



# Dubernet-Tuckey Marie-Lise

*Astronomer (Professor equivalent)*

## Employments & Affiliations

2018–2025 **Astronomer, exceptional class**, *Observatory of Paris/PSL*.

2017–2019 **Astronomer, director**, *Observatoire Aquitain des Sciences de l'Univers*, Bordeaux.

2011–2018 **Astronomer, 1st class**, *Observatory of Paris/PSL*.

2006–2011 **Astronomer, 2nd class**, *Observatory of Paris/PSL*.

2002–2006 **Assistant astronomer (eq. Lecturer)**, *Observatory of Paris*.

1995–2002 **University Lecturer**, *University of Franche-Comté*.

1993–1995 **Post-Doctoral Contractor**, *Max-Planck-Institut für Quantenoptik, Munich, FP5 Human Capital and Mobility personnel fellowship*.

1989–1993 **Post-Doctoral Contractor**, *Durham University, Physics and Chemistry departments, Groups of Prof. J. Hutson and Prof. D. Flower*.

## Education

1999 **Professional Thesis (HDR, Habilitation) Molecular Physics**, *Univ. of Franche-Comté, Besançon*.

1986–1989 **PhD Molecular Physics**, *with honors*, Univ. Pierre et Marie Curie (now Sorbonne University), Paris, PhD supervisor : Prof. R. McCarroll.

1985–1986 **MSc (master 2) Fundamental Physics**, *Univ. of Bordeaux, major ex-aequo*.

## Awards

July 2017 **National Order of the "Legion of Honor"**, rank : **knight**, *from the 24th May 2018*, official decree 12th July 2017, published in Official Journal 14th July 2017.

## Administrative and Scientific Responsibilities

2021–2024 **Chair of a IAU Working Group**, *Inter-commission B5-B2 working group on Laboratory Astrophysics Data*, nominated.

2014–2022 **Chair of Board of Directors**, *Consortium "Virtual Atomic and Molecular Data Centre (VAMDC)"*, <http://www.vamdc.org>.

2017–2019 **Director of an Institute (OSU)**, *Observatoire Aquitain des Sciences de l'Univers, University of Bordeaux*, <https://www.oasu.fr/>.

2017–2019 **Director of a Laboratory**, UMS2567, POREA, University of Bordeaux.

2016–2016 **Part-time Policy Officer**, *Direction of the CNRS Internal Audit*, Paris.

2009–2013 **Director of a Laboratory**, UMR7092, LPMAA, Sorbonne University (SU), this lab joined LERMA (Obs de Paris) in 2013 and moved to MONARIS (SU) in 2024.

2012–2015 **Coordinator**, *e-science research infrastructure european project FP7 SUP@VAMDC*, <http://www.sup-vamdc.vamdc.org/>, 750kEuros.

2009–2013 **Coordinator**, *e-science research infrastructure european project FP7 VAMDC*, <http://www.vamdc-project.vamdc.eu/>, 3MEuros.

2004–2008 **Deputy-Coordinator**, *European Research and Training Network RTN-FP6: "Molecular Universe"*.

2004–2008 **Scientific Coordinator**, *Virtual Observatory Project at Paris Observatory*, genesis of the current Paris Astronomical Data Center (PADC): <https://padc.obspm.fr/>.

2002–2023 **Scientific Coordinator**, *BASECOL database*, <http://basecol.vamdc.org>.

## Member of committees

2024–2027 **Member of Organizing Committee**, IAU, *Commission C3 History of Astronomy*, elected member.

2021–2024 **Vice-President**, IAU, *Commission B5 Laboratory Astrophysics*, elected member.

2018–2021 **Member of Organizing Committee**, IAU, *Commission B5 Laboratory Astrophysics*, Elected member.

2021–2021 **Expert committee for recruitment of Univ. Professor - Astrophysics**, Sorbonne University, nominated member.

2021–present **Administrative counsel of the OSU THETA**, University of Bourgogne/Franche-Comté, nominated member.

2015–2020 **Member of Organizing Committee**, "Pôle Diffusion Atomes et Molécules", nominated member.

