Université de Montpellier
OSU OREME
LUPM - UMR 5299 CNRS
Place Eugène Bataillon – CC 72
F-34905 Montpellier cedex 05

Phone: (+33)4 6714 3902
Fax: (+33)4 6714 4190
e-mail: herve.wozniak domain: umontpellier.fr
herve.wozniak.fr
orcid.org/0000-0001-5691-247X
www.researcherid.com/rid/O-4704-2015

Dr. Hervé Wozniak

Date : 2017-01-01

Born in Bayonne (France) on 1964, march 31st ; married, 3 children

Research Interests

Galaxy formation and evolution, chemodynamics, large-scale star formation in galaxies, AGN fuelling
High-Performance Computational Astrophysics (N-body, hydrodynamics, chemodynamics, orbits, chaos)
Virtual Observatory (Theory in the VO)

Recent responsibilities

President of the "astronomy" division of the National Council for Astronomers and Physicists (CNAP) (2015–2019, ordinary member 2013-2015)
Director Observatoire Astronomique de Strasbourg and UMR 7550 Université de Strasbourg – CNRS (2009 –2016)
President (2014–2016), Vice-President (2012–2014) and board member (2008–2016) of the French Astronomy and Astrophysics Society (SF2A)

Positions Held

2017–: Astronomer 1st class, OSU OREME & LUPM, Université de Montpellier
2009–2016: Astronomer 2nd, then 1st cl., Observatoire astronomique de Strasbourg, Strasbourg
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

Scientific committees

Steering Committee of EQUIP@MESO Equipex (EQUIPement d'EXcellence) in HPC (2014–2016)

Fellowships & Awards

2013-2016: Scientific Excellence Award PES (Prime d'Excellence Scientifique)
2005-2012: Ministry of Education PEDR (Prime d'Encadrement Doctoral et de Recherche)
2008-2009: International Year of Astronomy label for an outreach project
2007: SF2A grant for an outreach project on numerical simulations
1995: French Academy of Sciences reintegration fellowship
1993: Ministry of Research postdoctoral fellowship

Grants & Funding

2015-2020 : Region-Government Contract (CPER) on Big Data and HPC (AlsaCalcul)
2015 : Exploratory research project (PEPS) funded by IDEX Université de Strasbourg
2008–2010: Cooperation programme ECOS-Sud France-Argentine A07U01
2002–2005: CNRS/INSU Young Researcher ATIP (Action Thématique Innovante sur Programme)

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

Membership

International Astronomical Union (1996–), European Astronomical Society (1994–), French Astronomy and Astrophysics Society (1989–)

MAJOR ACHIEVEMENTS

52 articles (23 single, first or second author, ADS source), 1 book chapter, 56 conference proceedings, 3 press releases, 3 volumes of proceedings (editor).

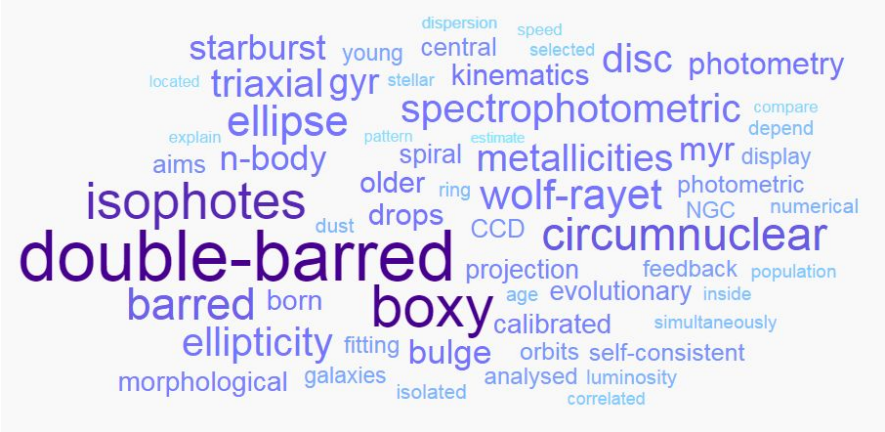
Selected major results ordered by 'citations index' (ADS source):

- **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)

Development of state-of-the-art numerical codes:

- Orbits reconstruction (so-called « Schwarzschild method») for studying the dynamical properties of barred galaxies including numerous improvements (spectral analysis, Lyapunov exponents, adaptive resolution, etc.)
- hydro/N-corps chemo-dynamical code dedicated to detailed studies of local galaxies

Development of standards and protocols for the interoperability of database of theoretical products (numerical simulations, International Virtual Observatory Alliance)



SELECTED REFERRED PUBLICATIONS

- **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 Halpha 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 and 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, 2013 April 13th.
- 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)

