

CURRICULUM VITAE

Personal information

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Education

2000 HDR (D. Sc.) in Astrophysics, Université de Provence, France

1991 Ph. D. in Astrophysics and Space Techniques, Université Denis Diderot (Paris 7), France

1986 Master of Physics, Université Aix-Marseille III, France

Current position

Since 2017 Astronomer “Classe Exceptionnelle”, OSU OREME & LUPM, Université de Montpellier, France

Previous positions

2009-2016 Astronomer 2nd, then 1st cl., Observatoire astronomique de Strasbourg, France

2003-2008 Associate Astronomer, Observatoire de Lyon, France

1996–2003 Associate Astronomer, Observatoire de Marseille, France

1995–1996 Fellow of French Academy of Sciences, Observatoire de Marseille, France

1993–1995 Research Assistant, Geneva Observatory, Switzerland

1991–1993 Education & Research Attaché, Université de Provence, France

Fellowships and awards

2013-2016 Scientific Excellence Award PES (Prime d’Excellence Scientifique)

2005-2012 Ministry of Higher Education PEDR (Prime d’Encadrement Doctoral et de Recherche)

2008-2009 *International Year of Astronomy* label for an outreach project

1995 French Academy of Sciences reintegration fellowship

1993 Ministry of Research postdoctoral fellowship

Supervision of graduate students and postdoctoral fellows

Supervision of PhD students and postdocs

Supervisor or co-supervisor of 5 PhD

PhD committees

Member of 12 PhD committees (2 as President, 6 as rapporteur)

Other students

9 Master-1, 9 Master-2, 2 Engineering schools, 1 ENS Cachan

Teaching activities

- Since 2017 University of Montpellier, Modelling and simulation in Physics (M1), Habitability (L1), Science & Society (L3), General Physics (L1)
- 2009-2016 University of Strasbourg, Exobiology (L1), Astrophysics (M1)
- 2003-2008 University of Lyon, Astrophysics (L2, TICE, high schools)
- 1996-2002 University of Provence, Galactic Dynamics (DEA=M2)
- 1992-1994 University of Provence, Astrophysics, Quantum mechanics, Numerical analysis, Computer science (DEUG SSM = L1 and L2, Licence of Applied Mathematics = L3)

Astronomer duty activities

- Since 2004 Virtual observatory standards for numerical simulations
Development of International Virtual Observatory Alliance standards and protocols for the interoperability of databases of numerical simulations
Co-editor IVOA *Simulation Data Model* (<http://arxiv.org/abs/1402.4744>)
Co-author IVOA *Simulation Data Access Layer* (<http://www.ivoa.net/documents/SimDAL/>)
Co-author of the white paper delivered by the Theory Expert Group d'EURO-VO DCA.
- 2003-2009 VLT/MUSE: creation of mock observations for end-to-end instrument simulations
- 1996-2009 Co-investigator ESA Herschel Space Observatory (PACS instrument)
- Pre-1996 Inversion software for ISOCAM (included in the ESA CAM Interactive Analysis Software)

Organisation of scientific meetings

- 2018 Chair SOC EWASS Special Session #24 (*Resolving stars and gas in the central kiloparsec: clues to disk galaxy evolution*, Liverpool)
- 2015, 2016 Chair SOC SF2A Annual meeting (Toulouse, Lyon)
- 2008-2014 Member SOC SF2A Annual meeting
- 2008 Chair SOC JENAM Symposium #7 (*Grand Challenges in Computational Astrophysics*, Vienna)
- 2008 SOC EuroVO-DCA Theory Expert Group restitution workshop (*Framework for the inclusion of theory data and services in the VObs*, Garching)
- 2006 LOC CRAL Conference Series I (*Chemodynamics*, Lyon)

