



# 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/>.

*Observatoire de Paris, PSL University, LTE – 75014 Paris*

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- 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 recrutement 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 recrutement 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 recrutement of lecturers - Astrophysics**, *Observatory of Paris*, elected member.
- 1997–2001 **Expert committee for recrutement of lecturers - Astrophysics-Molecular Physics**, *University of Franche-Comté*, elected member.
- 1997–2000 **Expert committee for recrutement of lecturers - Molecular Physics**, *University of Bourgogne*, nominated member.

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## 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.

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## 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 (Netherlands, 2020) for FWF (Austria, 2021)*.

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## 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".

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## Supervision

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

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## 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 **1st 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 **1st 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 **1st year**, Physics, Tutorials and practicals.

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

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

## Scientific productions

- 81 refereed articles
- 48 invited conferences
- 30 seminars
- Standards Documents for Atomic and Molecular Data
- 37 non refereed proceedings
- 45 oral communications in workshops
- 73 posters
- 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 :  $H_2O-H_2O$ .*
- 2016–2019 **Collab. E. Quintas-Sanchez**, *Potential energy surface and Collisional rate coefficients for comets :  $HCN-H_2O$ .*
- 2014–2015 **Collab. E. Quintas-Sanchez, P. Tuckey**, *Potential energy surface and Collisional rate coefficients for  $HCS^+-He$ .*
- 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