2013–2014 **Scientific counsel**, Observatoire de Paris, nominated member.

2011–2013 **Scientific counsel**, DIM ACAV, nominated member.

2011–2013 **Scientific counsel**, UFR UPMC, invited member.

2009–2013 **Expert committee for recruitment of lecturers-Astrophysics-Molecular Physics**, Sorbonne University, nominated member.

2004–2009 **Scientific counsel**, National Program INSU PCMI, nominated member.

2004–2009 **Scientific counsel**, National Organisation INSU ASOV, nominated member.

2005–2006 **Expert committee for recruitment of lecturers - Astrophysics**, Observatory of Paris, elected member.

1997–2001 **Expert committee for recruitment of lecturers - Astrophysics-Molecular Physics**, University of Franche-Comté, elected member.

1997–2000 **Expert committee for recruitment of lecturers - Molecular Physics**, University of Bourgogne, nominated member.

## Teaching and general university responsibilities

2020–2021 **Director**, *Undergraduate Studies department of Observatory of Paris*, Univ. PSL.

2000–2002 **Director of studies**, *2nd year - Physical Sciences*, Univ. Franche-Comté.

1997–2002 **Coordinator**, *2nd year Physics Module*, Univ. Franche-Comté.

1997–2001 **Tutoring's Coordinator**, *UFR Sciences*, Univ. Franche-Comté.

## Reviewing

Journal **Referee**, *Molecular Physics, Chemical Physics Letters, JQSRT, J. of Chemical Physics, Astrophysical Journal, Astronomy and Astrophysics, Journal of Molecular Spectroscopy, MNRAS, Journal of Physics B, Atoms, Physica Scripta, Modern Physics A*.

External **Reviewer**, *Referee for ANR (France, 2014-2018), for NWO (Nederthlands, 2020) for FWF (Austria, 2021)*.

## Activities linked to collective organisation of science

- 2002–present: National and International activities around the on-line publication of atomic and molecular data. This led to the creation of VAMDC
- 2002 - 2008: Activities around databases at Paris Observatory, linked to the International Virtual Observatory Alliance, that led to the creation of the current Paris Data Centre "PADC".

## Supervision

○ 4 Post-Doc (2007-16)	○ 5 engineers (VAMDC: 2010-15)
○ 1 PhD student (2003-2007)	○ 3 Co-supervisions PhD (1997-2013)
○ 3 Master 2 (1997-2003)	○ 19 3rd year and Master 1 (1996-2020)
○ 7 1rst and 2nd year (2000-2020)	○ 7 outreach school trainings (2005-2015)

## Teaching activities

### Astronomer, Observatory of Paris

2023–present **L1-L2-L3**, *Observatory of Paris/PSL*, On-line teaching in basic astronomy and astrophysics.

2019–2023 **2nd year CPES**, *Université PSL*, Lecture on Electromagnetism and Wave propagation, <https://psl.eu/en/education/multidisciplinary-undergraduate-degree-cpes>.

2006–2019 **Master 1**, *Observatory of Paris/PSL*, Lecture and Tutorials in Statistical Physics.

2014–2016 **2nd year**, *Sorbonne University*, Python Practicals.

2005–2006 **1rst year Medical studies**, *University of Paris VII*, Tutorials in Physics.

2005–2006 **3rd year**, *Univ. P. & M. Curie (now Sorbonne Univ.)*, Mechanics Practicals.

2002–2004 **1rst year**, *Univ. P. & M. Curie (now Sorbonne Univ.)*, Physics Tutorials/Practicals.

### University Lecturer, University of Franche-Comté

2000–2002 **Master 2**, Quantum Chemistry Lecture.

1995–2002 **Master 1**, Numerical Physics practicals.

1995–2002 **3rd year**, Quantum mechanics tutorials.

1995–2002 **2nd year**, Solid Mechanics Lecture, tutorials, practicals.

1995–2002 **1rst year**, Physics, Tutorials and practicals.

Part time during PhD, Univ. of Bordeaux and Univ. Pierre et Marie Curie (now Sorbonne Univ.)

