NECTARIA GIZANI

 $(+30)2610\text{-}367521 \diamond (+30)6972709435$ ngizani@eap.gr \diamond skype-name: nectaria_gizani



e - info

Orchid Identifier: https://orcid.org/0000-0002-9787-1149 Homepage: http://ngizani.weebly.com/ Professional webpage: https://www.eap.gr/en/spoudes-sto-eap-2/schools-and-courses/thetikwn-epistimwn-k-texnologias /214-more-of-school-of-science-technology/1646-nectaria-gizani https://www.eap.gr/images/stories/pdf/sst-research-ngizani-gr.pdf https://www.eap.gr/images/stories/pdf/sst-research-ngizani.pdf ResearchGate: https://www.researchgate.net/profile/Nectaria_Gizani Linkedin: https://www.linkedin.com/in/nectaria-gizani-3812469/ GoogleScholar: https://scholar.google.com/citations?hl=en&user=1GRjoowAAAAJ Academia: https://eap.academia.edu/NectariaGizani/ Research: https://www.eap.gr/images/stories/pdf/sst-research-ngizani.pdf

EDUCATION

Jodrell Bank Observatory (Nuffield Radioastronomy Laboratory) 09/94–12/97 University of Manchester, UK

Ph.D. in Radio Astronomy. Direct acceptance for Ph.D. with a PPARC (Particle Physics and Astronomy Research Council) fellowship for three years. Thesis Dissertation: "Environments of Double Radio Sources Associated with Active Galactic Nuclei".

Supervisors: Prof. A. Pedlar and Drs J.P. Leahy and S.T. Garrington. Her PhD thesis was nominated for the Royal Astronomical Society (RAS) thesis prize 1998 in the area of Astronomy and Astrophysics, January 1999 and for the Hellenic Astronomical Society thesis prize, December 1998.

University of Athens, Department of Physics, Athens, Greece Section of Physics of the Atmosphere

Towards Master in Meteorology: Certificate of registering, participating and completing 1.5 of the 2 year MSc course of Meteorology.

09/93 - 06/94

University of Athens, Department of Physics, Athens, Greece	09/87-06/92
BSc in Physics. Diploma Dissertation:	Grade "Very Good"
"On the Polarization of the Radio Waves above Active Solar Regions"	1st Honour Degree

LANGUAGES

Cambridge University

English: English Proficiency. Qualified as an English teacher in Greece.

Goethe Institute, Athens, Greece

German: Zeugnis Zentrale Mittelstufenprüfung. Currently at Kleines Deutsches Sprachdiplom level.

Hellenic - Japanese ssociation, Athens, Greece

Japanese: Certificate Japanese-Language Proficiency

Cambridge School, Lisbon, Portugal

Portuguese: Good reading, speaking and listening comprehension. Attended intense 1 to 2 – month Portuguese class and worked for four years in Portugal

Private Lessons for Russian, Athens, Greece

Initial learning stage

PUBLICATIONS

Dissertations - Reports

Computational Physics

Gizani Nectaria, 2017 and 2018, "Computational Physics", Chapter in the online Book on Computational Mechanics and Science. The book was offered to the students of the 2nd Summer School on Computational Mechanics and Science organized by the Professor of Mechanics of the School of Science and Technology of the Hellenic Open University.

${\bf Radioas tronomy-A strophysics}$

- 1. Gizani, Nectaria A.B. & Veldes, Giorgos P., 2018, The advent of the Hellenic radio telescope, European VLBI Network Newsletter, No 50, 13
- 2. Gizani, Nectaria A.B. & Veldes, Giorgos P., 2018, The Hellenic Radiotelescope THERMO*p*Ylae, Hipparchos, Vol. 3, Issue 1, 25
- 3. Gizani, Nectaria A.B., 1997 "The Environment of Double Radio Sources Associated with Active Galactic Nuclei", Thesis dissertation, Jodrell Bank Observatory (JBO), University of Manchester, Manchester, UK, December 1997.

 $June \ 1993$

December 1993

January 2000

During 2015

- 4. Gizani, Nectaria A.B., 1995, "Preliminary Results for Her A and 3C388 (X-ray & Radio data)", a Continuation Report as part of PhD research, JBO, University of Manchester, Manchester, UK, August 1995.
- 5. Gizani, Nectaria A.B., 1995, "Magnetic Fields in Elliptical Galaxies and in Clusters of Galaxies", a Literature Review as part of PhD research presenting an overview of the state of knowledge in the field of Magnetic Fields, JBO, University of Manchester, Manchester, UK, April 1995.
- Gizani, Nectaria A.B., 1994, "Mapping Simulations for OH-IR Shell Sources", a Technical Project Report as part of PhD research to find simulation models for OH Masers using Multi Element Radio Linked Interferometer Network (MERLIN) data, JBO, University of Manchester, Manchester, UK, December 1994.

Solar Physics

7. Gizani, N.A.B., 1992, "Polarization of Radio Waves above Solar Active Regions", Degree dissertation (grade 9 out of 10), University of Athens, Athens, Greece, June 1992.

Astroparticle Physics

- Bagley, P.,..., Gizani, N.A.B.... et al. (*The KM3Net Collaboration*), 2009, "KM3NeT Technical Design Report for a Deep-Sea Research Infrastructure in the Mediterranean Sea Incorporating a Very Large Volume Neutrino Telescope", in Carr, J., Hallewell, G., Holford, A., Katz, U., Kooijman, P., Moscoso, L., Piattelli P. and Rapidis, P., (eds), supported by the EU in the 6th Framework Programme under Contract Number 011937
- Bagley, P. ..., Gizani, N.A.B.... et al. (*The KM3Net Collaboration*), 2008, "KM3Net Conceptual Design Report for a deep-sea research infrastructure incorporating a very large volume neutrino telescope in the Mediterranean sea", in Carr, J., Hallewell, G., Holford, A., Katz, U., Kooijman, P., Moscoso, L., Piattelli P. and Rapidis, P., (eds), supported by the EU in the 6th Framework Programme under Contract Number 011937.

Refereed

Scientific Journals

Main author in 19 out of 38 refereed publications and the only author in 9 of them. My publications can be found under the following 'names':

Gizani, N A B, Gizani A.B. Nectaria, Gizani, N, Gizani, Nectaria A B, Gizani, Nectaria A, Gizani, Nectaria

Orchid identifier: https://orcid.org/0000-0002-9787-1149 Public author identifier: http://arxiv.org/a/gizani_n_1 Authors combined http://arxiv.org/a/gizani_n_1.atom2 (au:Gizani, au:Nectaria in arXiv) Authors in separate atom: http://arxiv.org/a/gizani_n_.atom (au:Gizani, au:N in arXiv)

The following list of publications has been divided into categories according to the scientific area they belong: Astroparticle Physics, Astrophysics-Radioastronomy, Solar Physics and Multi-desciplenary fields.

Astroparticle Physics

- Adrián-Martínez, S., Ageron, M., Aharonian, F.,..., <u>Gizani, N.</u>, ... Zuñiga, J., (The KM3Net Collaboration), 2017, "Intrinsic limits on resolutions in muon- and electron-neutrino charged-current events in the KM3NeT/ORCA detector", J. High Energ. Phys. (JHEP) v2017, n. 5, p. 8, arXiv: 1612.05621, doi: 10.1007/JHEP05(2017)008
- Adrián-Martínez, S., Ageron, M., Aharonian, F.,..., <u>Gizani, N.</u>, ... Zuñiga, J., (The KM3Net Collaboration), 2016, "Letter of Intent for KM3NeT2.0", Journal of Physics G: Nuclear and Particle Physics, 43 (8), 084001, 2016, arXiv:1601.07459
- Adrián-Martínez, S., Ageron, M., Aharonian, F.,..., <u>Gizani, N.</u>, ... Zwart, A., (The KM3Net Collaboration), 2015, "The prototype detection unit of the KM3Net detector", Eur. Phys. J. C (The European Physical Journal C, EPJ C), 76, 54, arXiv:1510.01561, DOI 10.1140/epjc/s10052-015-3868-9
- Adrián-Martínez, S., Ageron, M., Aharonian, F.,..., <u>Gizani, N.</u>, ... Zwart, A., (The KM3Net Collaboration), 2014, "Deep sea tests of a prototype of the KM3NeT digital optical module", Eur. Phys. J. C, Eur. Phys. J. C (The European Physical Journal C), Vol. 74, I. 9, pg. 3056, DOI 10.1140/epjc/s10052-014-3056-3, arXiv:1405.0839
- Bicer, M.,..., Gizani, N., ... et al., 2014, "First Look at the Physics Case of TLEP", JHEP (Journal of High Energy Physics), Vol. 1401, pg. 64, doi:10.1007/JHEP01(2014)164, hep-ex/1308.6176
- Kavatsyuk, O., Löhner, H., , Gizani, N.A.B., et al. (The KM3NeT Collaboration), 2013, "Expansion cone for the 3-inch PMTs of the KM3NeT Optical Modules", JINST (Journal of Instrumentation), Vol. 8, pg. 1, doi:10.1088/1748-0221/8/03/T03006, http://iopscience.iop.org/1748-0221/8/03/T03
- Adrián-Martínez, S. ., ..., Gizani, N.A.B., et al. (The KM3Net Collaboration), 2012, "Detection Potential of the KM3Net Detector for High-Energy Neutrinos from the Fermi Bubbles", Astroparticle Physics, Vol. 42, pg. 7, Doi: 10.1016/j.astropartphys.2012.11.010, arXiv:1208.1226v1
- Kalekin, O., ..., Gizani, N.A.B., et al., (The KM3Net Collaboration), 2012, "Photomultipliers for the KM3NeT optical modules", NIMPA, Vol. 695, pg. 313, DOI:10.1016/j.nima.2011.11.004
- 9. Gizani, N. A. B., 2012, "On the extragalactic jet asymmetry and composition, and the production of high energy cosmic rays", NIMA, Vol. 692, p. 280, arXiv: , Doi: 10.1016/j.nima.2012.01.044
- Gizani, Nectaria A. B., 2012," On the origin and acceleration of cosmic rays: Cooling flow clusters and AGN hosts", NIMA, Vol. 662, Suppl. 1, S254-257, arXiv:1109.1703 astro-ph.CO, doi: 10.1016/j.nima.2010.12.018
- 11. A. Leisos, G.Bourlis, **Gizani, N. A. B.**, E.P.Christopoulou, A.G.Tsirigotis, S.E.Tzamarias, **2011**, "Calibration and optimization of a very large volume neutrino telescope using extensive air-showers", NIMA, 626-627, arXiv:1109.1713 astro-ph.IM, DOI: 10.1016/j.nima.2010.06.247
- Gizani, N. A. B., G. Bourlis, P. Christopoulou, A. Leisos, & S.E. Tzamarias, 2009, "Getting to know HELYCON: The alternative CR detector", Publications of the Astronomical Society of the Pacific (PASP), Tsinganos, K., Hatzidimitriou, D. & Matsakos, T. (eds.), Vol. 424, pg.450.
- 13. . G. Tsirigotis, G. Bourlis, **Gizani, N. A. B.**, A. Leisos, S.E. Tzamarias, **2008**, "Use of floating surface detector stations for the calibration of a deep-sea neutrino telescope", NIMA, 595, 80, arXiv:1109.1698 astro-ph.IM, doi:10.1016/j.nima.2008.07.011.
- 14. J.P. Leahy, <u>N. Gizani</u> & D. Tsakiris, 2001, "X-ray constraints on jet composition", in R. Laing & K. Blundell (eds.), 'Particles and fields in Radio Galaxies', Astronomical Society of the Pacific (ASP) Conf. Ser., Vol. 250, pg. 345, http://www.aspbooks.org/a/volumes/author_index/list_articles/?author=Gizani%2C%20Nectaria