MAIN SCIENTIFIC AND MANAGEMENT RESPONSABILITIES

Current or recent

- **President** of the Astronomy division of the **Conseil National des Astronomes et Physiciens** (re-elected **2015-2019**, member 2013-2015)
  - National recruitment, promotion, PEDR award, career assessment, etc.
- **Director** of the **Observatoire Astronomique de Strasbourg** (Université de Strasbourg and CNRS UMR 7550, **2009-2016),** Deputy Director of the Observatory of Lyon (2005–2007)
- **President (2014–2016)**, Vice-President (2012–2014) and board member (2008–2016) of the French Astronomy and Astrophysics Society (**SF2A**)
- Scientist in charge of the Equipex Equip@Meso for the University of Strasbourg (2011-2013), member of the Equip@meso Steering Committee (**2014-2016**)
- Principal investigator of Region-Government project "Big Data & HPC" (Alsacalcul, **2015-2020**) until fall 2016

Past

- Chair (2008-2012) of the Theory Interest Group of the IVOA (International Virtual Observatory Alliance). Vice-chair from 2006 to 2008.
- President of the Science Advisory Committee of the University of Strasbourg Supercomputing Centre (2010–2013)
- Member Science Team MUSE 2nd generation integral-field spectrograph for ESO VLT (2005-2011)
- Co–investigator ESA Herschel Space Observatory (PACS instrument, 1996-2009)
- Member HORIZON project (Numerical cosmology project, in charge of Virtual Observatory issues, 2003–2009)
- Chair Scientific Organizing Committee of Symposium #7 JENAM 2008
- Member Local Organizing Committee of CRAL Conference Series I (2006); co-editor of the proceedings

EXPERT AND ADVISOR ACTIVITIES

- **Ministry of Higher Education and Research**
  - International department (2017-)
- **CNRS/INSU** mid-term plans:
  - 2014: summary group, "astronomy organization" group and workshop co-leader
  - 2003: steering committee, website manager
- **Funding agencies**:
  - European Union (Marie Curie programme, panel PHY, 2002–2013)
  - ANR (France), DFG (Germany), STFC (United Kingdom), RPF (Chypre)
- **Evaluation agency**: AERES/HCERES
  - Observatoire de Paris (2009), Institut d'Astrophysique Spatiale (2013), Laboratoire d'Astrophysique de Bordeaux (2014) and Observatoire Aquitain des Sciences de l'Univers (2014), UTINAM (president of the committee, 2015) et OSU THETA (vice-president, 2015)

- **Referring for professional review** : Astronomy &Astrophysics, Astrophysical Journal, Monthly Notices of the RAS, Journal of GRID Computing, Gordon & Breach
- **Time allocation committee**: PRACE (2016)
- Member of the **Theory Expert Group** of the European project Euro-VO Data Center Alliance (2006–2008)
- **European Science Foundation** 'Forward Look on European Computational Science' (2006)
- Member of Scientific Advisory Committees of 3 CNRS/INSU Programs: « Numerical simulation in Astrophysics » (**ASSNA,** 2004–2006) and « Virtual Observatories » (**OV-France,** 2004–2010), National Programme on Galaxies (**PNG**, 2005–2008).
- Member of Scientific Research National Committee (CoNRS), Astronomy and Astrophysics Division (2000-2004)

TEACHING & OUTREACH

- University of Strasbourg (2009–2016): Exobiology (L1), Astrophysics (M1)
- University of Lyon (2003–2008): Astrophysics (L2, TICE, high schools)
- University of Provence (1996–2002): Galactic Dynamics (DEA=M2)
- University of Provence (1992–1994): Astrophysics, Quantum mechanics, Numerical analysis, Computer science (DEUG SSM = L1 and L2, Licence of Applied Mathematics = L3)

- Advisor/supervisor of PhD Students : Léo MICHEL-DANSAC (2000-2003), Olivier HERNANDEZ (2001–2004 with C.Carignan, Univ. Montréal and P. Amram, LAM), Nicolas CHAMPAVERT (2004–2007), Nicolas GAUDIN (2009-2012), Jonathan CHARDIN (2010–2013), Benjamin LAEVENS (2012–2015, Excellence Grant)

- 3 press releases (ESO 14/08/2001, INSU 5/4/2007, INSU 11/2/2015)
- Public conferences: André Malraux Library Strasbourg, Kids University, Observatory Open/Patrimonial Days, Planetarium St Etienne & Strasbourg, Museum Lyon, Rallye des Mathématiques, etc.
- TV and Broadcast interviews: RCF (2008), France 3 Alsace (2009, 2011, 2013), Alsatic-TV (2009), Ciel & Espace (2014)
- 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 Astronef (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)
- Expert for ALSACALCUL-Services for supercomputing in SMEs