1986–1988 **1rst year**, Practicals in Physics.

## Scientific productions

- 81 refereed articles
- 37 non refereed proceedings
- 48 invited conferences
- 45 oral communications in workshops
- 30 seminars
- 73 posters
- Standards Documents for Atomic and Molecular Data
- Software and e-science Infrastructure

## Research Activities and Collaborations

Astronomer, Observatory of Paris

2024–present **Collab. Team "History of Astronomical Sciences" (LTE, Paris)**, *Circulation of knowledge and techniques across space and time, with a focus on Far East astronomy.*

2024–present **Collab. VAMDC (Paris Team and International) and C. Boursier (MONARIS, Sorbonne University)**, *Standards, Software and Databases.*

2023–present **Collab. O. Denis-Alpizar (Chili and Univ. of Bordeaux) and C. Boursier (MONARIS, Sorbonne University)**, *BASECOL database.*

2021–present **Collab. D.-H. Kwon (KAERI, Korea)**, *Pearl Database in VAMDC*, 3 weeks visitor in 2022.

2021–2024 **Collab. IAU Working Group**, *Laboratory Astrophysics Data : Encouraging FAIRness.*

2022–2022 **Collab. M.-Y. Song (KFE, Korea)**, *DCPP Database in VAMDC*, 1 week visitor in 2022.

2020–2021 **Collab. D. Bockelée-Morvan (Observatory of Paris)**, *Work on cometary atmospheres.*

2019–2020 **Collab. D. Babikov (University of Milwaukee, USA) and C. Boursier**, *Collisional rate coefficients for comets : H<sub>2</sub>O-H<sub>2</sub>O.*

2016–2019 **Collab. E. Quintas-Sánchez**, *Potential energy surface and Collisional rate coefficients for comets : HCN-H<sub>2</sub>O.*

2014–2015 **Collab. E. Quintas-Sánchez, P. Tuckey**, *Potential energy surface and Collisional rate coefficients for HCS<sup>+</sup>-He.*

2013–2014 **Collab. D. Babikov (University of Milwaukee, USA)**, *Development of mixed classical/quantum methods for collisional excitation of molecules.*

2010–2013 **Collab. T. Stoecklin (University of Bordeaux)**, *Collisional excitation for the bending modes of HCN and rotational modes of CS.*

2007-2009 **Collab. F. Daniel, M. Meuwly (Un. de Basel), J. Cernicharo (CSIC, Madrid),** *Fine structure collisional excitation of  $N_2H^+$  by He.*

2005-2006 **Collab. F. Lique, A. Spielfiedel, N. Feautrier,** *Collisional excitation of the rotational modes of SO by He.*

2002-2010 **Collab. F. Daniel, A. Grosjean,** *Rotational excitation of  $H_2O$  by  $H_2$  : scientific preparation of HERSCHEL.*  
**Lecturer, University of Franche-Comté**

2000-2002 **Collab. A. Grosjean,** *Rotational excitation of  $H_2O$  by  $H_2$  : scientific preparation of HERSCHEL.*

1995-2000 **Collab. X. Bruet, J. Bonamy, D. Robert,** *Quantum calculations of line broadening parameters :  $H_2 + Ar$ ,  $H_2 + He$ ,  $H_2 + H_2$ .*  
**Post-Doctoral Contractor**

1993-1995 **Max-Planck-Institut für Quantenoptik, Garching,** *Reactive collisions.*

1989-1993 **University of Durham, UK,** *Dynamics of open-shell van der waals molecules,*  
Groups of Prof. J. Hutson and Prof. D. Flower.

### Service activities (specific to the status of "Astronomers")

2009-present **VAMDC,** *International platform connecting atomic and molecular databases,* <http://vamdc.org>.

### Languages

French C2, native language

English C1/C2, home language

German B1/B2 reading

Korean B1/B2 reading

### Personal Interests

Languages Ancient : Hieroglyphic Egyptien from middle empire (1 year) - Medieval Korean (Hunminjeongeum, 2 years) - Classical Chinese

Musique Piano