Radioastronomy – Astrophysics

- 15. Bryan Brzycki, Andrew P. V. Siemion, Steve Croft, Daniel Czech, David DeBoer, Julia DeMarines, Jamie Drew, J. Emilio Enriquez, Vishal Gajjar, <u>Nectaria Gizani</u>, Howard Isaacson, Brian C. Lacki, Matt Lebofsky, David H. E. MacMahon, Imke de Pater, Daniel C. Price, Sofia Z. Sheikh, Claire Webb, S. Pete Worden, 2019, Breakthrough Listen Follow-up of the Random Transiter (EPIC 249706694/HD 139139) with the Green Bank Telescope, Research Notes of the AAS (RNAAS), v3, n10, p147, arXiv:1910.03711v1, https://doi.org/10.3847/2515-5172/ab4bd6
- 16. Vishal Gajjar, Andrew Siemion, Steve Croft, Bryan Brzycki, Marta Burgay, Tobia Carozzi, Raimondo Concu, Daniel Czech, David DeBoer, Julia DeMarines, Jamie Drew, J. Emilio Enriquez, James Fawcett, Peter Gallagher, Michael Garrett, <u>Nectaria Gizani</u>, Greg Hellbourg, Jamie Holder, Howard Isaacson, Sanjay Kudale, Brian Lacki, Matthew Lebofsky, Di Li, David H. E. MacMahon, Joe McCauley, et al. (12 additional authors not shown), 2019, The Breakthrough Listen Search for Extraterrestrial Intelligence, Astronomy and Astrophysics Decadal Survey 2020, APC white paper, to be published in BAAS, arXiv:1907.05519v2
- Danny C. Price, J. Emilio Enriquez, Bryan Brzycki, Steve Croft, Daniel Czech, David DeBoer, Julia DeMarines, Griffin Foster, Vishal Gajjar, <u>Nectaria Gizani</u>, Greg Hellbourg, Howard Isaacson, Brian Lacki, Matt Lebofsky, David H. E. MacMahon, Imke de Pater, Andrew P. V. Siemion, Dan Werthimer, James A. Green, Jane F. Kaczmarek, Ronald J. Maddalena, Stacy Mader, Jamie Drew, S. Pete Worden, 2019, The Breakthrough Listen Search for Intelligent Life: Observations of 1327 Nearby Stars over 1.10-3.45 GHz, accepted for publication in AJ, AAS18430R3, arXiv:1906.07750v1
- 18. Matthew Lebofsky, Steve Croft, Andrew P. V. Siemion, Danny C. Price, J. Emilio Enriquez, Howard Isaacson, David H. E. MacMahon, David Anderson, Bryan Brzycki, Jeff Cobb, Daniel Czech, David DeBoer, Julia DeMarines, Jamie Drew, Griffin Foster, Vishal Gajjar, <u>Nectaria Gizani</u>, Greg Hellbourg, Eric J. Korpela, Brian Lacki, Sofia Sheikh, Dan Werthimer, Pete Worden, Alex Yu, Yunfan Gerry Zhang, 2019, The Breakthrough Listen Search for Intelligent Life: Public Data, Formats, Reduction and Archiving, PASP, v131, I1006, p124505, arXiv:1906.07391
- D. C. Price, G. Foster, M. Geyer, W. van Straten, V. Gajjar, G. Hellbourg, A. Karastergiou, E. F. Keane, A. P. V. Siemion, I. Arcavi, R. Bhat, M. Caleb, S-W. Chang, S. Croft, D. DeBoer, I. de Pater, J. Drew, J. E. Enriquez, W. Farah, <u>N. Gizani</u>, J. A. Green, H. Isaacson, J. Hickish, A. Jameson, M. Lebofsky, D. H. E. MacMahon, A. M?ller, C. A. Onken, E. Petroff, D. Werthimer, C. Wolf, S. P. Worden, Y. G. Zhang, 2019, "Fast Radio Burst with frequency-dependent polarization detected during Breakthrough Listen observations", MNRAS, v486, i3, p3636, arXiv:1901.07412
- David Lipman, Howard Isaacson, Andrew P. V. Siemion, Matt Lebofsky, Danny C. Price, David MacMahon, Steve Croft, David DeBoer, Jack Hickish, Dan Werthimer, Greg Hellbourg, J. Emilio Enriquez, <u>Nectaria Gizani</u>, 2018, "The Breakthrough Listen Search for Intelligent Life: Searching Boyajian's Star for Laser Line Emission", PASP, v131, n995, 034202, arXiv:1812.10161, doi 10.1088/1538-3873/aafe86
- Howard Isaacson, Andrew P. V. Siemion, Geoffrey W. Marcy, Jack Hickish, Danny C. Price, J. Emilio Enriquez, <u>Nectaria Gizani</u>, 2018, "The Breakthrough Listen Search for Intelligent Life: No Evidence of Claimed Periodic Spectral Modulations in High Resolution Optical Spectra of Nearby Stars", PASP, v131, n995, 014201, arXiv:1812.02258, doi: 10.1088/1538-3873/aaeae0
- 22. D. C. Price, G. Foster, M. Geyer, W. van Straten, V. Gajjar, G. Hellbourg, A. Karastergiou, E. F. Keane, A. P. V. Siemion, I. Arcavi, R. Bhat, M. Caleb, S-W. Chang, S. Croft, D. DeBoer, I. de Pater, J. Drew, J. E. Enriquez, W. Farah, N. Gizani, J. A. Green, H. Isaacson, J. Hickish, A. Jameson, M. Lebofsky, D. H. E. MacMahon, A. Moeller, C. A. Onken, E. Petroff, D. Werthimer, C. Wolf, S. P. Worden, Y. G. Zhang, 2018, "The Breakthrough Listen Search for Intelligent Life: Wide-bandwidth Digital Instrumentation for the CSIRO Parkes 64-m Telescope", PASA, 35, p. e041, arXiv:1804.04571, doi: 10.1017/pasa.2018.36

- V. Gajjar, A. P. V. Siemion, D. C. Price, C. J. Law, D. Michilli, J. W. T. Hessels, S. Chatterjee, A. M. Archibald, G. C. Bower, C. Brinkman, S. Burke-Spolaor, J. M. Cordes, S. Croft, J. Emilio Enriquez, G. Foster, <u>N. Gizani</u>, G. Hellbourg, H. Isaacson, V. M. Kaspi, T. J. W. Lazio, M. Lebofsky, R. S. Lynch, D. MacMahon, M. A. McLaughlin, S. M. Ransom, P. Scholz, A. Seymour, L. G. Spitler, S. P. Tendulkar, D. Werthimer, Y. G. Zhang, 2018, "Highest-frequency detection of FRB 121102 at 4-8 GHz using the Breakthrough Listen Digital Backend at the Green Bank Telescope", ApJ, 863, 2, arXiv:1804.04101, doi: 10.3847/1538-4357/aad005
- 24. J. E. Enriquez, A. Siemion, T. J. W. Lazio, M. Lebofsky, D. H. E. MacMahon, R. S. Park, S. Croft, D. DeBoer, <u>N. Gizani</u>, V. Gajjar, G. Hellbourg, H. Isaacson, D. C. Price, 2018, "Breakthrough Listen Observations of 1I/'Oumuamua with the GBT", published in Research Notes of AAS (Astronomy & Astrophysics Suppliments, RAAS), Vol. 2, n. 1, p. 9, doi: 10.3847/2515-5172/aaa6c9, arXiv:1801.02814
- 25. **Gizani, N.A.B.**, Leahy, J.P. & Garrington, S.T., **2018**, "A multiband study of Hercules A. III. The cluster magnetic field", MNRAS, in preparation.
- 26. Gizani, N.A.B. & Garrett, M.A.G., 2018, "Probing the pc-scale environment of the powerful radio galaxy 3 C310", MNRAS, in preparation.
- 27. Gizani, N.A.B., Alberdi, A., Ros, E. & Garrett, M.A.G., 2018, "Probing the pc-scale structure of Hercules A", MNRAS (Monthly Notices of the Royal Astronomical Society), in preparation. (Data have been reduced.)
- Cecconi, B., Bougeret, J.-L., Zarka, P., Thide, B., Bergman, J., Falcke, H., Berthelier, J-J., Gurvits, L., Griessmeier, J-M., Briand, C., Zaslavsky, A., Roettgering, H., Aminaei, A. Klein-Wolt, M., Konovalenko, A., Woan, G., Garrett, M., <u>Gizani, Nectaria</u>, 2012, "Radio Astronomy from the Moon", Proceedings of the 39th COSPAR Scientific Assembly, Vol. 39, pg 282, http://adsabs.harvard.edu/abs/2012cosp...39..282C
- 29. Gizani, N. A. B., Cohen, A. & Kassim, N. E., 2005, First Results of the 74 MHz VLA-Pie Town link. Hercules A at Low Frequencies, MNRAS (Monthly Notices of the Royal Astronomical Society), 358, p. 1061 (arXiv:astro-ph/0501470), http://www.citebase.org/fulltext?format=application% 2Fpdf&identifier=oai% 3AarXiv.org% 3Aastro-ph% 2F0603057
- 30. Gizani, N. A. B., & Leahy, J.P., 2004, "A multiband study of Hercules A. I. ROSAT observations of the intracluster medium", MNRAS, 350, 865 (arXiv:astro-ph/0402072),
- 31. Gizani, N. A. B., & Leahy, J.P., 2003, "A multiband study of Hercules A. II. Multifrequency VLA imaging", MNRAS, 342, 399, (arXiv:astro-ph/0305600), http://front.math.ucdavis.edu/physics.astro-ph/0305
- 32. Gizani, N. A. B., Garrett, M. A. & Leahy, J. P., 2002, "Probing the pc- and kpc-scale environment of the powerful radio galaxy Hercules A", PASA, 19, No 1, 69 (astro-ph/0111607), http://www.publish.csiro.au/?act=view_file&file_id=AS01082.pdf www.atnf.csiro.au/pub/people/mstorey/19_1/gizani/as01082.ps.gz http://www.publish.csiro.au/?act=view_file&file_id=AS01082.pdf
- 33. Gizani, N. A. B., Garrett, M. A., & Leahy, J. P., 2002, "The Multiwavelength Study of Two Unique Radio Galaxies", Journal of Astrophysics and Astronomy, 23, 89, http://www.ias.ac.in/jaa/dec2002/pdf/Aind.pdf http://www.ias.ac.in/jaa/marjun2002/pdf/Jaa299.pdf http://www.iisc.ernet.in/academy/jaa/marjun2002/pdf/Jaa299.pdf
- Leahy, J.P. & <u>Gizani, N. A. B.</u>, 2000, "ROSAT observations of 3C388-A test of minimum energy", ApJ, 555, 709, (arXiv:astro-ph/0402072)
- Leahy, J.P. & Gizani, N. A. B., 1999, "Testing Minimum Energy with Powerful Radio Sources in Clusters of Galaxies", New Astronomy Reviews (NewAR), 46, 117 (arXiv:astro-ph/9909121), http://aps.arxiv.org/abs/astro-ph/9909121

- 36. Gizani, N. A. B., & Leahy, J.P., 1999, "The Environment of Hercules A", NewAR, 43, 639.
- 37. Augusto, P., González-Serrano, I., Edge, A.C., Gizani, N.A.B., Perez-Fournon, I. & Wilkinson, P.N., 1999, "The kpc-scale radio population", NewAR, 43, 663 (arXiv:astro-ph/9910183), ftp://ftp.nfra.nl/jive/nar/preprints/pa.ps.gz

Multi-Disciplinary Publications (A total of 1 publication)

38. Eleni E. Varsaki, <u>Nectaria A. B. Gizani</u>, Vassilis Fotopoulos & Athanassios N. Skodras, **2013**, "Data hiding in astronomical FITS images", Astronomy and Computing, arXiv:astro-ph/1209.0442

Conferences

Astroparticle Physics (A total of 9 publications)

- 39. Nonis, S. & Gizani, Nectaria, A. B., 2013, "Using diffuse radio emission in clusters of galaxies to probe the cosmic web, cosmic rays and dark matter", Proceedings of the ICRC (The Astroparticle Physics Conference) 2013, Brazilian Journal of Physics, astro-ph/ 0809523, eprint arXiv:1309.7081
- 40. Gizani, N. A. B., 2011, "Implications of pc and kpc jet asymmetry to the cosmic ray acceleration", in "High Energy Phenomena in Relativistic Outflows III (HEPRO III)", International Journal of Modern Physics: Conference Series, Vol. 8, pg. 331-335, J.M. Paredes, M. Ribo, F.A. Aharonian and G.E. Romero (eds.), World Scientific Publishing Company, arXiv:1209.0797 astro-ph.HE, doi: 10.1142/S2010194512004825
- 41. Gizani, N. A. B., 2011, "Extended regions of radio emission not associated with the AGN phenomenon as sources of acceleration of cosmic rays: The case of cD galaxies", in "High Energy Phenomena in Relativistic Outflows III (HEPRO III)", International Journal of Modern Physics: Conference Series, Vol. 8, pg. 336-339, J.M. Paredes, M. Ribo, F.A. Aharonian and G.E. Romero (eds.), World Scientific Publishing Company, arXiv:1209.0801 astro-ph.HE, DOI: 10.1142/S2010194512004837
- 42. Gizani, N. A. B., 2011, "The role of AGN jets and intracluster magnetic fields in the formation and acceleration of cosmic rays.", in IAU Symposium 275: "Jets at all scales", Proceedings IAU Symposium No. 275, G. E. Romero, R. A. Sunyaev and T. Belloni (eds.), Cambridge University Press, arXiv:1209.0574 astro-ph.HE, doi:10.1017/S1743921311014815
- 43. **Gizani, N. A. B., 2011**, "Searching for radio relics and halos. Their role in the formation and acceleration of extragalactic cosmic rays.", in IAU Symposium 275: "Jets at all scales", Proceedings IAU Symposium No. 275, G. E. Romero, R. A. Sunyaev and T. Belloni (eds.), Cambridge University Press, arXiv:1108.1750 astro-ph.CO, doi:10.1017/S1743921311014827
- 44. Gizani, N. A. B., 2010, "Probing Cosmic Rays in AGN and Clusters of Galaxies using radio observation", ISKAF2010, PoS, Morganti, R., van Leeuwen, J., Mellema, S., Serra, P. and Tibbe, M. (eds.), pg. 65 http://pos.sissa.it/cgi-bin/reader/conf.cgi?confid=112
- 45. **Gizani, N. A. B., 2010**, "AGN and Cosmic Rays: The role of radio features & intracluster magnetic fields in the formation & acceleration of cosmic rays", in Proceedings of the Workshop "Astronomy with Megastructures: Joint science with the E-ELT and SKA", Hook I., Rigopoulou, D., Rawlings, S. and Karastergiou A. (eds.), Crete University Press, pg. 105
- 46. Gizani, N. A. B., A.G. Tsirigotis, G. Bourlis, P. Christopoulou, A. Leisos and S.E. Tzamarias, 2010, "Cosmic Ray detectors at low budjet: The case of HELYCON", in Proceedings of the Workshop "Astronomy with Megastructures: Joint science with the E-ELT and SKA", Hook I., Rigopoulou, D., Rawlings, S. and Karastergiou A. (eds.), Crete University Press, pg. 139

47. G. Bourlis, E. P. Christopoulou, <u>Gizani, N. A. B.,</u> A. Leisos, P. Razis, A. Tsirigotis, S. E. Tzamarias, and B. Verganelakis, 2006, "HELYCON: Towards a sea top infrastructure", IDM 2006, Proceedings of the 6th International Workshop on the Identification of Dark Matter, published in World Scientific.

http://helycon.eap.gr/HELYCON-Calibration.pdf

Astrophysics – Radioastronomy (A total of 1 Publication)

48. <u>Gizani, N. A. B.,</u>, Garrett, M. A., & Leahy, J. P., 2001, "The Multi-wavelength Study of two Unique Radio Galaxies", in Manchanda, R.K. and Paul, B. (eds), 'Multicolour Universe', Conference Proceedings, pg 152,

http://www.eas-journal.org/index.php?option=article&access=standard&Itemid=129&url= /articles/eas/pdf/2003/01/eas2003029.pdf

Cosmology

The publication presented in this paragraph is also presented in the astroparticle physics list of publications in the same section. This is why it has no numbering

Nonis, S. & **Gizani, Nectaria, A. B.**, 2013, "Using diffuse radio emission in clusters of galaxies to probe the cosmic web, cosmic rays and dark matter", Proceedings of the ICRC (The Astroparticle Physics Conference) 2013, Brazilian Journal of Physics, astro-ph/0809523, eprint arXiv:1309.7081, in press

Non-Refereed

Conferences

Astroparticle Physics (A total of 4 Publications)

- <u>Gizani, Nectaria A.B.</u> & Garrett, M., 2011, "On AGN central engines: The case of powerful radio sources with weak cores", in the 11th Asian-Pacific Regional IAU Meeting 2011, NARIT Conference Series (NCS), Vol. 1, S. Komonjinda, Y. Kovalev, and David Ruffolo (eds.), http://conference.narit.or.th/ncs/index.php/ncs/author/submission/260
- <u>Gizani, Nectaria A.B.</u>, Papathanasopoulos, K., Vatikiotis, L. & Zervas, E., 2010, "Impact of solar activity on climate changes in Athens region, Greece", in Proceedings of "Energy and Climate Change", Euro - Asian Journal of Sustainable Energy Development Policy, arXiv:1108.1726 physics.ao-ph
- Gizani, Nectaria A.B., 2010, "On the nature of cosmic rays from active galactic nuclei and clusters of galaxies using radio data", Proceedings of the 13th Hellenic Conference of the Association of Hellenic Physicists, entitled "Physics and Man. Scientific results and Technologies for the improvement of life", electronic publication, ISBN 978-960-9457-00-2.
- 4. G. Bourlis, E. P. Christopoulou, <u>Gizani, Nectaria A.B.</u>, A. Leisos, P. Razis, A. Tsirigotis, S. E. Tzamarias, B. and Verganelakis, 2006, "HELYCON: Hellenic Lyceum Cosmic Observatories Network; A progress report", CRSP 2006, 2nd Workshop on Cosmic Rays in Schools Projects, online proceedings of the symposium,

 $\tt http://www.lip.pt/events/2006/ecrs/proc/ecrs06-s3-67.pdf$, and CD edition.

