervisors : Pr Laurent Margulès, Dr Manuel Goubet
- 2018 – 2020 **M. Sc., Fundamental Physics, University of Lille, France**  
*Light-Matter Interaction, research program, Speciality : Photonics*
- 2015 – 2018 **B. Sc., Fundamental Physics, University of Lille, France**


## Teaching and research activities

- Jan 2024 – Dec 2024 **Post-doctoral position**  
Institute : Rotational and Computational Spectroscopy – Department of Chemistry  
“Giacomo Ciamician”,  
University of Bologna, Italy
- Sept 2021 – Jun 2023 **Ph.D. assistant**  
Institute : Department of Physique, Faculty of Sciences and Technologies,  
University of Lille, France  
128 hours of teaching in the second year of the Physics/Physics-Chemistry degree  
(classical and higher school preparatory classes programs) (electromagnetism, fluid  
and solid physics, vibratory phenomena and thermodynamics)
- Oct 2020 – Dec 2023 **Ph.D. student**  
Institute : Laboratory Physique des Lasers, Atomes et Molécules - UMR 8523,  
University de Lille, France
- Feb 2020 – Jun 2020 **Master 2 internship, 5 months**  
Title : *Study of the microsolvation and reactivity of volatile organic compounds by gas  
phase spectroscopy and quantum calculations*  
Institute : Laboratory Physique des Lasers, Atomes et Molécules - UMR 8523,  
University of Lille, France  
Tutor : Dr Manuel Goubet
- May 2019 – Jun 2019 **Master 1 internship, 2 months**  
Title : *Detection of nitrous oxides by wavelength modulation spectroscopy*  
Institute : Laboratory de Physico-Chimie de l'Atmosphère - UR 4493,  
University of Littoral Côte d'Opale, France  
Tutor : Dr Tong Nguyen Ba
- Sept 2018 – Juin 2019 **Tutor**  
Mathematics, physics, computer science, programming and electronics, revision as-  
sistance for first year degree students  
Institute : Department of Physics, Faculty of Sciences and Technologies,  
University of Lille, France

## Other activities




- May 2023  Member of the Improvement Committee for the Lille Physics Master's Degree
- Feb 2023 – Jun 2023  Share in the supervision of a Master 2 trainee (Thérésa Farah)
- Feb 2022 – Jun 2022  Share in the supervision of a Master 2 trainee (Colwyn Bracquart)
- Oct 2021  Participation in the science festival at the University of Lille (Referent: Dr Florent Real)

## Publications



- 1 S. Chawananon, P. Asselin, **J. A. Claus**, *et al.*, “Rovibrational spectroscopy of trans and cis conformers of 2-furfural from high-resolution fourier transform and qcl infrared measurements,” *Molecules*, vol. 28, no. 10, p. 4165, 2023.
- 2 **J. A. Claus**, C. Bermúdez, V. Vallet, L. Margulès, and M. Goubet, “The hydration of an oxy-polycyclic aromatic compound: The case of naphthaldehyde,” *Physical Chemistry Chemical Physics*, 2023.  DOI: 10.1039/d3cp02649c.

## Conferences, oral contributions and posters






### Oral contributions

- 1 **J. A. Claus**, C. Bermudez, M. Goubet, and L. Margules, “The hydration of polycyclic aromatic compounds: the case of naphthaldehyde,” in *26th International Conference on High-Resolution Molecular Spectroscopy (HRMS Praha 2022)*, Praha, Czech Republic, Aug. 2022.  URL: <https://hal.science/hal-03770131>.
- 2 **J. A. Claus**, C. Bermudez, L. Margules, and M. Goubet, “The hydration of polycyclic aromatic compounds: the case of naphthaldehyde,” in *Journées plénières 2022 du GDR EMIE*, Dunkerque, France, Jun. 2022.  URL: <https://hal.science/hal-03696700>.
- 3 **J. A. Claus**, C. Bermudez, M. Goubet, and L. Margules, “The hydration of polycyclic aromatic compounds: the case of  $\alpha$ -naphthaldehyde,” in *27th Colloquium on High-Resolution Molecular Spectroscopy (HRMS Cologne 2021)*, Cologne, Germany, Aug. 2021.  URL: <https://hal.science/hal-03725148>.

### Posters



- 1 C. BRACQUART, **J. A. Claus**, M. Goubet, L. Margules, M. Chrayteh, and A. Cuisset, *Investigation of atmospheric interest molecules: rotational spectroscopy of nitro-methoxyphenols*, Comité Scientifique CaPPA 2022, Poster, Nov. 2022.  URL: <https://hal.science/hal-03846997>.
- 2 **J. A. Claus**, C. Bermudez, M. Goubet, and L. Margules, *Microsolvation of naphthaldehyde, an aerosol precursor, studied by microwave spectroscopy*, Comité Scientifique CaPPA 2021, Poster, Nov. 2021.  URL: <https://hal.science/hal-03725341>.

## Skills

- Languages  French (Mother tongue), English (C1), Italian (A2/B1)
- Spectroscopy  SPFIT/SPCAT, AABS suite program, Pqopher, Gaussian, NCIPlot, AIMALL
- Programming  Python, C++, bash,  $\LaTeX$
- Computer Science  Word, Excel, PowerPoint, OriginPro
- Misc  Academic research, teaching

## Miscellaneous Experience

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- Mar 2022     Participation in the "Tour de France de la Spectroscopie" organised by the GDR EMIE (Edifices Moléculaires Isolés et Environnés) (Referent: Dr Samir Kassi, Dr Olivier Pirali)
- 2021,2023     Introduction to Deep Learning training (FIDLE) organised by the University of Grenoble

## References

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### **Manuel Goubet**

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### **Florent Réal**

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### **Samir Kassi**

Research engineer, Grenoble-Alpes University,  
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### **Laurent Margulès**

Professor, Lille University,  
Laboratoire Physique des Lasers, Atomes et Molécules  
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2 Avenue Jean Perrin  
59655 Villeneuve d'Ascq Cedex, France  
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### **Tong Nguyen Ba**

Doctor, Littoral Côte d'Opale University,  
Laboratoire de Physico-Chimie de l'Atmosphère - EA  
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Maison de la Recherche en Environnement Industriel  
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59140 Dunkerque, France  
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### **Olivier Pirali**

Research director, Paris-Saclay University,  
Institut des Sciences Moléculaires d'Orsay - UMR 8214  
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Université Paris-Saclay  
91405 Orsay Cedex, France  
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