

Curriculum Vitae – Despina Hatzidimitriou

1. Personal Data

Name: Despina Hatzidimitriou

Date of Birth: 4-10-1962

Place of Birth: Athens, Greece

Nationality: Greek

Marital status: married, two children (ages 11 & 12)

2. Education

2.1 Undergraduate studies

- **Bachelor of Physics**, University of Athens, February 1985 (Grade 'excellent': 9.3/10)
- Attendance of Physics Summer School of the Research Center Demokritos, in summer 1982
- Vacation research student at the Royal Observatory Edinburgh, in summer 1984

2.2 Graduate studies

- **PhD in Astronomy**, University of Edinburgh, June 1989
- **Thesis supervisors:** Dr. M.R.S. Hawkins, Dr. M.J. Smyth
- **Thesis title:** 'The evolution and geometry of the outer parts of the Small Magellanic Cloud'

2.3 Scholarships

- 4 studentships of the National (Greek) Institute of Studentships (IKY) (1980-81, 1981-82, 1982-83 and 1983-84)
- 3-year fellowship of the University of Edinburgh for graduate studies (1985-86, 1986-87 and 1987-88)

3. Research interests

3.1 Stellar Populations, Star Formation History and Evolution of the Magellanic Clouds (SMC, LMC)

- History of star formation in the disk and halo of the SMC over the past 14 billion years and study of its chemical evolution
Publications: Main journals 3, 11, 18, Conference Proceedings: 1, 2, 4, 5, 7, 19

- One publication in preparation with V. Antoniou and A. Zezas (CTIO, and Magellan data)
- Study of the kinematics, dynamics and structure of the SMC and LMC. Publications: Main Journals: 4, 10, 12, 16, Conference Proceedings: 6, 10, 17, 21, 23, 36, 37
One publication in preparation with R.D. Cannon and D. Morgan.
 - Study of HI in the SMC
Publications: Main Journals: 13, 17, 27
 - Study of distribution and properties of X-ray sources in the SMC and correlation with star formation history
Publications: Main Journals: 31 (to be submitted within the month), Conference Proceedings: 39, 40, 41
Two more publications in preparation (related to V. Antoniou's PhD thesis)
 - New collaboration with J. van Loon and C. Evans on the study of the dynamics and kinematics of the SMC using ESO-VLT.

3.2 Globular Clusters

3.2.1 Globular Clusters in our galaxy (Skinakas Observatory)

- HR-diagrams, derivation of age, metallicity and reddening for previously poorly studied galactic globular clusters.
Publications: Main Journals: 20, 21, 25.
In preparation: Study of globular cluster NGC 6760 (dissertation thesis of H. Troulinos)
- Study of properties of Horizontal Branch stars, in globular clusters
Publications: Main Journals: 9, 21, Conference Proceedings: 22, 25, 29, 38

3.2.2 Star clusters in the Magellanic Clouds

- Study of properties, distribution and dynamics of star clusters in the Magellanic Clouds
Publications: Main Journals: 1, 2, 5, 6, 7, 18, 19, Conference Proceedings: 12, 13, 14, 15, 16, 20, 24

3.3 Dwarf galaxies in Local Group

- Dynamics, history of star formation and interstellar medium in Local group dwarf galaxies
Publications: Main Journals: 8, 14, Conference Proceedings: 3, 4, 8, 9, 11, 26, 32
In preparation:
 1. Factors that influence the evolution of dwarf galaxies in the Local Group (collaboration with M. Kontiza)
 2. Properties of HI shells in Local Group Galaxies (collaboration with S. Stanimirovic)

3.4 Atmosphere of AGB stars (carbon stars)

- Study of properties of J-type carbon stars, Lithium rich carbon stars, R Coronae Borealis type carbon stars, and stars with strong SiC₂ absorption in the Magellanic Clouds
Publications: Main Journals: 22, 23, 24, 28, Conference Proceedings: 27, 33, 34
In preparation: General properties of 2000 carbon stars in the Magellanic Clouds (collaboration with R.D. Cannon και D. Morgan)

3.5 X-ray sources in Local Group Galaxies

- Study of X-ray sources in the local group galaxies (M31, M33), spectroscopic identification of optical counterparts
Publications: Main Journals: 26, 29, 30

Participation in the large M31 XMM-Newton project (awarded time in 2006):
DH and P. Rieg will be responsible for the optical follow-up of the new sources.
Title of Large XMM Program: The X-ray source population of the Andromeda galaxy M 31

W. Pietsch (PI), R. Barnard, V. Burwitz, M. Freyberg, J. Greiner, F. Haberl, D. Hatzidimitriou, M. Hernanz, U. Kolb, A. Kong, P. Reig, G. Sala, M. Sasaki, L. Shaw Greening, L. Stella, B. Williams.