Radioastronomy - Astrohysics (A total of 13 Publications)

- 1. <u>Gizani, Nectaria A.B.</u>, 2005, "Intracluster Magnetic Fields", in Afonso, J. & Santos, N. (eds.), Proceedings of the XVENAA Portuguese Astronomical Conference, published in World Scientific.
- 2. <u>Gizani, Nectaria A.B.</u> & Garrett, M.A., 2004, "pc-scale Asymmetry in kpc-scale Symmetric Radio Galaxies", in Laskarides, P. G. (ed.), On-line Proceedings of the 6th Greek Astronomical Conference, published in http://www.astro.auth.gr/elaset/meetings.html/helas_2003_proceedings.pdf, pg. 155.
- 3. <u>Gizani, Nectaria A.B.</u>, Garrett, M.A., Morganti, R., Cohen, A., Kassim, N., González-Serrano, I. & Leahy, J.P., 2004, "Rings instead of Hotspots", in Laskarides, P. G. (ed.), On-line Proceedings of the 6th Greek Astronomical Conference, published in "http://www.astro.auth.gr/elaset/ meetings.html/helas_2003_proceedings.pdf, pg. 183
- 4. <u>Gizani, Nectaria A.B.</u>, Garrett, M.A., Morganti, R., Cohen, A., Kassim, N., GGonzález-Serrano, I. & Leahy, J.P., 2003, "The Formation of Rings in powerful Radio Galaxies-A multiwavelength approach", In Plionis, M. (ed.), Proceedings of the conference "Multi-wavelength Cosmology", Kluwer Academic Publishers, CD edition
- 5. Gizani, Nectaria A.B., Garrett, M.A., 2002, "3C310 and Hercules A: The pc-scale Study", in Ros, E., Porcas, R.W., Lobanov, A.P., & Zensus, J.A. (eds.), Proceedings of the 6th European VLBI Network Symposium, p. 163, http://www.evlbi.org/publications/symp_no4_preprints.html and http://www.mpifr-bonn.mpg.de/div/vlbi/evn2002/book/NGizani1.ps.gz
- 6. <u>Gizani, Nectaria A.B.</u> & Garrett, M.A., Morganti, R., Cohen, A., Kassim, N., González-Serrano, I. & Leahy, J.P., 2002, "The Multi Wavelength Study of the two Unique Radio Galaxies Hercules A and 3C310 - The story so far ", in Ros, E., Porcas, R.W., Lobanov, A.P., & Zensus, J.A. (eds.), Proceedings of the 6th European VLBI Network Symposium on new developments in VLBI science and Technology, p. 159, http://www.mpifr-bonn.mpg.de/div/vlbi/evn2002/book/NGizani2. pdf
- Gizani, N.A.B., Garrett, M. & Leahy, J.P., 2000, "The Behaviour of the central engine of the powerful extragalactic radio source Hercules A", in J.E. Conway, A.G. Polatidis, R.S. Booth and Y.M. Philström, (eds.), Proceedings of the 5th European VLBI Network Symposium, Onsala Space Observatory Publications ISBN 91-631-0548-9, p. 19
- 8. <u>Gizani, N.A.B.</u>, Garrington, S.T., Lawson, D., Shearer, A. & Golden, A., 2000, "MERLIN Telescopes: New site RFI surveys and a possible new MERLIN, irish, radio telescope", in Vernin, J., Benkhaldoun, Z., Muñoz-Tuñon, C. (eds.), 'Astronomical site evaluation in the visible and radio range', IAU echnical Workshop Proceedings, ASP Conference Series, The Astronomical Society of the Pacific Publishers, Vol. 266, p. 488, http://www.aspbooks.org/a/volumes/author_index/ list_articles/?author=Gizani%2C%20N. or http://www.nuigalway.ie/news/presidents_report/ documents/20012002/pr_20012002_engineering.pdf
- Gizani, N.A.B., Garrett, M., Leahy, J.P. & Augusto, P., 2000, "Probing the pc-scale environment of the powerful key-object Hercules A: The behaviour of its central engine", Astronomical and Astrophysical Transactions (AApTr), Gordon and Breach Science Publishers, Vol. 20, Issue 2, p. 263, http://www.informaworld.com/smpp/content~db=all~content=a751875822~tab=content
- Augusto, P., González-Serrano, I., <u>Gizani, Nectaria A.B.</u>, Edge, A.C. & Perez-Fournon, I., 2000, "Probing the structure and size of the NLRs in AGN with radio jets", AApTr, Gordon and Breach Science Publishers, Vol., 20, Issue 2, 275, http://www.tandfonline.com/doi/pdf/10.1080/10556790108229710
- 11. <u>Gizani, Nectaria A.B.</u>, 1999, "The Environment of the Powerful Extragalactic Radiosource Hercules A" Proceedings of the Astrophysics Meeting on "Accretion Processes in Astrophysical Environments", Niarchos, P. & Harlaftis, E., (eds.), p. 57.

- 12. <u>Gizani, Nectaria A.B.</u> & Leahy, J.P., 1999, "The ROSAT X-ray study of two powerful radio galaxies at $z \sim 0.1$ ". Proceedings of the conference on 'Large-scale structure in the X-ray Universe', Georgantopoulos, I., Plionis, I. (eds.), Editions Frontieres (Seguier/Atlantica) Publishers, p.367
- <u>Gizani, Nectaria A.B.</u> & Leahy, J.P., 1996, "The Environment of Hercules A", in IAU Symp. 175 Extragalactic Radio Sources, Ekers E., Fanti C., Padrielli L., (eds.), Kluwer Academic Publishers, p. 351.

Solar Physics (A total of 3 Publications)

- <u>Gizani, Nectaria A.B.</u>, 2003, "Unusual Inversion of Polarization in Sunspot associated Sources", in Rust, D. & Schmieder, B. (eds.), IAU Series, Highlights of Astronomy, Astronomical Society of the Pacific (ASP), IAU Publisher, Vol. 12, pg. 137.
- <u>Gizani, Nectaria A.B.</u>, Alissandrakis, C., Bogod, V., Garaimov, V., Zheleznyakov, V. & Zlotnik, E., 2000, "RATAN-600 observations of unusual inversion of polarization in sunspot associated microwave Sources", AApTr, Gordon and Breach Science Publishers, Vol. 20, Issue 3, 543.
- Alissandrakis, C. & *Gizani, Nectaria A.B.* & Bogod, V. & Garaimov, V. & Zheleznyakov, V. & Zlotnik, E., 1999, "RATAN-600 observations of unusual inversion of polarization in microwave sources", Proceedings of the 9th European Meeting on Solar Physics on 'Magnetic Fields and Solar Processes', Wilson, A. (ed.), ESA SP Series Publications, Vol. 448, pg. 1225.

Multidisciplinary Publications

• Eleni E. Varsaki, <u>Gizani, Nectaria A.B.</u>, Vassilis Fotopoulos & Athanassios N. Skodras, 2011, "Alternative Astronomical FITS imaging", in the 11th Asian-Pacific Regional IAU Meeting 2011, NARIT Conference Series (NCS), Vol. 1, S. Komonjinda, Y. Kovalev, and David Ruffolo (eds.), arXiv:1209.0442 astro-ph.HE http://conference.narit.or.th/ncs/index.php/ncs/author/submission/883

• Eleni E. Varsaki, *Gizani, Nectaria A.B.*, Vassilis Fotopoulos, Athanassios N. Skodras, 2011, "Hiding Information in Astronomical Images", in *online* proceedings of the 10th Hellenic Astronomical

- <u>Gizani, Nectaria A.B.</u>, Papathanasopoulos, K., Vatikiotis, L. & Zervas, E., 2010, "Impact of solar activity on climate changes in Athens region, Greece", in Proceedings of "Energy and Climate Change", Euro - Asian Journal of Sustainable Energy Development Policy, arXiv:1108.1726 physics.ao-ph (this publication is also included in the astroparticle section of the non-refereed conference papers).
- Gizani, Nectaria A.B., Garrington, S.T., Lawson, D., Shearer, A. & Golden, A., 2000, "MERLIN Telescopes: New site RFI surveys and a possible new MERLIN, irish, radio telescope", IAU Technical Workshop 'Astronomical site evaluation in the visible and radio range', Vernin, J., Benkhaldoun, Z., Muñoz-Tuñón, C. (eds.), ASP Conference Series, The Astronomical Society of the Pacific Publishers, Vol. 266, pg. 488.

http://www.aspbooks.org/a/volumes/author_index/list_articles/?author=Gizani% 2C% 20N
and

http://www.nuigalway.ie/news/presidents_report/documents/20012002/ pr_20012002_engineering.pdf

Conference.

Scientific Schools

1. <u>Gizani, Nectaria A.B.</u>, "The Multi-wavelength Study of two Unique radio galaxies", 2002, in Proceedings of the Euro Winter School 'Observing with the Very Large Telescope Interferometer (VLTI)', European Astrophysical Society publication series, p.279. http://www-laog.obs.ujf-grenoble.fr/ jmmc/obsvlti/

Other Publications

Contribution to Scientific Books and Video

- 1. Permission was given to reproduce the illustration in **Gizani, N. A. B.**, & Leahy, J. P. 1999, "The environment of Hercules A", New Astron. Rev., 43(Nov.), 639642. Fig 1 in the 4th edition of Introduction to Radio Astronomy, published by Cambridge University Press, 2018, authored by Bernard F Burke, Emeritus Professor of Astrophysics, Massachussets Institute of Technology, Francis Fraham-Smith, Emeritus Professor of Astronomy, University of Manchester, and Peter N. Wilkinson, Emeritus Professor of Astronomy, University of Manchester. The book is an academic text, intended primarily for the growing international audience of graduate students attracted to the rapidly expanding discipline of Radioastronomy. Readers are also introduced to a selection of the relevant journals and scientific papers.
- 2. Participation in the Italian 3D Video for education and popularization purposes by the Institute of INAF-IRA, Medicina Radiotelescopes. The 15 minute video shows the working principle of radio telescopes and the whole 'chain' from the beginning when radiation is emitted from an area of a radio galaxy until the time the (radio) astronomers publish their results. As an example of an observed radio object our optical / VLA radio map of Hercules A was selected (characterized as magnificent) from which an artistic radio-map (also in 3D) was produced, 2013
- 3. Image of Hercules A radio emission overlaid in the X-ray emission of its cluster, taken from the article Gizani, NAB & Leahy, JP, 1999, and published in the book 'An Introduction to Radio Astronomy', of Bernard F. Burke, Francis Graham-Smith, 3rd edition, Gambridge University Press, 2010
- 4. Image of Hercules A from the "The Multiwavelength Study of Two Unique radio galaxies, Gizani, Nectaria A.B., Garrett, M. A. and Leahy, J. P., Journal of Astrophysics and Astronomy, Vol. 23, p.89 " in Prof. Mitch Begelman and Prof. Martin Rees "Gravity's Fatal Attraction, 2nd edition", 2009.
- 5. Archived images of Hercules A, Gizani, Nectaria A.B., 2003, NASA/IPAC Extragalactic Database.
- 6. Image of Herc A by Gizani, Nectaria A.B., in Marc Kutner's "Principles of Astrophysics", 2003, Cambridge University Press.

Public Outreach

- 1. <u>Gizani, Nectaria A.B.</u>, 2001, Leonidas 2001, Report on observations of the 2001 Leonid shower in the area of greater Lisbon in Portugal. The report is published at http://www.portaldoastronomo.org/actividades_leonidas.php
- 2. <u>Gizani, N.</u> & Augusto, P., 2000, "The Leonid Storm from Radio Observations at Madeira", European Astronomical Society (EAS) Newsletter, Issue 19, p. 11, http://eas.iap.fr/eas19.ps.gz
- 3. Augusto, P. & <u>Gizani, N.A.B.</u>, 2000, "Radio Leonids at Madeira", A&G, Vol. 41, Issue 1, pg. 1.4, 10.1046/j.1468-4004.2000.014.1.x. http://onlinelibrary.wiley.com/doi/10.1046/j.1468-4004.2000.014.1.x/pdf

CITATIONS

Scopus (see Analytical Publication List for citation analysis), states h-index 10.
h-index is 15 in Google Scholar and
11 in ADS NASA.
The total number of citations is 789 according to Scopus, from which 550 are third party.
1696 is the total number in Google Scholar, while 595 is the number stated in ADS NASA.
A number of books (See Paragraph 'Other publications'), publish maps of Nectaria Gizani's work on the powerful radiogalaxy Hercules A.

