

Short Curriculum Vitae Yves Caudano

Personal data

Name: CAUDANO Yves
Place and date of birth: Namur, 21/09/1973
Nationality: Belgian



Professional data

Research associate of the Fund for Scientific Research F.R.S.-FNRS and honorary assistant professor at the University of Namur

Affiliations: Lasers and Spectroscopies Research Unit (UR-LLS), Physics Department;
Namur Institute for Complex Systems (naXys);
Namur Institute of Structured Matter (NISM);
Namur Philosophical Space Research Institute (Esphin)

Address: UR-LLS, University of Namur, Rue de Bruxelles 61, B-5000 Namur, Belgium

Phone: +32 (0)81 72 5487

Email: yves.caudano@unamur.be

URL: <http://directory.unamur.be/staff/ycaudano>

Education

1991–1993: Candidatures en Sciences Physiques (Bachelor's degree in Physics); GD, PGD
Facultés Universitaires Notre-Dame de la Paix (FUNDP), Namur

1993–1995: Licences en Sciences Physiques (Master's degree in Physics); GD, PGD
Facultés Universitaires Notre-Dame de la Paix (FUNDP), Namur

1995–2000: Doctorat en Sciences (PhD.); PGD+ (Supervisor: Prof. P. A. Thiry), 23/02/2000
Facultés Universitaires Notre-Dame de la Paix (FUNDP), Namur

Master thesis:

Nonlinear vibrational excitations in fullerenes induced by a free-electron laser (in French)

PhD. Thesis:

Contribution to the study of interfaces by linear and nonlinear vibrational spectroscopies. Theoretical synthesis and experimental analysis of hydrogenated silicon interfaces and local defects, as well as of electron-phonon couplings at the K/C₆₀/Ag interface (in French).

Professional career and fellowships

1995–1997: Grant from the Fund for Research Training in Industry and Agriculture (FRIA), FUNDP

1997–1999: Research Fellow of the National Fund for Scientific Research – FNRS, FUNDP, Namur

1999–2000: Researcher “Fonds Spécial de Recherche” at FUNDP, Namur

2000–2003: Postdoctoral researcher of the FNRS, FUNDP, Namur

2003–2004: Scientific research worker of the FNRS, FUNDP, Namur

2004–present: Research associate of the Fund for Scientific Research F.R.S.-FNRS, Univ. of Namur

2006–2013: Lecturer at the FUNDP, Namur

2013–present: Honorary assistant professor at the University of Namur

Scientific awards and distinctions

- “Best master thesis” prize from the Belgian Physical Society – BPS (1997)
- Collège des Alumni (Royal Academy of Science, Letters and Fine Arts of Belgium): member (2008–2013)

International mobility

- FELIX, FOM Institute for Plasma Physics Rijnhuizen, Nieuwegein, Netherlands : 2 weeks (1994–1995), 2 weeks (1998)
- CLIO – LURE (Paris-Sud University, Orsay, France), P. Dumas and A. Tadjeddine's groups: 4 ½ months (1995–1996), 3 weeks (1998), 2 weeks (2004)
- Bell Laboratories, Lucent Technologies (Murray Hill, NJ, USA), Y. Chabal's group: 16 ½ months (11/1996–01/1998 and 11/1998–01/1999)
- University of Kinshasa (UNIKIN), Physics Department (Kinshasa, Democratic Republic of Congo): 10 days (2008), 2 weeks (2010), 2 weeks (2012), 2 weeks (2013)

Publication summary

Number of publications: 55

Number of citations: 1024 (Scopus)

H-index: 16 (Scopus)

Conference abstracts and scientific communications: >50 as presenting author, plus >60 as co-author

Research keywords: Nonlinear optics, quantum optics, vibrational spectroscopy, optical spectroscopy, sum-frequency generation spectroscopy, surface and interface physics, quantum weak measurements, weak values, quantum foundations

Representative publications

- *Geometric description of modular and weak values in discrete quantum systems using the Majorana representation*, M. Cormann and Y. Caudano, *J. Phys. A: Math. Theor.* **50** (2017) 305302 (1–24)
- *Revealing geometric phases in modular and weak values with a quantum eraser*, M. Cormann, M. Remy, B. Kolaric, and Y. Caudano, *Phys. Rev. A* **93** (2016) 042124 (1–8)
- *Selective Plasmonic Platforms Based on Nanopillars to Enhance Vibrational Sum-Frequency Generation Spectroscopy*, D. Lis, Y. Caudano, M. Henry, S. Demoustier-Champagne, E. Ferain, and F. Cecchet, *Advanced Optical Materials* **1** (2013) 244–255
- *In situ nonlinear optical spectroscopy of electron-phonon couplings at alkali-doped C₆₀/Ag(111) interfaces*, E. Kakudji, C. Silien, D. Lis, F. Cecchet, A. Nouri, P.A. Thiry, A. Peremans, and Y. Caudano, *Phys. Stat. Sol. B* **247** (2010) 1992–1996
- *Orientation of thiophenol adsorbed on silver determined by nonlinear vibrational spectroscopy of the carbon skeleton*. A.A. Mani, Z.D. Schultz, Y. Caudano, B. Champagne, C. Humbert, L. Dreesen, A.A. Gewirth, J.O. White, P.A. Thiry and A. Peremans, *J. Phys. Chem. B.* **108** (2004) 16135–16138
- *Electronic tuning of dynamical charge transfer at an interface: K doping of C₆₀/Ag(111)*, A. Peremans, Y. Caudano, P.A. Thiry, P. Dumas, W.-Q. Zheng, A. Le Rille and A. Tadjeddine, *Phys. Rev. Lett.* **78** (1997) 2999–3002

Ongoing research projects

- Concerted Research Action (ARC) at the University of Namur « Quantum weak measurements: theoretical foundations, experimental approach, philosophical and logical interpretation (WeaM) », 48 months, started on 01/10/2019. Coordinator Y. Caudano with principal investigators Profs. T. Carletti, B. Hespel, and D. Lambert

Selected academic services

- Fund for Research Training in Industry and Agriculture (FRIA): membre of PE2 committee - jury 1 "Particle, nuclear, plasma, atomic, molecular, gas, and optical physics" (2016–2020); Vice-president (2019–2020)
- Belgian Physical Society (BPS): board member (since 2011), administrator and treasurer (since 2016), member and head of local organizing committee (General Scientific Meeting, Namur 2011), editorial board of Belgian Journal of Physics (since 2021)
- Research council of the University of Namur: member (11/2012–08/2017) and project evaluator for the Académie Louvain

Teaching

At University of Namur:

- Physics laboratory exercises: 1st year physics (2000–2005), 2nd year chemistry (2001–2002)
- Nonlinear optics: 22h, DEA and physics master (2005–2012), 3 credits
- General physics, electricity: 52h, 1st year physics and chemistry (2006–2007), 9 credits
- Analytical mechanics: 45h, 2nd year physics (2008–present), 7 credits
- Nonlinear optics and quantum optics: 30h, physics master (2012– 2016), 4 credits
- Electrodynamics III: 15h, physics master (2014–2015), 4 credits
- Laser physics, nonlinear and quantum optics: partim 22.5h (total 45h), physics master (2016–present), 6 credits
- Quantum information and measurement theory: 22h, physics master (2016–present), 3 credits
- Quantum mechanics II: partim 15h (total 30h), 3rd year physics (2019–present), 5 credits

At University of Kinshasa:

- Laser physics: 30h (2007–2008), 22h (2009–2010), physics master
- Nonlinear and quantum optics: 30h (2011–2013), physics master and DEA

Last updated: October 2021