3.6 Novae στον M31

- Spectroscopic and Photometric follow-up of novae in M31 (Skinakas Observatory)
First paper to be submitted for publication by March 2006
(collaboration with W. Pietsch, P. Reig, J. Greiner).

Participation in the large M31 XMM-Newton/Chandra project
(has been awarded time, 2006)

Monitoring the supersoft source state of many optical novae in the core of M 31
W. Pietsch (PI), R. Bender, V. Burwitz, M. Della Valle, J. Fliri, M. Freyberg, J. Greiner, F. Haberl, D. Hartmann, D. Hatzidimitriou, M. Hernanz, M. Orío, A. Rau, P. Reig, A. Rieser, G. Sala, S. Seitz

3.7 Instrumentation

- Project scientist for the construction of the echelle spectrograph for Skinakas Observatory (optical engineer for the project: Dr M. Woche, technical assistant: A. Steiakaki). The instrument has seen first light in July 2006 and the first observations have been analysed.
- Was instrument scientist for Autofib multifiber spectrograph at the Anglo-Australian Telescope (1989-1992).

3.8 Planetary atmospheres – Radiation Transfer in P.A.

- ***Earth's radiation budget***
Modeling of radiation transfer in the Earth's atmosphere, and study of its radiation budget using satellite data.
Publications: Main Journals: 34-41, Conference Proceedings: 42, 43, 44 (collaboration with I. Vardavas, N. Hatzianastassiou, C. Matsoukas, E. Drakakis, K. Pavlakis).
- ***Titan***
Study of haze formation in Titan's atmosphere
(Subject of PhD thesis of P. Lavvas)
(in collaboration with I. Vardavas, and A. Coustenis)

4. Positions Held

- Associate Professor, Department of Physics, University of Athens, July 2008 (awaiting formal appointment)
- Associate Professor, Department of Physics, University of Crete May 2007-today
- Assistant Professor, Department of Physics, University of Crete, since February 1997 (got tenure in 2000)
- Lecturer, Department of Physics, University of Crete, 1993-1997
- "Postdoctoral fellow"(AAO-SERC fellowship) at the Institute of Astronomy, University of Cambridge, from 1-4-1992 to 31-3-1993
- "Postdoctoral fellow" (AAO-SERC fellowship) at the Anglo-Australian Observatory 1-10-1989 έως 31-3-1992.
During this period: "Project Scientist" for the multifiber instrument Autofib at the AAT.

5. Teaching experience

5.1 Courses at the University of Crete

Undergraduate Courses

- Classical Mechanics, 2003-2008 (compulsory 2nd-year undergraduate course)
- General Physics I 2007-2008 (compulsory 1st-year undergraduate course)
- Optics Laboratories, 1994-2007 (compulsory 2nd-year undergraduate course)
- Advanced Physics Laboratories (compulsory 3rd-year undergraduate course), 1993-2000
- Essays in Contemporary Physics (2nd-year undergraduate course) 2001-2005
- Contributing Lecture for the undergraduate course "Radiation production and transfer", 1998/9, 1997/8, 1996/7

Final Year Undergraduate/Masters Course

- Stellar Evolution and Nucleosynthesis (4th-year undergraduate and 1st year masters course), 1994-2005

Summer Schools Lectures/Courses

- Astrophysics lectures and labs for Summer School of Physics, Crete (graduate level), summer 1993, 1994, 1995
- Astrophysics lectures and labs for the “Advanced School of Physics and Mathematical Physics, ERASMUS”, University of Crete, 1994
- Astronomical Techniques, for students from the University of Bremen (that takes place at the Observatory of Skinakas every summer), 2003-2005

5.2 Other teaching experience

- Tutor of Astronomy for undergraduate students, at the Department of Astronomy and Physics, University of Edinburgh (1986-1988)

5.3 Supervision/Co-supervision of Bachelor Theses

- Supervision of the dissertation thesis of F. Maragoudaki, “Kinematics of the dwarf spheroidal galaxy Sculptor” (completed)
- Co-Supervision of the three dissertation theses (of E. Antoniou, M. Kaltsa and C. Papadaki) on the study of globular clusters using observations from Skinakas Observatory (completed)
- Supervision of the dissertation thesis of I. Troulinos, based on observations from Skinakas Observatory (near completion)