PRESENTATIONS

Talks

Conferences/Meetings

- 1. "On the performance of the Brakthrough Listen Backend and the Broadband signal detection pipeline", COSPAR 2018, The SETI session, Pasadena, USA, July 2018
- 2. "Probing Extragalactic Magnetic Fields", 11th Hellenic Astronomical Conference, Academy of Athens, Athens, September 2013
- 3. "Magnetic fields and jets as particle acceleration sites in active galaxies", HEP 2013: 'Conference on Recent Developments in High Energy Physics and Cosmology', University of the Aegean, Chios island, Greece, April 2013
- 4. "Tracing Jets of Supermassive Blackholes", 5th WGs- Meeting of COST Action MP0905 "Black Holes & Jets", INAF-IASF, Palermo, Sicely, November 2012
- 5. "On AGN central engines: The case of powerful radio sources with weak cores", 11th Asian-Paci?c Regional IAU Meeting, NARIT, Chiang Mai, Thailand, July 2011
- 6. "On the Role of pc- to kpc- scale jet asymmetry and Cosmic Ray Acceleration", 10th Hellenic Astronomical Conference, Ioannina, Hellas, September 2011.
- 7. "Probing cosmic rays in AGN and Clusters of galaxies using radio observations", Arena 2010, 4th International Workshop on Acoustic and Radio EeV Neutrino detection Activities, Nantes, France, June 2010.
- 8. "HELYCON: Progress report", by S. E. Tzamarias, G. Bourlis, B. Christopoulou, N. Gizani, S. Leisos and A. Tsirigotis, "XXVI Workshop on Recent Developments in High Energy Physics and Cosmology", Olympia Greece, April 2008, http://hep10.physics.uoc.gr/HEP2008/
- 9. "Using HELYCON, an extensive Air Shower Array, to calibrate KM3NeT", 8th Hellenic Astronomical Meeting, Thassos Island, Greece, September 2007 http://www.ee.duth.gr/hac/anouncements/BookOfAbstracts.pdf
- 10. "pc-scale Asymmetry in kpc-scale Symmetric Radio Galaxies', 6th Hellenic Astronomical Conference, National Observatory of Athens, Athens, Greece, September 2003.
- 11. "3 C310 and Hercules A: The pc-scale Study", 6th European Very Long Baseline Interferometry (VLBI) Network, EVN) Symposium, MPIfR, Bonn, Germany, June 2002. http://www.mpifr-bonn.mpg.de/div/vlbi/evn2002/book/NGizani1.pdf
- 12. "The Multi-wavelength Study of two Unique and Key Radio Galaxies at Low Redshift", International Conference entitled 'Multicolour Universe', TIFR, Mumbai, India, September, 2001 http://www.tifr.res.in/ multi/participants.html

- 13. "Probing the pc- and kpc-scale Environment of the Powerful Radio Galaxy Hercules A", International Workshop entitled 'AGN Variability Across the Electromegnetic Spectrum', ATNF, Sydney, Australia, June 2001 http://www.atnf.csiro.au/people/lkedzior/agn_presentations/Nectaria.Gizani.ppt
- 14. "Probing the pc-scale environment of the powerful key-object Hercules A: The behaviour of its central engine", Joint European and National Astronomical Meeting (JENAM) 2000 on 'European Astronomy at the Turn of the Millennium', University of Moscow, Moscow, Russia, June 2000.
- 15. "The Behaviour of the central engine of the powerful extragalactic radio source Hercules A", 5th EVN Symposium, Onsala, Sweden, June 2000.
- 16. "The Environment of the Extragalactic Radiosource Hercules A", Greek National Observatory Meeting entitled 'Accretion Processes in Astrophysical Environments', National Astronomical Observatory (NAO), Penteli, Athens, Greece, January 1999.

Invited Speaker

- "The Hellenic Radio Telescope Thermopylae within VLBI (Remote)", 8th International VLBI Technology Workshop, https://www.atnf.csiro.au/ivtw19/programme.html, Sydney, Australia, November 2019
- 2. "The 1st Hellenic Radio telescope: Thermopylae", International Workshop on Dish Conversion, Accra, Ghana, 21-26/01/2019
- 3. "Powerful AGNs and Rings", Section of Astro-geophysics, Department of Physics, University of Ioannina, February 2006.
- 4. "The Lord AGNs of the Rings", Joint Institute for VLBI in Europe (JIVE) Astro-Lunch, JIVE, The Netherlands, May 2005.
- 5. "3C310 and Hercules A", ASTRON/JIVE Astro-Lunch, ASTRON/JIVE, The Netherlands, June 2005, http://www.astron.nl/~bahren/wiki/doku.php?id=research:meetings\$_{-}\$and\$_{-}\$seminars: astro-lunch
- 6. "Probing the Origin of Rings in AGN: An extensive Multi- λ study from pc- to kpc-scales", Universidade de Coimbra, Departamento de Matemática, Coimbra, Portugal, Fembruary 2005.
- "The rebirth of old, unique radio sources- A probe from radio to Γ-ray wavelengths", University of the Aegean, Department of Statistics and Proportional Science, Samos, Greece, January 2004.
- 8. "Probing unique AGNs using multiwavelength observations across the electromagnetic spectrum", University of Patra, Department of Physics, Section of Astrophysics, Patra, Greece, December 2003.
- 9. "The Multiwavelength study of two exceptional radio galaxies: 3C310 & Hercules A", Naval Research Laboratory (NRL) Colloquium, NRL, Washington, USA, February 2003.
- 10. "The monster behind the beauty The Multiwavelength story of the two unique DRAGNs Hercules A and 3C310", Centro de Astronomia da Univ. do Porto (CAUP), CAUP, Porto, February 2003.
- 11. "New VLBI observations of 3C310", Joint Institute for VLBI in Europe (JIVE) Astro-Lunch, JIVE, The Netherlands, February 2000.
- 12. "About Hercules A and more", Jodrell Bank Observatory (JBO) Colloquium, JBO, University of Manchester, Manchester, UK, November 1999.
- 13. "About the kpc- and pc-scale Environment of Hercules A and more", NOA Colloquium, NOA, Penteli, Athens, Greece, December 1999.

Review-Talks

- 1. "Properties of Cluster radio emission", Paper Review, Institute of Astronomy & Astrophysics (IAA) Journal Club, National Observatory of Athens (NOA), Penteli, Athens, Greece, May 2004.
- 2. "Radio Galaxies in Cooling Cores", Paper Review, Institute of Astronomy & Astrophysics (IAA) Journal Club, National Observatory of Athens (NOA), Penteli, Athens, Greece, November 2003.
- 3. "Hercules A and 3C310 two radio galaxies with similar and unusual behaviour", Colloquium of the Observatorio Astronomico da Lisboa, Lisbon, Portugal, March 2001.
- 4. "The Study of the Powerful Extragalactic Radio Source Hercules A", University of Athens Colloquium, Department of Astrophysics, Athens, Greece, January 1996.
- 5. "Can tangled Magnetic Fields supress Thermal Conduction in Cluster Cooling Flows?", Paper Review, JBO Journal Club, JBO, UK, June 1996.
- 6. "Magnetic Fields in Elliptical Galaxies and in Clusters of Galaxies", JBO Journal Club, JBO, University of Manchester, Manchester, UK, April 1995.
- 7. "Preliminary results for Hercules A & 3C388: Radio & X-ray observations", University of Athens Colloquium, Department of Astrophysics, Athens, Greece, September 1995.
- 8. "First Results (Radio & X-ray observations) for Hercules A and 3C388", JBO Internal Symposium, JBO, University of Manchester, Manchester, UK, November 1995.
- 9. "On the Excitation of Cyclotron Harmonic Waves by Newborn Heavy Ions", University of Athens Colloquium, Department of Astrophysics, Athens, Greece, June 1991.

Scientific Schools

- 1. "Computational Physics", Lecture to the students of the 2nd Summer School on Computational Mechanics and Science organized by the Professor of Mechanics of the School of Science and Technology of the Hellenic Open University, July 2017
- 2. "Intracluster magnetic fields and the Hercules A cluster", International Advanced School entitled 'A Pan-Chromatic View of Clusters of Galaxies and the Large-Scale Structure', Instituto Nacional de Astrofísica, Óptica y Electrónica (INAOE), Puebla, Mexico, June 2005
- 3. "From a Star to Clusters of Galaxies and vice-versa", 4th EVN VLBI School, JIVE (Joint Institute for VLBI in Europe), Dwingeloo, Holland, November 1999.

Academic Talks

- 1. "The importance of Radio astronomy. The Hellenic Radio Telescope THERMO pYlae", talk at the University of Athens Colloquium, February 2019.
- 2. "The importance of Radio astronomy. The Hellenic Radio Telescope THERMOpYlae", talk at the Academy of Athens, Research Center for Astronomy and Applied Mathematics, March 2019.
- 3. "The importance of Radio astronomy. The Hellenic Radio Telescope THERMO*pYlae*", talk at the National Observatory of Athens, Institute of Astronomy & Astrophysics, April 2019.

Posters

Scientific Conferences

- "Using diffuse radio emission in clusters of galaxies to probe the cosmic web, cosmic rays and dark matter - An Update", Nonis, S. & <u>Gizani, Nectaria A. B.</u>, 2016, Cosmo 21: Statistical challenges in 21st Century Cosmology (http://cosmo21.cosmostat.org/), Chania, Crete, May 2016
- "Using diffuse radio emission in clusters of galaxies to probe the cosmic web, cosmic rays and dark matter", Nonis, S. & Gizani, Nectaria A. B., 2013, 33rd International Cosmic Ray Conference (ICRC 2013) - The Astroparticle Physics Conference, Rio de Janeiro, Brazil, July 2013 and ERIS, 2015, September 2015.
- 3. "Extended radio emission associated to merger events as sources of CR acceleration: Cooling flow clusters and AGN cD hosts", Gizani, Nectaria A. B., 2012, Working Group 3 of ESA Gaia Mission, EGSG 2012 "ExtraGalactic Science with Gaia: 'Unresolved galaxies' 'QSOs' 'Reference Frames', September 2012.
- "Hiding Information in Astronomical Images", Eleni E. Varsaki, <u>Nectaria A. B. Gizani</u>, Vassilis Fotopoulos, Athanassios N. Skodras, 10th Hellenic Astronomical Conference, Ioannina, Hellas, September 2011.
- "Alternative Astronomical FITS imaging", Eleni E. Varsaki, <u>Nectaria A. B. Gizani</u>, Vassilis Fotopoulos, Athanassios N. Skodras, 11th Asian-Pacifc Regional IAU Meeting, NARIT (National Astronomical Research Institute of Thailand), Chiang Mai, Thailand, July 2011.
- 6. "Implications of the directional jet asymmetry to the UHE cosmic ray acceleration", <u>Gizani, Nectaria A. B.</u>, "High Energy Phenomena in Relativistic Outflows (HEPRO)" Conference Series III, Barcelona, Spain, June 2011.
- 7. "Extended radio emission associated to merger events as sources of CR acceleration: The case of cD galaxies", *Gizani, Nectaria A. B.*, HEPRO III, Barcelona, Spain, June 2011.
- "On the extragalactic jet asymmetry and composition, and the production of high energy cosmic rays", *Gizani, Nectaria A. B.*, 11th Roma International Conference on Astro-Particle physics (RICAP 11), Roma, Italy, May 2011.
- 9. "On the origin and acceleration of cosmic rays: Cooling flow clusters and AGN hosts", *Gizani, Nectaria A. B.*, RICAP 11, Roma, Italy, May 2011.
- "The role of AGN jets and intracluster magnetic fields in the formation and acceleration of cosmic rays", <u>Gizani, Nectaria A.B.</u>, IAU Symposium No. 275 entitled "Jets at all scales", Buenos Aires, Argentina, September 2010
- 11. "Searching for radio relics and halos. Their role in the formation and acceleration of extragalactic cosmic rays.", *Gizani, Nectaria A.B.*, IAU Symposium No. 275 entitled "Jets at all scales", Buenos Aires, Argentina, September 2010
- "Getting to know HELYCON: The alternative CR detector", <u>Gizani, Nectaria A.B.</u>, G. Bourlis, P. Christopoulou, A. Leisos, A.G. Tsirigotis and S.E. Tzamarias, Arena 2010, 4th International Workshop on Acoustic and Radio EeV Neutrino detection Activities, Nantes, France, June 2010.
- "Probing Cosmic Rays in AGN and Clusters of Galaxies using radio observation", <u>Gizani, Nectaria A.B.</u>, ISKAF 2010, Astronomy Meeting, Assen, The Netherlands, May 2010
- 14. "Getting to know HELYCON: The alternative CR detector", <u>Gizani, Nectaria A.B.</u>, G. Bourlis, P. Christopoulou, A. Leisos, A.G. Tsirigotis and S.E. Tzamarias, ISKAF 2010, Astronomy Meeting, Assen, The Netherlands, May 2010