Institutional responsibilities

Governing boards

- 2017-2021 Elected member of the Executive Board of Observatoire de REcherche Méditerranéen de l'Environnement, Université de Montpellier
- 2016-2020 Substitute of CNRS Regional representative at Université de Haute-Alsace Executive Board
- 2015-2016 Chair Steering Committee Region-Government Contract (CPER) "High Performance Computing and Big Data" renamed "AlsaCalcul"
- 2014-2016 Member Steering Committee of EQUIP@MESO Equipex (EQUIPement d'EXcellence) in HPC
- 2013-2016 Member Financial Board of Université de Strasbourg
- 2010-2013 Chair of the Science Advisory Committee of the University of Strasbourg Supercomputing Centre
- 2005-2011 Member Science Team MUSE 2nd generation integral-field spectrograph for ESO VLT
- 2008-2012 Chair of the Theory Interest Group of the IVOA (International Virtual Observatory Alliance)
- 2006-2008 Vice-chair of the IVOA Theory Interest Group
- 1996-2009 Co-investigator ESA Herschel Space Observatory (PACS instrument)

Administrative responsibilities

- 2013-2019 Elected and re-elected member of the Astronomy division of the Conseil National des Astronomes et Physiciens
President (2015-2019)
- 2017-2020 Deputy director of Laboratoire Univers et Particules de Montpellier (LUPM, UMR 5299 CNRS/IN2P3 – Université de Montpellier)
- 2009-2016 Director of Observatoire Astronomique de Strasbourg (ObAS, UMR 7550 Université de Strasbourg –

- CNRS/INSU)
- 2005-2007 Deputy Director of the Centre de Recherche Astrophysique de Lyon (CRAL UMR5574 CNRS – Université Claude Bernard Lyon 1 – ENS Lyon)
- 2000 -2004 Elected member of Scientific Research National Committee (CoNRS), Astronomy and Astrophysics Division (“Section 14”)

Commissions of trust

Editorial boards

- Since 1993 Reviewing for professional review: Astronomy & Astrophysics, Astrophysical Journal, Monthly Notices of the RAS, Journal of GRID Computing, Gordon & Breach
- 2008-2012 IVOA Technical Coordination Group (reviewing of all published standards)
- 2012 Co-editor Proceedings of the Annual meeting of the French Society of Astronomy and Astrophysics
- 2011 Co-editor “Grand Challenges in Computational Astrophysics”, EAS Publications Series
- 2006-2008 Member of the Theory Expert Group of the European project Euro-VO Data Centre Alliance
- 2007 Co-editor proceedings CRAL Conference Series I

Evaluation panels

- Since 2017 Expert of the International department of Ministries of Higher Education and Research, and Foreign Affairs
CNRS National Institute for the Sciences of the Universe (INSU) strategic exercise:
- 2003, 2019 - Member of steering committee
- 2014 - Working group (disciplinary organization), workshop co-chair, member of Executive Summary Group
- Since 2017 Reviewer for European PRACE computation time allocation committee (DECI-14, 15, 17)
- 2002-2013 European Union (Marie Curie programme, panel PHY)
- 2005-2006 European Science Foundation ‘Forward Look on European Computational Science’
- on demand ANR (France), DFG (Germany), STFC (United Kingdom), RPF (Chypre), FNS (Switzerland), DIM ACAV+ (Ile de France Region)
- Since 2009 AERES/HCERES (evaluation of research structures)
Observatoire de Paris (2009),
Institut d’Astrophysique Spatiale (2013), Laboratoire d’Astrophysique de Bordeaux (vice-chair of the committee, 2014) and Observatoire Aquitain des Sciences de l’Univers (2014), UTINAM (chair, 2015) and OSU THETA (vice-chair, 2015), LESIA (2017), SRN (2017) and IMCCE (chair, 2017)

Memberships of scientific societies

- Since 1989 Société Française d’Astronomie et d’Astrophysique (SF2A)
President (2014–2016), Vice-President (2012–2014) and executive board member (2008–2016)
- Since 1994 European Astronomical Society
- Since 1996 International Astronomical Union