5.4 Supervision/ Co-supervision of PhD theses

- PhD Supervision
 - ✓ **V. Antoniou**, PhD 2008, Department of Physics, University of Crete, ‘Study of populations of X-ray sources in nearby galaxies’
PhD committee: D. Hatzidimitriou (supervisor), N. Kylafis, I. Papadakis.
- PhD Co-supervision
 - ✓ **P. Lavvas**, PhD student, Department of Physics, University of Crete, ‘Spatial and time variations of the properties of the atmosphere of Titan’ (almost completed)
PhD committee: I. Vardavas (supervisor), J. Papamastorakis, D. Hatzidimitriou
 - ✓ **Dr D. Gouliermis**, PhD, Department of Physics, University of Athens, ‘Stellar systems in the Magellanic Clouds’
PhD committee: M. Kontizas (supervisor), P. Niarchos, D. Hatzidimitriou
 - ✓ **F. Maragoudaki**, PhD student, Department of Physics, University of Athens, ‘Stellar populations in local group of galaxies’

PhD committee: M. Kontizas(supervisor), E. Livaniou, D. Hatzidimitriou

- ✓ **E. Livanou**, PhD student, Department of Physics, University of Athens, 'Star Formation in dwarf galaxies'
PhD committee: M. Kontizas (supervisor), E. Theodossiou, D. Hatzidimitriou

5.5 Authorship of University Notes

- Optics Laboratories (co-authorship with Prof. Euthymiopoulos).
- Advanced Physics Laboratories (co-authorship with Prof. Charalambidis).

6. Non- teaching Positions within the University of Crete

- Chair of the Summer School of Advanced Physics, Heraklion Crete, (2004-2008)
- Member of the University of Crete Committee for Summer Schools
- Member of the Undergraduate studies committee 2007-8

7. Professional distinctions

- Member of the National Astronomy Committee (Ministry of Development, General Secretariat of Research and Development), 2001-2003.
- Member elect of the Governing Council of the Hellenic Astronomical Society, 2002-2004.
- Vice-president of the Hellenic Astronomical Society, 2004-2006.
- Member elect of the governing council of Commission 37 of the International Astronomical Union, 2003-2006.
- Chairman of commission 37 of the International Astronomical Union, as of September 1st 2006.
- Vice-President of Division VII of the International Astronomical Union, as of September 1st 2006.

8. Membership in Professional Societies

- Member of the Hellenic Astronomical Society
- Member of the American Astronomical Society
- Member of the International Astronomical Union

9. Referee for international journals

- Astronomical Journal

- Astrophysical Journal
- Astrophysical Journal Letters
- Astrophysical Journal Supplement Series
- Astronomy and Astrophysics
- Monthly Notices of the Royal Astronomical Society

10. Organisation of Conferences

- Member of the Scientific Organizing Committee of the International Astronomical Union Symposium, no.192 (Cape Town 1998).
- Member of the Scientific Organizing Committee of the 6th bi-annual conference of the Hellenic Astronomical Society (Athens, 2003).
- Member of the Scientific Organizing Committee of the 7th bi-annual conference of the Hellenic Astronomical Society (Kefallinia, 2005).
- Member of the Local Organizing Committee of the 5th bi-annual conference of the Hellenic Astronomical Society (Fodele-Crete, 2005).
- Member of the Local Organizing Committee of the international meeting on ‘Cassini/Huygens - Titan’ (Heraklion-Crete, 2005).
- Member of the Scientific Organizing Committee of the International Astronomical Union Symposium on the “Magellanic System” Keele, UK, Summer 2008.

11. Public outreach

- Visitors Center, Skinakas Observatory (lectures)
- Educational Television.
- Participation in radio and TV programs, and articles in the press, related to Skinakas Observatory

12. Publications

117 publications in NASA-ADS¹ (astronomy + physics/geophysics – one paper with author spelt Hadjidimitriou)
(53 in refereed journals)

Citations: 1050

H-index 17

¹ In categories “astronomy/astrophysics” and “physics/geophysics” – one paper with author name spelt “Hadjidimitriou”

13. Research interests

Observational Astrophysics

A. Study of Local Group Galaxies

1. Study of stellar populations, star formation history and evolution of the **Magellanic Clouds** and Dwarf galaxies in Local Group
2. Study of the kinematics, dynamics and structure of the SMC and LMC and Dwarf galaxies in Local Group.

B. Globular Clusters

Study of Globular Clusters in our Galaxy and in the Magellanic Clouds (HR-diagrams, derivation of age, metallicity and reddening, properties of Horizontal Branch stars)

C. Stellar Atmospheres (of AGB stars: carbon stars)

Study of properties of J-type **carbon stars**, Lithium rich carbon stars, R Coronae Borealis type carbon stars, and stars with strong SiC₂ absorption in the Magellanic Clouds

D. Study of Neutron star and black hole binaries in X-rays in Local Group Galaxies

1. Study of X-ray sources in the local group galaxies (**M31**, M33), spectroscopic identification of optical counterparts
2. Study of distribution and properties of X-ray sources in the SMC and correlation with star formation history
3. Study of Novae in M31