- 15. "AGN and Cosmic Rays: The role of radio features & intracluster magnetic fields in the formation & acceleration of cosmic rays.", *Gizani, Nectaria A.B.*, International Workshop entitled "Astronomy with Megastructures: Joint science with the E-ELT and SKA", Crete, Greece, May 2010
- 16. "Cosmic Ray detectors at low budjet: The case of HELYCON", <u>Gizani, Nectaria A.B.</u>, A.G. Tsirigotis, G. Bourlis, P. Christopoulou, A. Leisos and S.E. Tzamarias, International Workshop entitled "Astronomy with Megastructures: Joint science with the E-ELT and SKA", Crete, Greece, May 2010
- 17. "On the nature of cosmic rays from active galactic nuclei and clusters of galaxies using radio data", <u>Gizani, Nectaria A.B.</u> 13th Hellenic Conference of the Association of Greek Physicists entitled "Physics and Man. Scientific results and Technologies for the improvement of life", Patra, May 2010
- "Getting to know HELYCON: The alternative CR detector", <u>Gizani, Nectaria A.B.</u>, G. Bourlis, P. Christopoulou, A. Leisos, A.G. Tsirigotis and S.E. Tzamarias, 9th Hellenic Astronomical Meeting, Athens, September 2009.
- "Use of floating surface detector stations for the calibration of a deep-sea neutrino telescope", G. Bourlis, <u>Gizani, Nectaria A.B.</u>, A. Leisos, A. G. Tsirigotis, S.E. Tzamarias, RICH2007, Trieste, Italy, October 2007.
- 20. "Lord AGNs of the Rings", 8th Hellenic Astronomical Meeting, Thassos Island, September 2007 http://www.ee.duth.gr/hac/anouncements/BookOfAbstracts.pdf
- 21. Poster of the Grupo de Astrofísica da Universidade de Coimbra, the part of the Extragalactic Astronomy by *Gizani, Nectaria A.B.*, 2nd Fórum Espacial, November 2005.
- 22. "Intracluster Magnetic Fields", *Gizani, Nectaria A.B.*, 2005, XVENAA Portuguese Astronomical Conference, Observatório Astronómico de Lisboa, Lisbon, Portugal, July 2005.
- "Rings instead of Hotspots", <u>Gizani, Nectaria A.B.</u>, Garrett, M.A., Morganti, R., Cohen, A., Kassim, N., Gonzáles-Serrano, I. & Leahy, J.P.,6th Hellenic Astronomical Conference, National Observatory of Athens, Athens, Greece, September 2003.
- "Two unique Radio Galaxies at Low Redshift: 3C310 & Hercules A", <u>Gizani, Nectaria A.B.</u>, 25th General Assembly, International Astronomical Union (IAU), Symp. 216 entitled Maps of the Cosmos, Sydney, Australia, July 2003.
- 25. "Unusual Inversion of Polarization in Sunspot associated Sources", <u>Gizani, Nectaria A.B.</u>, 25th General Assembly, IAU, Joint Discussion 03 (JD03) entitled Magnetic Fields and Helicity in the Sun and Heliosphere, Sydney, Australia, July 2003.
- 26. "Rings in Radio Galaxies: A Multiwavelength approach", <u>Gizani, Nectaria A.B.</u>, 25th General Assembly, IAU, JD10 entitled The Cosmic Cauldron: Evolution in Galaxy Clusters, Sydney, Australia, July 2003.
- 27. "Measuring Cluster Magnetic Fields", *Gizani, Nectaria A.B.*, 25th General Assembly, IAU, JD10 entitled The Cosmic Cauldron: Evolution in Galaxy Clusters, Sydney, Australia, July 2003.
- 28. "Jet Misalignment in Radio Galaxies-The Unification Theory", *Gizani, Nectaria A.B.*, 25th General Assembly, IAU, JD18 entitled Quasar Cores & Jets, Sydney, Australia, July 2003.
- 29. "The Formation of Rings in powerful Radio Galaxies-A multiwavelength approach", <u>Gizani, Nectaria A.B.</u>, Garrett, M.A., Morganti, R., Cohen, A., Kassim, N., Gonzáles-Serrano, I. & Leahy, J.P., International Conference entitled Multi-wavelength Cosmology, Myconos, Greece, June 2003.
- 30. "The Multi Wavelength Study of the two Unique Radio Galaxies Hercules A and 3C310 The story so far ", <u>Gizani, Nectaria A.B.</u> & Garrett, M.A., 6th EVN Symposium, MPIfR, Bonn, Germany, June 2002 http://www.evlbi.org/publications/symp_no4_preprints.html

- 31. "The ROSAT X-ray Study of Two Powerful Radio Galaxies at z~0.1", *Gizani, Nectaria A.B.* & Leahy, J.P., JENAM 2000, University of Moscow, Moscow, Russia, June 2000.
- 32. "RATAN-600 observations of unusual Inversion of Polarization in Sunspot associated Microwave Sources", <u>Gizani, Nectaria A.B.</u>, Alissandrakis, C., Bogod, V., Garaimov, V., Zheleznyakov, V. & Zlotnik, E., JENAM 2000, University of Moscow, Moscow, Russia, June 2000.
- 33. "MERLIN Telescopes: New site RFI surveys and a possible new MERLIN, irish, radio telescope", <u>Gizani, Nectaria A.B.</u>, Garrington, S.T., Lawson, D., Shearer, A. & Golden, A., IAU Workshop entitled 'Astronomical Site Evaluation in the Visible and Radio Range', Marrakesh, Morocco, November 2000

http://cal.it.nuigalway.ie/papers/1134749184

- 34. "Testing minimum energy with powerful radio sources in clusters of galaxies", Leahy, J.P. & <u>Gizani, Nectaria A.B.</u>, International Workshop entitled 'Life Cycles of Radio Galaxies', Space Telescope Science Institute, Baltimore, MD, USA, July 1999 http://www.citebase.org/abstract?id=oai% 3AarXiv.org% 3Aastro-ph% 2F9909121
- 35. "The X-ray Study of Two Powerful Radio Galaxies at z~0.1", <u>Gizani, Nectaria A.B.</u> & Leahy, J.P., International Workshop entitled 'Large-Scale Structure in the X-ray Universe', Santorini, Greece, September 1999.
- 36. "Unusual Inversion of Polarization in Sunspot associated Microwave Sources: Ratan-600 observations and their interpretation", Alissandrakis, C., <u>Gizani, Nectaria A.B.</u>, Bogod, V., Garaimov, V., Zheleznyakov, V. & Zlotnik, E., Community of European Solar Radio Astronomers Workshop (CESRA) Workshop entitled 'Coronal Explosive Events', Espoo, Finland, June 1998.
- 37. "The Environment of Hercules A", <u>Gizani, Nectaria A.B.</u> & Leahy, J.P., 4th EVN/JIVE Symposium and Users Meeting, JIVE, Dwingeloo, The Netherlands, October 1998 ftp://ftp.nfra.nl/jive/nar/preprints/ng.ps.gz
- "Faraday Rotation in Hercules A and the source's Environment", <u>Gizani, Nectaria A.B.</u> & Leahy, J.P., National Astronomy Meeting (NAM) 1997, Southampton University, Southampton, UK, April 1997.
- "Hercules A and its Environment", <u>Gizani, Nectaria A.B.</u> & Leahy, J.P., The University of Leicester Workshop entitled 'New Results in X-ray Astronomy', University of Leicester, Leicester, UK, June 1997.
- 40. "Radio and X-ray results for Hercules A and its environment", Leahy, J.P. & *Gizani, Nectaria A.B.*, Royal Astronomical Society Meeting entitled 'Unified Models of Radio-Loud AGN', London, UK, January 1996.
- 41. "The Environment of Hercules A", *Gizani, Nectaria A.B.* & Leahy, J.P., Jodrell Bank Observatory (JBO) International Conference entitled 'High Sensitivity Radio Astronomy', JBO, Manchester, UK, January 1996.
- "Radio & X-ray observations on Hercules A and its environment", <u>Gizani, Nectaria A.B.</u> & Leahy, J.P., National Astronomical Meeting (NAM) 1996, Liverpool John Moores University, Liverpool, UK, April 1996.
- 43. "The study of Hercules A's Environment", *Gizani, Nectaria A.B.* & Leahy, J.P., University of Manchester Annual Poster Exhibition, Manchester, UK, September 1996.
- 44. "The Environment of Hercules A", *Gizani, Nectaria A.B.* & Leahy, J.P., IAU Symposium No 175 entitled "Extragalactic Radio Sources", Bolognia, Italy, October 1995.

Scientific Schools

- 1. "Using diffuse radio emission in clusters of galaxies to probe the cosmic web, cosmic rays and dark matter An Update", <u>G</u>izani, Nectaria A.B., ADA8 Astronomical Data Analysis Summer School, Chania, Crete, May 2016
- 2. "Using diffuse radio emission in clusters of galaxies to probe the cosmic web, cosmic rays and dark matter", <u>G</u>izani, Nectaria A.B., Eris 2015, International advanced Workshop to obtain scientific results from radio interferometry at metre to sub-millimetre wavelengths, September 2015
- 3. "Intracluster magnetic fields and the Hercules A cluster", <u>Gizani, Nectaria A.B.</u>, International Advanced School entitled 'A Pan-Chromatic View of Clusters of Galaxies and the Large-Scale Structure', Instituto Nacional de Astrofísica, Óptica y Electrónica (INAOE), Puebla, Mexico, June 2005.
- 4. "The Multi-wavelength Study of two Unique radio galaxies", <u>Gizani, Nectaria A.B.</u>, Euro Winter School entitled "Observing with the Very Large Telescope Interferometer (VLTI)", Les Houches, France, February, 2002 http://www.jmmc.fr/obsvlti/book/Gizani.pdf http://www.eas-journal.org/index.php?option=article&access=standard&Itemid=129&url= /articles/eas/abs/2003/01/eas2003029/eas2003029.html

Public Outreach

- 1. "Awake and Sleeping Supermassive BlackHoles", Public talk at the "Astro Night" popularization talks of Astronomy, Department of Astronomy, UC Berkeley, Berkeley, USA, June 2018
- 2. "Observing the Universe in radio: Is the Universe Noisy?", Public talk at the Workshop of Astronomy and Astrophysics of the Hellenic Open University. The workshop was organized by her including four more astrophysicists who gave talks on the Sun, the visible universe, the Universe in X-rays and Cosmology. Sky observing took place after the talks. The scope of the workshop was for the public understanding of where we are in the universe starting from the sun and getting to know the observable Universe in the visible, in radio, X-rays and finally Cosmology Patra, July 2017
- 3. "The exploration of the 'out of this world' cosmic microwave background radiation", Invited Speaker, Eugenidio Foundation, Athens, February 2013, https://vimeo.com/60542571 http://www.youtube.com/watch?v=mHp9_0XX1qw&feature=youtu.be http://www.eugenfound.edu.gr/frontoffice/portal.asp?cpage=node&cnode=410
- 4. "Cosmic Microwave Background", Invited Speaker, Colloquium of the Orion Astronomical Association of Patra, University of Patra, Patra, April 2012, http://www.orionas.gr/articles/presentations.html
- 5. "Cosmic rays: The multi-messengers of Universe", One day meeting of Astronomy and Astrophysics for the year of Astronomy 2009, Invited Speaker, "Orion" Astronomical association of Patra', Conference Centre of the University of Patra, Patra, December 2009
- 6. " Do we see or hear with radio waves?" , Invited Speaker, Greek Astronomical Association (EAE), Eugenidio Foundation, Athens, February 2009.
- 7. "Radio waves: Do we hear or see?", Invited Speaker, Colloquium of the Orion Astronomical Association of Patra, University of Patra, Patra, May 2007.
- 8. "The sun our star". Talk on the 2006 solar eclipse visible from the island of Kastellorizo, Invited Speaker, Rhodes 3rd Primary School, Rhodes, Greece, April 2006.
- 9. "Our star the Sun", Invited Speaker, Public Talk about the Universe and the 2006 solar eclipse visible from the island of Kastellorizo, 2006, Therme Hotel, Rhodes, March 2006.

- 1. Nectaria Gizani was accepted with the honorary title 'Visiting Scholar', for her Sabbatical leave at the Department of Astronomy, Breakthrough Listen Laboratory Radioastronomy Laboratory, UC Berkeley, USA, November 2017- November 2018. She has joined the Breakthrough Listen Team on single dish radio searching for extraterrestrial techno-signatures (Radio SETI) with GBT and Parkes, while also observing FRBs and Pulsars. She has also done work with the Allen Array, the first dedicated instrument beamformer/interferometer for radio SETI.
- 2. Assistant professor at the School of Sciences and Technology (SST) of the Hellenic Open University, in the area of Astroparticle Physics and Radio Astronomy, August 2016.

• Representative of SST to MEAE (Sector of protecting quality among University teachers and researchers internally), February 2017–

3. Lecturer in the area of experimental Particle Physics and/or Astroparticle Physics, (SST), Hellenic Open University, June 2009-may 2016. The procedure has been stalled at the board of Directors of the Hellenic Open University Administrative body.

• Representative of SST to MODIP (Sector of protecting quality among University teachers and researchers), February 2013–2015

• Representative of SST to Hellenic NARIC (an organization supervised by the Hellenic Ministry of Education, responsible for (i) the recognition of university or technological degrees awarded by foreign Higher Education Institutions (ii) providing information about educational systems and accreditation of Institutions in Greece and abroad), 2016 -

- "Organising a weekly colloquioum at SST, 2009-2012 and maintanance of a webpage
- 4. Lecturer under the private contract 407/80. Teaching position for the spring semester for classes on Solar Physics, Galaxies-Cosmology and Observational Astrophysics. Section of Astro-geophysics, Department of Physics, University of Ioannina, October 2008-August 2009.
- 5. Laboratory Assistant for the class entitled "Special Issues of Physics", Physics Lab experiments, Department of Mechanics, Technical Institute of Patra, spring semester, March 2008-July 2008.
- Associate Professor under the private contract 407/80. Teaching position for classes on Galaxies-Cosmology and Observational Astrophysics. Section of Astro-geophysics, Department of Physics, University of Ioannina, March-September 2008.
- 7. Post-Doctoral Reasearch Assistant in the area of Astroparticle Physics, to co-work on the research entitled "Design Study of the km3net architecture" of the european project "Design Study for a deep sea facility in the Mediterranean for the neutrino astronomy and associated studies", The project is funded by the European Union. The work is carried out at the Hellenic Open Universities, School of Natural Sciences and Technology, Patra, Greece, June 2006–August 2008. http://www.km3net.org/CDR/CDR-KM3NeT.pdf
- 8. Manager of the Training Program 'Isiodos' of the Dodecanese Perfecture for educating Farmers (agrotourism buisness, farmers, fishermen, cattle-breeders), Ministery of Education and Institute of Adult Life Learning (IDEKE), Rhodes Island, December 2005-August 2006.
- 9. Teaching position for the 1st-year Physics and Chemistry Classes, Technological Education School for Tourist Profession, Rhodes Island, October 2005-June 2006.
- Post-Doctoral Reasearch Assistant in the area of Extragalactic Astronomy, Grupo de Astrofísica da Universidade de Coimbra (GAUC) based at Faculdade Ciências, Universidade de Lisboa, Program SFRH/BPD/11551/2002, Coimbra, Portugal, November 2004 –November 2007.
- 11. Supervisor of the Multilingual Interpretation Switchboard, and Portuguese–English–Greek Interpreter also at the Olympic–Paralympic Venues during the Olympic–Paralympic Games, Athens 2004 Society, Greece, June–September 2004.
- 12. Post-Doctoral Reasearch Assistant in the area of Extragalactic Astronomy, Astronomical Institute, NOA (National Observatory of Athens), Athens, Greece, April 2003–April 2004.