Grants and funding

- 2018 PI Scientific Council grant, Université de Montpellier, 13.5 k€
- 2015-2020 PI Region-Government Contract (CPER) on Big Data and HPC (AlsaCalcul), 4 M€ (from Government, Alsace Region and Strasbourg Eurometropole)
- 2015 PI Exploratory research project (PEPS) funded by IDEX Université de Strasbourg, 14.4 k€
- 2008-2010 PI Cooperation programme ECOS-Sud France-Argentine A07U01
- 2007 SF2A grant for an outreach project on numerical simulations
- 2002-2005 Co-PI CNRS/INSU Young Researcher ATIP (Action Thématique Innovante sur Programme)

Outreach

3 press releases (ESO 2001/08/14, INSU 2007/04/05, INSU 2015/02/11)

Public conferences: Université du Tiers Temps Montpellier, André Malraux Library Strasbourg, Kids University, Observatory Open/Patrimonial Days, Planetarium St Etienne & Strasbourg, Museum Lyon, Rallye des Mathématiques, etc.

Presentation of the SF2A "Science and Society" Award to Alexandre Astier (for his show "Exoconférence")

TV and Broadcast interviews: RCF (2008), France 3 Alsace (2009, 2011, 2013, 2015), Alsatic-TV (2009), Ciel & Espace (2014), IdF98 (2016), Emission d'Antoine (2016)

Several projects of movies about numerical simulations of astrophysical objects (all scales), funded by SF2A and labelled 'International Year of Astronomy' (2007–2009)

Contribution to the « *Guide de l'astronomie en Alsace* », 2009, edited by the Jardin des Sciences de l'Université de Strasbourg

Scientific advisor of the movie « *GALAKTOS une tournée dans la voie lactée* », 2008, produced by Astronéf (planetarium of Saint-Etienne)

Movies of hydro/N-body simulations of galaxies for a CD-ROM published for the tercentenary of the Observatoire de Marseille (2002), for the planetarium of Saint-Etienne (2006)

Economic valorisation out of academic environment

Promotion of supercomputing among SMEs of the Alsace Region, in collaboration with the CCI Alsace (http://utv.unistra.fr/video.php?id_video=159)

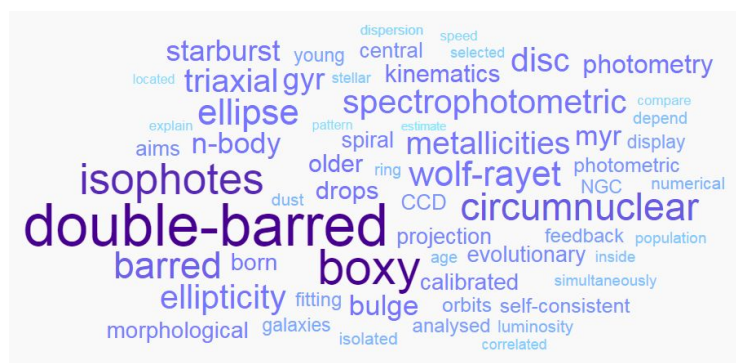
Track-record

Major achievements

54 refereed articles (24 single, first or second author, source: ADS), 1 book chapter, 56 conference proceedings, 3 press releases, 3 volumes of proceedings (editor).

Selected major results ordered by 'citations index' (ADS source):

- **Double-bars:** first significant statistical study probing the importance of nuclear stellar bars for the evolution of central regions of galaxies (1995–2000); first chemodynamical simulations probing their longevity (2015)
- **σ -drops:** Observational discovery and complete theoretical study (conditions of appearance, lifetime) of stellar velocity dispersion drops in nuclear regions of barred galaxies (2001–2006)
- **Morphology of barred galaxies:** first application of ellipse fitting and generalized-ellipse fitting techniques for surface photometry (1990–1996)
- First evidence that stellar discs mass doubles between $z=0.6$ et $z=0$ from the evolution of the Tully-Fisher relation (2007–2008)
- First theoretical study of the distribution of stellar population ages in barred galaxies; explanation of the age gradient observed along the stellar bars (2007)