- 13. Post-Doctoral Reasearch Assistant in the area of Extragalactic Astronomy, CAAUL (Centro de Astronomia e Astrofisica da Univ. de Lisboa), OAL (Observatorio astronomico de Lisboa), Program PRAXIS XXI/BPD/18860/98, Lisboa, Portugal, April 2001–April 2003.
- 14. Post-Doctoral Reasearch Assistant in the area of Extragalactic Astronomy, JBO , University of Manchester, Manchester, UK, October-December 2000.
- Post-Doctoral Reasearch Assistant in the area of Extragalactic Astronomy, University of Madeira, Portugal, Centro de Ciências Matemáticas, Program PRAXIS XXI/BPD/18860/98, Madeira, Portugal, September 99-August 2000.
- 16. Post-Doctoral Reasearch Assistant in the area of Solar Physics University of Ioannina, Department of Physics, Section of Astro-geophysics, Ioannina, Greece, January 1998 July 1999).

TEACHING EXPERIENCE

Academic

1. Coordination and Tutoring of the Module PSF 61 entitled "Structure of Matter and the Universe", which is an optional module of the 2-year PSF Master Course, School of Science and Technology, HOU, October 2009 - Today. Students acquire advanced knowledge (in the manner described in the previous bullet) in the following scientific disciplines: Solid State Physics, Introduction to Particle Physics, Theoretical Cosmology - Gauge Theories, Astrophysics and Observational Cosmology. That is, the course discusses issues from the very small (particle physics) to the very large (Astrophysics) all joined under the scientific area of Cosmology (Quantum Cosmology, first sub - seconds of the Universe creation, Gauge theories up to the area of Relativistic and Observational Cosmology (large scale structure)), which is the study of the Universe. Auxiliary notes and presentations are provided. Maintenance of the website of the course and the websites related to teaching in general (study, open, class).

It worth's mentioning that the scientific proposal for writing-up an auxiliary book and a Glossary to assist the study of the subject area of "Structure of Matter and Universe" in the above context, it was evaluated with the grade 4 out of 5 and it was considered mature and well-thought for direct funding by the "Hellenic Academic Books and Auxilliary Books, called "Kallipos", October 2014.

- Tutoring of the Module FYE 24 entitled "Classical Physics I", which is an undergraduate 1 year module of the 4-year Undergraduate Course, School of Science and Technology, HOU, October 2019 - Today. Students are taught Mechanics and Electrodynamics with the Open and distant learning Method.
- 3. During her Sabbatical at the Department of Astronomy of UC BErkeley, she was accepted for an interview to teach Mathematics in 1st year undergraduate Math Students at UC Berkeley, for the Spring Semester 2018.
- 4. Coordination and Tutoring of the Module PSF 50 entitled "Advanced Studies in Classical Physics" (or PSF 50), which is a compulsory module of the 1st year, of the 2-year Post Graduate Course entitled "Advanced Studies in Physics" (PSF, Master Course), School of Science and Technology, Hellenic Open University (HOU) October 2014 2016. Such a module is equivelant to up to three scientific subjects included in an ordinary university post graduate course curriculum. Students acquire advanced knowledge in Classical Mechanics and Electrodynamics. Auxiliary notes and presentations are provided. Maintenance of the website of the course and the websites related to teaching in general (study, open, class).
- 5. Lectures on Active Galactic Nuclei (AGNs), subject of the Extragalactic Astronomy course, Master (MSc) course, Section of Astronomy, Astrophysics & Mechanics, Department of Physics, University of Athens, February, 2011.

- 6. Teaching position as a Lecturer under the private contract 407/80 for the spring semester for Graduate Courses on Solar Physics, Galaxies-Cosmology and Observational Astrophysics, Section of Astro-geophysics, Department of Physics, University of Ioannina, October 2008-August 2009.
- 7. Teaching position as an Associate Professor under the private contract 407/80 for Graduate Courses on Galaxies-Cosmology and Observational Astrophysics, Section of Astro-geophysics, Department of Physics, University of Ioannina, March-September 2008.
- 8. Laboratory Assistant for the class entitled "Special Issues of Physics", Physics Lab experiments, Department of Mechanics, Technical Institute of Patra, spring semester, March 2008-July 2008.
- 9. Chosen as a Collaborative Educational Assistant (SEP) for the class FYE 34 (Classical Physics II: Relativity, From Classical to Quantum Physics, Vibrations and Waves, undergraduate level), School of Sciences and Technology, Hellenic Open University, 2007-2008
- Introductory course on "Active Galactic Nuclei (AGNs)", class of extragalactic astronomy, 2005 BEST Coimbra Summer Course, Coimbra 2005 - Space Odyssey, Board of European Students of Technology, Department of Mathematics, University of Coimbra, July 2005.
- 11. Lectures on Active Galactic Nuclei (AGNs), subject of the Extragalactic Astronomy course, Master (MSc) course, Section of Astronomy, Astrophysics & Mechanics, Department of Physics, University of Athens, February, 2004.
- 12. Supervisor of a Master student, Section of Astronomy, Astrophysics & Mechanics, Department of Physics, University of Athens, December 2003 June 2004
- 13. Maths tutorials to the 1st year undergraduate University students, University of Manchester, Manchester, UK, September 95-May 97
- 14. Tutor of a group of 4 to 5 girls for the event "Women and Physics", Department of Physics, University of Manchester, Manchester, UK, 6–7 April 1995.

Secondary and Alternative

- 1. Teaching position for the 1st-year Physics and Chemistry Classes, Technological Education School for Tourist Profession, Rhodes Island, October 2005-June 2006.
- 2. Teaching Multimedia to students in a Public Institute for obtaining professional skills (Public IEK) and distributed personal notes, Peireus, Greece, January-June 99.
- 3. Teaching Computers' software (Word, Excel, etc) and operating systems (Dos, Windows), to students in a Private Institute for obtaining professional skills (Private IEK), Athens, Greece, January-June 99.
- 4. Teaching Physics and Chemistry of secondary education (1st and 2nd year classes) at a private Tutoring school, Athens, Greece, September 92-June 93
- 5. Physics, Chemistry and Maths private tutorials of secondary education (1st and 2nd year pupils), Athens, Greece, 1991–1992
- 6. English tutorials, 1984

Training on Open & Distance Learning

- Attended "Distance Teaching Universities in Europe: Strategies, Perspectives and Developments" seminar, organized by the European Association of Distance Teaching Universities (EADTU), Hellenic Open University (HOU), Patra, February 2016
- Attended the "Open & Distance Universities in Europe" International Symposium, organized by HOU, Athens, November 2015

- Attended the "Design & Development of Educational Material" 2 day training with practice exercises, on how to design and author educational material (hardcopy, digital, multimedia), organized by the Educational Content, Methodology and Technology (e-CoMeT) Laboratory of HOU and Open and Distance Learning Unit, June 2015
- Attended "Continuity and change in distance and e-learning: perspectives from the UK" Seminar by Prof. Alan Tait (Open University, UK), organized by the School of Human Sciences of HOU (Humanities), November 2013.
- Attended a 16-hour training on Open and Distance Learning (Seminar) organized by the School of Human Sciences of HOU, October 2009

Achievements

- Scientific responsible, chief Radioastronomer of the Hellenic Radiotelescope
- The educational proposal of our scientific team of the Hellenic Radiotelescope, entitled 'Radiosimpan_{1,2->3}', in collaboration with the Hellenic Society of Physics for Science and Education, to the Directorate of Support for Programs and Education for Sustainability, Institute for Educational Policy, Institute of Educational Policy was successful, January 2020.
- Visiting Scholar at the Department of Astronomy of UC Berkeley–Breakthrough Listen Laboratory
- Bringing one LOFAR and six CODALEMA antennas in Greece for radio-astroparticle research.
- Obtaining a 2m antenna to be converted for the study of Sun at 10.7 cm.
- As a female astronomer, N. Gizani was invited to participate to the "IAU 100 Celebration for Greek female astronomers", as part of the IAU events "For Women and Girls in Astronomy Day" worldwide celebrations. The event took place in December the 18th, 2019 at the Evgenides Foundation under the auspices of the President of the Hellenic Democracy.
- Awarded 4 out of 5 grades for a proposal on writing-up an auxiliary book and a glossary to assist the study of the subject area of "Structure of Matter and Universe" (for PSF 61). It was considered mature and well-thought for direct funding by the Kallipos Foundation for the development of Hellenic Academic and Auxilliary Books, October 2014.
- Member of the Comittee of Referees for educational papers submitted for the 1st Hellenic Conference for promoting innovative actions in the educational community, Scientific Association for the Promotion of Educational Innovation (EEPEK), October 2015.

Supervision of Master/PhD Theses

- Supervising(ed) a number of MSc Theses at the School of Sciences and Technology of the Hellenic Open University in the area of Radioastronomy and Astroparticle Physics, since 2009
 Prepared Notes on how to write scientific text, a Literature Review and a Technical Report and how to present results.
 - Prepared Notes on how to write a scientific publication.
- Supervisor of 2 PhD students in the area of Radioastronomy and Astroparticle Physics. One of them will be the first thesis in Greece on radio SETI (search of extraterrestrial techno-signatures using single radio observations) search, in collaboration with Breakthrough Listen Project.
- Currently in the process of evaluating one more potential PhD student.

Former PhD thesis research topics on the "Design and Construction of the electronic system reception of radio waves at 2.8 GHz and altazimouth Driving of a 2-meter dish radio telescope to track the sun for 11–22 consecutive years" and "Towards the Calibration of the Codalema Astroparticle Experiment" are currently stalled due to the students failing in their academic PhD research (inadequate research approach for a PhD level and plagiarism).

Reference Letters

Asked for Reference letters to former MSc students from the University of Ioannina for obtaining PhD and MSc positions and attending scientific schools abroad.

TECHNICAL EXPERIENCE

Astroparticle Physics

- Responsible for obtaining the antennas of the CODALEMA experiment of Astroparticle Physics, France. ESPA funding 2013 for equipping the Hellenic Open University Physics laboratory. Ongoing Collaboration with the Groupe Astroparticules, Laboratoire SUBATECH, Nantes, France. Processed data from the CODALEMA Array in Nancay, France.
- Processing radio data from the Low Band LOFAR antennas of the radio signal bursts from cosmic rays at ultra high energies. LOFAR of Astroparticle Physics Program and the LORA experiment, Univ. of Nijmegen (Prof. Heino Falcke), August 2011.
- 'Now How' simulations of radio signal bursts from ultra high energy cosmic rays with the software REAS and COREAS (Dr. Huege).
- Responsible for the acquisition Low Band LOFAR antennas experiment, interferometer LOFAR, the Netherlands, ESPA funding 2010–2012 for equipping the University of the Aegean and HOU Physics laboratory.
- The inclusion of the radio detection from ultra high energy cosmic rays was included in the main scientific case of a successful proposal (ASTRONEU Program, also see the next bullet).
- Participation (due to radio astronomy specialization) in the proposal of the Physics Laboratory of the Hellenic Open Universit, 2010.
- Constructing flat scintillation counters for the HELYCON (HEllenic LYceum Cosmic Observatories Network, http://helycon.eap.gr) telescope to detect muons and calibrate the neutron telescope KM3Net.
 Calibrating EMCO (high voltage power supply), cables and photomultiplier tubes, June 2006–2008

Radioastronomy

- Chief Radioastronomer for the conversion project of the rendudant telecommunication 32m antenna to the Hellenic Radiotelescope.
- Successful observational proposals using radio interferometers and processing radio-data (see. relevant Sections of the CV for analytics).
- EVN (European VLBI), MERLIN (Multi-element Radio-linked Interferometer) and VLBI (Very Large Baseline Interferometry) observer (e.g. among other things, managing the VLBI field system and changing VLBI tapes), JBO, University of Machester, Manchester, UK, Autumn 1994 Spring 1997.

Coordinator-Principal Investigator

- The educational proposal of our scientific team of the Hellenic Radiotelescope, entitled 'Radiosimpan_{1,2->3}', in collaboration with the Hellenic Society of Physics for Science and Education, to the Directorate of Support for Programs and Education for Sustainability, Institute for Educational Policy, Institute of Educational Policy was successful, January 2020. The educational Project aims at inspiring, encouraging 1st and 2nd grade students to pursue education in the scientific area of Radioastronomy and related Technology. In the long run the project will lead to the improvement of the educational and living standards of society in our country. (I.E.P., the scientific agency that provides support to the Minister of Education, Research and Religious Affairs on issues regarding primary and secondary education, post-secondary education, transition from secondary to higher education, teacher training, student dropout and early school leaving).
- Chief Radioastronomer and Scientific Responsible for the THERMO pYlae Hellenic Radiotele-scope.
- Principal Investigator (PI) in the Scientific Research Proposal E13A014 entitled "Tracing parsecscale structure in the Hercules A's core region" with EVN at 6 and 18 cm, February 2013. Co-PIs, Prof. Mike Garrett, ASTRON, The Netherlands, Prof. Dr. Eduardo Ros University of Valencia, Spain, Dr. Antxon Alberdi, Instituto de Astrofísica de Andalucía (IAA, CSIC), Spain – Succesful proposal.
- PI in the scientific Research "Identifying the nucleus and small scale emission of the keyradiogalaxy 3C310" Global VLBI at 6 cm, February 2013. Co-PI Prof. Mike Garrett, ASTRON, The Netherlands.
- PI and Coordinator of the Research Project entitled HELL-ABYSS (HELLenic AstroBiologY Scientific reSearch), in the area of astrobiology, International Astronomical Union, Office of Astronomy for Development (OAD) call for proposals, Hellenic Open University, October 2012. It was evaluated at a very good rank, 1st in the waiting list.
- Coordinator of the Prodex research project for Greece of ESA (uropean Space Agency) entitled "PYTHIA: ProgressivelY Towards Hellenic Invisible Astronomy", in collaboration with the Hellenic Open University, the University of Patras, the National Astronomical Observatory, and the Research Centres for Radioastronomy, CSIRO in Australia and STRON in the Netherlands. The purpose of the project PYTHIA is to familiarize the hellenic scientific community, students and general public with the Invisible Astronomy (i.e. Radioastronomy, X-ray and gamma-ray Astronomy). To establish Radioastronomy three small dishes were asked to be obtained to work both as a single dish (each of them) and as an interferometer (all three of them together). For X-ray and gamma-ray astronomy satellite data will be reduced using the corresponding ESA satellites, November, 2010; awaiting for the results of the competition.
- Principal Investigator for scientific research projects entitled "Unique Radio galaxies: Environment & Properties" and "The Multiwavelength Study of the two unique and Key Object Radio galaxies Hercules A & 3C310" which were inspired, designed and organised by her. The projects were funded for the years from 1999 to 2005 under contracts No PRAXIS XXI/BPD/18860/98 and SFRH/BPD/11551/2002 from the Fundação para a Ciência e a Tecnologia, Portugal.

International Collaborations

• Collaborating with the Breakthrough Listen Research Project of UC Berkeley, USA, https://breakthroughinitiatives.org/initiative/1 on searching for extraterrestrial technosignatures using single dish and Interferometric radio data.

N. Gizani is the first scientist in Greece working on this hot topic.

- Collaborating with the Research Team of the Institute for Radio Astronomy and Space Research, School of Engineering, Computer and Mathematical Sciences, Warkworth Radioastronomy Observatory, New Zealand. Collaboration for the Hellenic conversion project of the redundant antenna to a radiotelescope. The New Zealand Collaborators have successfully converted the sister antenna to ours.
- Member of the Collaboration Board and Research associate of the High Energy Experiment "Future Circular Collider" (FCC)@ CERN (for my astroparticle research interest).
- Collaborator of the international Experiment of detection of radio waves from ultra high energy cosmic rays, Laboratoire SUBATECH, CODALEMA Experiment, Nantes, France, February 2014–
- Collaborator of the COST (European Cooperation in Science and Technology) Working Group 4 "Supermassive Black Holes" of the Action MP0905 "Black Holes in a Violent Universe", October 2012–
- Collaborator and member of the scientific team of the Project SURO (Space-based Ultra-long wavelength Radio Observatory). It is an international radio astronomy project of small space radio antennas (PI Prof W. Baan, The Netherlands). I am participating as a radioastronomer together with two more members representing Greece. The Project is in collaboration with all the well-known Universities, Observatories and Research Centres specializing in RadioAstronomy (eg. ASTRON, MPIfR, JBO, Oxford, NRL, Leiden Obs., JPL, Berkeley, Haystack, CSIRO, etc).
- Project Farside Explorer, International radio astronomy project on placing radio antennas on the farside of the moon (PI: Dr. M. Wieczorek, IPGP, Paris)
- Coordinator and Collaborator of the ASTRONEU Project on Astroparticle Physics on the subprojects: (a) Simulations of the Radio emission of Extensive Air Showers detected by the HELY-CON scintillation Counter Array and (b) Installing and putting to work the LOFAR Low Band Antennas for detecting such radio emission.
- Collaborator and member of the GREAT scientific working group entitled 'WGC3: Quasars' for the reduction and analysis of the highly accurate astrometric observations of the ESA's satellite GAIA and of the radio Very Large Baseline Interferometry of the extragalactic active galactic nuclei quasars, and their use in the reference frame definition, connecting subjects like Galaxy fossils (local cosmology), or local deviations from General Relativity (from within the Solar System)
- Collaborator and member of the scientific team of the Project KM3Net the future deep-sea research infrastructure hosting a neutrino telescope with a volume of several cubic kilmetres, to be constructed in the Mediterranean Sea.
- Member of the scientific team for the Hellenic Project Thales entitled 'Observation and modeling of the galactic and solar cosmic ray variations and their effects on the near-earth space', in collaboration with the University of Athens, and the National Astronomical Observatory, October 2009. The Project Thales is for the development of research and novelty and the enforcement of inter-scientific collaboration between universities and research centres. Awaiting for the results of the competition.
- Member of the scientific team for the Hellenic Project Thales entitled 'Development and Applications of Novel Instrumentation and Experimental Methods in Astroparticle Physics ', in collaboration with the University of Athens, the University of Thessaloniki, the Aegean University, the Open University of Cyprus and the Demokritos research Centre, October 2009. Awaiting for the results of the competition.
- IHP (Improving Human Potential)-fellowship holder of the European Community program 'Access to Research Infrastructures (IHP-ARI)' through JIVE, under the contract No ERBFMGECT950012, November 1999–June 2003.

COLLABORATORS

International Collaborations of Astroparticle Physics, Astrophysics and Radioastronomy - Antennas

• The Breakthough Listen team led by Dr. A. Siemion (SETI chair), Breakthrough Listen Research Project, Department of Astronomy, UC Berkeley.

• Dr. Tzioumis, Tassos, CSIRO, Australia. Collaboration for the Hellenic Radiotelescope - Chair of the Advisory Committee.

• Dr. Veldes, G., Physicist-Radioengineer of the Physics Department of the University of thessaly, Assistant Professor. Chief Radio engineer of the conversion Project of the Hellenic Radiotelescope. Also collaborating for the CODALEMA type antennas we acquired at the Hellenic Open University, the solar antenna of 2m in diameter (2016 -).

• Prof. Heino Falcke (Lofar, Univ. of Nijmegen), Drs Tim Huege (Lofar), Mark Bentum (Lofar), Ad M. Van den Berg (Lopes), Bob van Eijk (Lopes), Jodrell Bank Group of electronics, UK. Collaboration for installing the dipole LOFAR type antennas in Patras within the HELYCON experiment in order to study the radiation of radio waves from cosmic rays (2011 - 2013).

• Prof. M. Garrett, Director of JBCA, Lovell Chair, former Director of ASTRON, former Director of Joint Institute for VLBI in Europe (JIVE), The Netherlands. Member of the Advisory Committee of the Hellenic Radiotelescope. Collaboration for the pc-scale environment of Hercules A and 3C310, using EVN, Global VLBI radio data respectively as well as MERLIN radio data (1999 -).

• Prof. Carole Jackson, Director of Astron for radioastronomy, The Netherlands. Member of the Advisory Committee of the Hellenic Radiotelescope.

• Prof. Sergey Gulyaev, Director of the Institute for Radio Astronomy and Space Research and Mr Tim Natusch, School of Engineering, Computer and Mathematical Sciences, Warkworth Radioastronomy Observatory, New Zealand. Collaboration for the Hellenic conversion project of the redundant antenna to a radiotelescope.

• Prof. Dr. Eduardo Ros University of Valencia, Spain, Dr. Antxon Alberdi, Instituto de Astrofísica de Andalucía (IAA, CSIC), Spain. Collaboration for the pc-scale environment of the radio galaxy Hercules A at 6 and 18 cm (2014 - 2016).

• Prof. Heino Falcke (Lofar, Univ. of Nijmegen), The Netherlands Collaboration for LOFAR radio data processing of cosmic rays (2011 - 2013).

• Dr. Lilian Martin and Richard Dallier, Heads of Researchers, Groupe Astroparticules, Laboratoire SUBATECH, CODALEMA Experiment, Nantes, France, February 2014- .

• Dr. M. Perucho, Departament d'Astronomia i Astrofísica, Facultat de Física - Universitat de Valéncia. Collaboration for simulating Hercules A's powerful jets (2015). • Drs. Lilian Martin and Richard Dallier, Collaboration for installing and the CODALEMA butterfly antennas in Patra and putting them to work. The antennas were bought with european and hellenic ESPA funding entitled "West Greece - Peloponese - Islands of the Ionian Sea", Priority Rank:07 "Sustainable developement and Quality of Life in the Western Hellas" Code No MIS 353180. The scope of the project is to study the radio emission from ultra high energy cosmic rays (2013).

• Dr. Everton Ludke, Departamento de Física, Universidade Federal de Santa Maria, Santa Maria, RS, Brasil. Collaboration on the research project "Using diffuse radio emission in clusters of galaxies to probe the large scale structure of the Universe, cosmic rays and dark matter". The research work includes the processing and analysis of radio data, X-ray data, and gamma-ray data, if needed, of a sample of 67 clusters of galaxies at redshift, 0.02 ; z ; 0.1. The purpose is to probe the correlation between diffuse radio emission and large scale structure, dark matter and cosmic rays (2012).

• Dr. Sonia Anton, University of Porto, Portugal. Collaboration in the working group GREAT 'WGC3: Quasars' of the ESA satellite Gaia for observing quasars and relating results with Galaxy fossils (local cosmology), and local deviations from General Theory of Relativity (in our solar system) (2013 -)

• Dr. I. Gonzalez-Serrano, Universidad de Cantabria, Spain. Collaboration for studying extragalactic sources in the infrared and optical (1999, 2000).

• Drs. N. Kassim A. Cohen, Naval Research Laboratory, Washington, USA. Collaboration for the high resolution low frequency VLA and Pie Town Link radio data of Hercules A. (2005, 2013)

http://www.phys.unm.edu/ gbtaylor/LWA_memo56.pdf • Dr. V. Kulkarni & Prof. P. Rao, NCRA-TIFR, Bombay, India. Collaboration for the GMRT radio data of the radio source 3C310 for a spectral ageing study. (2003)

• Dr. J.P. Leahy, Jodrell Bank Observatory, University of Manchester, UK. Collaboration for the study of the environment of Hercules A using radio VLA ROSAT X-ray data. (1997-

• Dr. R. Morganti, Netherlands Foundation for Research in Astronomy (NFRA), The Netherlands. Collaboration for HI observations of radio galaxies, Westerbork (WSRT) data. (2003)

• Dr. M. Plionis, Professor of the Univ. of Thessaloniki, Department of Physics & I. Georgantopoulos, Research Director of the Institute of Astronomy and Astrophysics, National Observatory of Athens. Collaboration for obtaining radio observations of distant clusters of galaxies for cosmological studies (2003).

• Profesor Mavromichalaki, Department of Physics, Section of Astronomy, Astrophysics and Mechanics, University of Athens. Collaborating on recording and analysing events from radio - spectrographs using radio interferometry to calculate radiation doses, and the influence on humans (2012).

INTERNATIONAL SCIENTIFIC ACKNOWLEDGEMENT

European Expert Reviewer Education, Audiovisual and Cultural Executive Agency

• H2020-FETOPEN-2014, 2015: Remote Expert/Evaluator for Horizon 2020 Secure Societies Challenge, REA calls, 2014 – 2015. She has evaluated a total of 15 proposals in astrophysics & astronomy, astroparticle physics and propulsion systems.

• Evaluator of Erasmus + proposals since December 2018

Scientific Journal Reviewer

• Referee of the Journal of Atmospheric and Solar-Terrestrial Physics (JASTP), lsevier Editors

• She was appointed Refereeby the editor Dr. Tim Pearson of the high impact astronomical and astrophysical journal Monthly Notices of the Royal Astronomical Society (RAS) for the scientific research work entitled "Intermittent jet activity in the radio galaxy 4C29.30" by Jamrozy, Marek; Konar, Chiranjib; Saikia, Dhruba; Stawarz, Lukasz; Mack, Karl-Heinz; Siemiginowska, Aneta, ref. MN-06-1635-MJ.

Sponsorship for Scientific Trips-Conferences-Schools

Based on her scientific work presented as talks and posters she obtained International and National 'Travel and Accommodation Funds' for participating in all the above described international conferences and schools as well as scientific trips to reduce data (IAU budjet, RadioNet-FP7, etc). Collectively:

- (Astro-)Particle Physics Conferences (KM3NeT, EESFYE, RICAP, HEPRO, COST, GAIA) -the EVN/JIVE Symposiums and Users Meetings',

- **SETI Meetings**: COSPAR 2018 - SETI session, Breakthrough Discuss 2018 and 2019, Breakthrough Listen Committee Meetings 2018 and 2019, "Detecting Extraterrestrial Technology: Signals and Artefacts" at the Decoding Alien Intelligence Workshop of the SETI Institute – December 2018

-Saas-Fee school, VLBI school, Advanced School entitled 'A Pan-Chromatic View of Clusters of Galaxies and the Large- Scale Structure', Corsika School 2008, KCETA

-IAU 275, U XXV 2003 (IAU budjet, Joint funds from IAU, Hel.A.S. and GSRT (Greek National Committee for Astronomy)),

-the ASPE'97, 98, and CESRA'98 Euroconferences, -the 9th European Meetings in the area of Solar Physics,

-Local Travel Funds for participating in the "Astronomy 2000+" Workshop and the "Accretion Processes in Astrophysical Environments" Meeting, National (Greek) Astronomical Society, November 1998

-JBO travel funds for participating in National and International Conferences, Meetings, Royal Astronomical Society (RAS) meetings and Scientific Trips.

PROFESSIONAL SKILLS

Computer Skills

1. Astrostatistical Packages for analysing large astrophysical datasets ADA-8: Astronomical Data Analysis School

http://ada8.cosmostat.org/wp-content/uploads/2015/04/ADA8-SummerSchool-Programme4.pdf and "Mining the Sky: knowledge discovery in big and complex astronomical data sets and data streams", IEEE Symposium on Computational Intelligence and Data Mining), Symposium Series of Computational Intelligence

2. Data Analysis and Astronomical Image Processing Software and Analysis

ASTRONOMICAL IMAGE PROCESSING SOFTWARE (AIPS) for processing interferometric and single dish radio data; CASA, DIFFMAP for processing radio data;

Pulsar timing and detecting software;

(CR-TOOLS): Tools for CODALEMA data analysis (eg. flamerobin, database, etc),

PYCR-TOOLS for processing LOFAR High Energy cosmic ray radio data (LORA particle detector data included in the analysis), ASTERIX for processing X-ray data,

MATLAB - The Language of Technical Computing, high-level language and interactive environment for numerical computation, visualization, and programming,

OFF-LINE SCIENTIFIC ANALYSIS SOFTWARE (OSA) for analysing Integral gamma-ray data, and

FERMI SCIENCE TOOLS for Fermi gamma-ray data,

IRAF for reducing optical and infrared data.

STARLINK packages for converting image files.