Selected referred publications

- **Wozniak, H.** 2020 ApJ 889, 81 “*Stellar migration in galaxy discs using the Chirikov diffusion rate*”
- **Wozniak, H.**, 2015, A&A 575, A7 “*How can double-barred galaxies be long-lived?*”
- **Special issue on Herschel:** the first science highlights, 2010, A&A 518, 37, 45, 55, 58, 61, 62, 63, 64, 65, 66, 72
- Minchev I., Famaey B., Combes F., Di Matteo P., Mouhcine M., **Wozniak, H.**, 2011, A&A 527, 147
“*Radial migration in galactic disks caused by resonance overlap of multiple patterns: Self-consistent simulations*”
- Puech M., Flores H., Hammer F., ..., **Wozniak H.**, 2008 A&A 484, 173
« *IMAGES III: The evolution of the Near-Infrared Tully-Fisher relation over the last 6 Gyr* »
- **Wozniak H.**, 2007, A&A 465, L1 “*The distribution of stellar population age in galactic bars*”
- **Wozniak H.**, Champavert N., 2006, MNRAS 369, 853 “*Lifetime of nuclear velocity dispersion drops in barred galaxies*”
- Michel-Dansac L. **Wozniak H.**, 2006 A&A 452, 97 “*The length of stellar bars in SB galaxies and N-body simulations*”
- **Wozniak H.**, Combes F., Friedli D., Emsellem E., 2003 A&A 409, 469
“*Numerical simulations of central velocity dispersion drops in disc galaxies*”
- Emsellem E., Greusard D., Combes F., Friedli D., Leon S., Pécontal E., **Wozniak H.**, 2001 A&A 368, 52
“*Dynamics of embedded bars and the connection with AGN: I. ISAAC/VLT stellar kinematics*”
- **Wozniak H.**, Pfenniger D., 1997, A&A 317, 14 “*“Rotation curves” in self-consistent models of barred galaxies*”
- Friedli D., **Wozniak H.**, Rieke M., Martinet L., Bratschi P., 1996, A&AS 118, 461
“*Disc galaxies with multiple triaxial structures: II. JHK surface photometry and numerical simulations*”
- **Wozniak H.**, Friedli D., Martinet L., Martin P., Bratschi P., 1995, A&AS 111, 115
“*Disc galaxies with multiple triaxial structures: I. BVRI and H α surface photometry*”
- **Wozniak H.**, Pierce M.J., 1991, A&AS 88, 325
“*CCD surface photometry of early-type barred galaxies I. Data reduction and results*”
- Athanassoula E., Morin S., **Wozniak H.**, Puy D., Pierce M.J., Lombard J., Bosma A., 1990, MNRAS 245, 130
“*The shape of bars in early-type barred galaxies*”

Reports

- Languignon D., Le Petit F. (eds), 2016, “*Simulation Data Access Layer 1.0*”, IVOA Proposed Recommendation (<http://ivoa.net/documents/SimDAL/index.html>) [<http://cdsads.u-strasbg.fr/abs/2017ivoa.spec.0320L>]
- Lemson G., **Wozniak H.** (eds), 2012, “*Simulation Data Model 1.0*”, IVOA Recommendation (<http://www.ivoa.net/Documents/SimDM/20120503/index.html>)
- Lemson G., **Wozniak H.**, Zuther J. (eds.), 2008, “*Framework for the inclusion of theory data and services in the VObs*”, Euro-VO Data Centre Alliance Theory Expert Group report (http://cds.u-strasbg.fr/twikiDCA/pub/EuroVODCA/Deliverables/EuroVO-DCA_D11_MPG_Final.pdf)

Interdisciplinarity

- 2008 Invited seminar by the epistemological group LIRDHIST, Lyon
- 2013 Invited conference by the Campus of Complex Sciences, Strasbourg
- 2013 Book chapter :
Wozniak H., « Diffuser modèles et simulations en astrophysique : l’apport de l’Observatoire Virtuel », in « Epistémologie de la modélisation et de la simulation », M. Silberstein & F. Varenne (Eds), Editions Matériologiques.
- 2015 Invited talk by the HPC Computing Centre, Strasbourg