3. Data and Spectrum Processing Software

MATHEMATICA, APM, PIMMS (USED FOR X-RAY DATA), - STARLINK packages XSPEC for processing spectra, FIGARO, SAOIMAGE, ICL, XANADU, FTOOLS CHAN-PHA for processing X-ray data

4. **Knowledge** of the usage of the package ASPRO for reducing optical data from the upcoming interferometric optical telescope VLTI

5. Plotting and Graphic Packages

PONGO GRAPHICS, GNUPLOT PLOTTING PROGRAM, XFIG, GRAPHER, WINDOWS PLOTTING APPLICATIONS, LOTUS, HARVARD GRAPHICS

6. Data and Astropartical Processing Software/Packages

Radio software SELFAS (CODALEMA antennas) and REAS, COREAS (LOFAR antennas), for Monte Carlo simulations of the radio emission (due to geosychrotron mechanism) from extensive air showers induced by very high energy cosmic rays.

Prossecing software of radio data from a model interferometer consisting of at least three antennae.

CORSIKA (COsmic Ray SImulations) software for detailed simulations of extensive air showers induced by very high energy cosmic rays.PAW (Physics Analysis Workstation),

for a graphic representation of data as well as mathematical and statistical analysis

GEANT 4 Tool for simulating particle passage through matter

7. Computer Languages

BASIC, ASSEMBLY, FORTRAN, C, C++ (courses sponsored by European Community, EC), PERL and PYTHON script languages, PHP, VBScript, Html, xml, CSS, Java Script, ASP, Oracle

IDL programming language at some level

- 8. **Operational Systems** MSDOS, VMS, UNIX, LINUX and the SOLARIS environment (for sun workstations) WINDOWS,
- 9. Computer Office Packages LINUX STAROFFICE, WINDOWS MICROSOFT OFFICE, OPEN OFFICE
- 10. Other Image Processing Software PHOTOSHOP, COREL DRAW, COREL PHOTOPAINT and PHOTOSTYLER and similar Linux programs.

11. Presentation Software

PAGEMAKER, POWERPOINT and appropriate WINDOWS MICROSOFT OFFICE, LINUX STAROF-FICE and OPEN OFFICE packages.

12. Spreadsheet and Data Base Software

EXCEL and LINUX STAROFFICE spreadsheet software, ACCESS, SQL Server 2000, ORACLE MSProject

- 13. Text editing programs LATEX, MICROSOFT WORD, VI, NEDIT and CHIWRITER.
- 14. Internet Access Programs NETSCAPE, MOSAIC, the LINUX MOZILLA, Mozilla FireFox for Windows, the MICROSOFT INTERNET EXPLORER.
- 15. Knowledge about the Networks INTERNET, NOVELL and ITHERNET.
- 16. Construction of WWW pages using HTML language, Weebly, Google-sites, web editors, FrontPage, Macromedia Dreamweaver MX, ANSI SQL, Microsoft Visual InterDev
- 17. **Programming DataBase** using Microsoft tools: Programming a MS SQL Server 2000 Database
- 18. Knowledge and Usage of sharing data and file programs, Evernote, Wetransfer, Sendspace, Dropbox for windows and linux
- 19. Knowledge of how to communicate with the web server, planning, drawing and creating a web case study, web application security.
- 20. **Project Managing Software** Sapiens PC, MSProject
- 21. Knowledge of hygiene, law and security applications to web systems.
- 22. Knowledge of multimedia technology (graphics (including 3D), sound, moving pictures, video for web, reception-transmission, processing). ImageModeler, 3ds max, Windows Movie Maker programs.

23. System managing

Upgrading Personal Computers (PCs), installing drives, hard disks, etc, installing software and operating systems (for example simultaneous installation of LINUX and WINDOWS on a PC). VMware.

24. Use of Scanners and Multimedia.

Observational Experience–Data Reduction

1. RADIO OBSERVATIONS

• EVN, Arecibo, EVN with individual limitations Observations (imaging) of the radiogalaxy Hercules A at 18 and 6 cm (total intensity), 12 hours per frequency.

• **UK–MERLIN** (Multi Element Radio Linked Interferometer Network), Jodrell Bank Observatory, University of Manchester, UK. Observations of radiogalaxies at 18 cm (imaging, 16 hours).

• NL–WSRT (Westerbork Synthesis Radio Telescope), ASTRON, Westerbork, The Netherlands. HI (21 cm) observations of radiogalaxies, 8+13 hours.

• NRAO–VLA (Very Large Array), Socorro, New Mexico. Multiconfiguration observations of radiogalaxies at 18, 21, 22, 23, 6, 3.6, 3.5 cm (imaging and polarization, >30 hours).

• NRAO–VLA + Pie Town Link (a real-time link between the Pie Town VLBA antenna and the VLA), New Mexico. Radiogalaxy multiconfiguration observations at 400 and 90 cm to make a spectral ageing study, (10 hours).

• India-GMRT (Giant Metrewave Radio Telescope), radiogalaxy Imaging (total intensity) at 235 and 610 MHz spectral ageing study (8 hours).

• EVN Network, Radiogalaxy observations at 18 cm (imaging, 8 hours).

• Global VLBI, combines EVN and VLBA (Very Large Baseline Array). Radiogalaxy observations at 18 cm (imaging, 8 hours).

• LOFAR high energy cosmic ray radio emission analysis combined with the cosmic ray shower data from the LORA Scintillation Counter Array

• ALMA: Attended the ALMA workshop at Stanford SLAC, for preparing for the ALMA Cycle Calls for Proposals (CfP). Introductory material about ALMA, NRAO, and interferometry concepts, specific tools and programs used to prepare a Cycle 6 proposal were introduced. Hands-on sessions took place to follow along with the Observing Tool (OT) and CASA imaging tutorials.

• RATAN-600, single dish. Polarization observations of solar active regions in cm-wavelengths.

2. INFRARED OBSERVATIONS (Imaging and Spectroscopy)

• TNG (3.58 m Telescopio Nazionale Galileo), Roque de Los Muchachos Observatory, La Palma, Spain. Imaging of radiogalaxies, May 2003 (two grey nights).

• WHT (4.2m William Herschel Telescope), Roque de Los Muchachos Observatory, La Palma, Spain. Spectroscopy of radiogalaxies June 2003 (one dark night).

3. Optical Observations

• Nordic Optical Telescope (NOT), Roque de Los Muchachos Observatory, La Palma, Spain. Imaging of Compact Symmetric Sources (CSS sources).

• Experience in making proposals and reducing data from the upcoming VLTI (Very Large Telescope Interferometer).

• Familiarity with the operation of the educational telescope MEADE 30 inch telescope and its CCD and spectrometer.

4. X-RAY OBSERVATIONS

• ROSAT (Roentgen Satellite). PSPC and HRI Radiogalaxy observations (8065 s and 22748 s respectively).

5. GAMMA-RAY OBSERVATIONS

• Experience in reducing gamma-ray data from the Integral, Fermi and Egret satellites.

Successful Observing Proposals

- 1. Gizani, Nectaria A. B., Garrett, Michael, Ros Eduardo & Alberdi Antxon, 2013, "Tracing parsec-scale structure in the Hercules A's core region", EVN, Arecibo, EVN with individual limitations, Imaging (total intensity) of the radiogalaxy Hercules A at 6 cm and 18 cm (12 hours).
- 2. Gizani, Nectaria A.B., Kulkarni, V. K. & Pramesh Rao, A, 2003, "Imaging of the powerful and unusual radio galaxy 3C310 at low frequencies", GMRT (Giant Metrewave Radio Telescope).

Imaging (Total Intensity) of the radio galaxy $3C\,310$ at 235, 325 and 610 MHz and spectral ageing study (8 hours), Summer 2003

- Gizani, Nectaria A.B. & González-Serrano, I., 2002, "Rings in powerful radio galaxies", TNG (with NICS) + WHT (with ISIS).
 J, H, K Near Infrared Imaging and Long-slit Spectroscopy observations of Hercules A and 3C 310 (2 grey nights at TNG, one dark night at WHT), Spring 2003
- 4. Gizani, Nectaria A.B., Cohen, A. & Kassim, N., 2002, "The study of the spectral ageing of the powerful and unusual radio galaxy Hercules A", VLA + Pt link. Total intensity observations of Hercules A at A-, B-configurations at 4-, Q-bands (10 hours), Spring–Summer 2002
- 5. Gizani, Nectaria A.B. & Morganti, R., 2002, "Is the HI absorption detected against the lobe of 3C310 real?", WSRT.
 HI Observations (21 cm) of 3C 310, 13 hours, Spring 2002
- 6. Gizani, Nectaria A.B. & Morganti, R., 2001, "Search for HI absorption in Hercules A and 3C310".
 WSRT HI Observations (21 cm) of Hercules A and 3C310 (8 hours), Service Mode, Summer 2001
- Gizani, Nectaria A.B. & Garret, M. A., 2000, "Probing the pc-scale environment of the powerful radio galaxy 3C 310", MERLIN. Total Intensity observations of 3C 310 at 1.4 GHz (8 hours), Director's Time, Spring 2001
- Gizani, Nectaria A.B. & Garret, M. A., 2000, "Probing the pc-scale environment of the powerful radio galaxy 3C 310", Global VLBI. Total Intensity observations of the radio galaxy 3C 310 at 1.4 GHz (8 hours), Spring 2001
- 9. Gizani, Nectaria A.B., Garret, M. A. & Leahy, J.P., 1999, "Probing the pc-scale environment of the powerful radio galaxy Hercules A", MERLIN. Total Intensity observations of Hercules A at 1.4 GHz (8 hours), Director's Time, Spring 2000
- Gizani, Nectaria A.B. & Garret, M. A., 1998, "Probing the pc-scale environment of the powerful radio galaxy Hercules A", EVN. Total Intensity observations of Hercules A at 1.4 GHz (8 hours), Spring 1999
- 11. Leahy, J.P. & Gizani, Nectaria A.B., 1994, "The Environment of Hercules A", VLA. Polarization and Total Intensity observations of the Hercules A at A, B, C, D-configurations, at L-, X- bands (1.4 and 8 GHz, ≥ 30 hours), Summer 1994–1995.

Public Outreach

• SETI and Breakthrough Listen research presentation to school girls visiting the Breakthrough Listen Lab to learn about the work, UC Berkeley, July 2018

- Organized the Workshop of Astronomy and Astrophysics at the Hellenic Open University, sponsored by the University after applying for a support fund. The workshop included invited talks by four more astrophysicists on the Sun, the visible universe, the Universe in X-rays and Cosmology. The scope of the workshop was to let the public understand where we are in the universe, starting from the sun and getting to know the observable Universe in the visible, in radio, X-rays and finally Cosmology. After the talks the public enjoyed sky observing using amateur telescopes with the help of a student from the british Open University studying astronomy and planetary sciences Patra, July 2017
- Participating in the events of the Hellenic Astronomical Association for a mateur astronomy, March 2008–2009
- Participating in the events of the Orion amateur astronomical association of Patra, September 2006–2017
- Member of the organization Núcleo Interactivo de Astronomia (Nuclio) for the public understanding of Science (June 2001–July 2002).
- Tutor of a group of 4 to 5 girls for the event "Women and Physics", Department of Physics, University of Manchester, Manchester, UK, 6–7 April 1995.
- Invited speaker in astronomical events of public outreach (e.g. see corresponding paragraphs at the curriculum vitae).
- Organizing amateur astronomical observations and reporting the results afterwards (articles and reports).

Organisational Experience

- Organizational duties for the THERMOpYlae conversion Project of the Hellenic Radio Telescope - popularizing events, public talks, University talks
- Organized the Workshop of Astronomy and Astrophysics for the public at the Hellenic Open University, sponsored by the University after applying for a support fund, July 2017
- Member of the Local Organizing Committee of the international workshop on radio astronomy entitled "The Labyrinth of the Unexpected: unforeseen treasures in impossible regions of phase space", Kerastari, 29th May– 3rd June 2017
- Participation at the EWASS (European Week of Astronomy and Space Science) 2016 call, with two proposals: (a) as a LOC member of the symposium entitled "The life and impact of radio-loud AGN" proposed by Dr. Rafaella Morganti, and (b) as organizer of the symposium entitled "Astrophysics of ultra high energy particles", with the aim to obtain combined multi-disciplinary knowledge on the active research topic of ultra high energy cosmic rays (primary particles), by bringing together scientists who are using radio observations (i) of Active galactic Nuclei (AGNs) and (ii) of secondary particles (extended air-showers) when primaries reach our planet, to probe the generation, composition, acceleration and propagation of cosmic rays of extremely high energies".
- Organizing the Colloquioum of the School of Sciences and Technology, of the Hellenic Open University, April 2010– .
- Participation in organising the event of modern cosmology by E.E.S.F.Y.E. for getting the public and the scientific community to know HELYCON, Patra, May 2007.
- Participating in the Local Organising Committee (LOC) of the international scientific conference entitled "X-ray Surveys: Evolution of Accretion, Star- Formation and the Large Scale Structure", organized by the Institute of Astronomy and Astrophysics of the National Astronomical Observatory of Athens, Rhodes Island, Greece, July 2007

- Organized the public talk about the 2006 solar eclipse, Hotel Therme, Rhodes, March, 2005.
- Managing, organizing and be responsible for the good functionality of the educational classes of the program 'Isiodos' for educating Farmers in order to be able to take initiatives in Finance in the Dodecanese Perfecture run by the Institute of Adult Life Learning (IDEKE) and the General Secretary of Adult Education (Ministery of Education), Rhodes, December 2005-
- Organising the Journal Club talks at the Institute of Astronomy & Astrophysics, National Observatory of Athens, Autumn 2003, Spring 2004
- Member of the LOC for organizing the 6th Hellenic Conference of Greek Astronomers, Institute of Astronomy and Astrophysics, National Astronomical Observatory, Athens, Greece, September 2003.
- Organizing public talks, Department of Mathematics, University of Madeira, Portugal, Automn 1999-Spring 2001
- Organising astronomical observations and reporting the results at "Science@Nasa", 1999, 2001 (see relevant publications, reporting on the Leonid Storm in November 1999 and 2001
- Organizing the international Research Group Meeting at the Department of Mathematics, University of Madeira, Portugal, June 1999.

PARTICIPATION IN SCIENTIFIC CONFERENCES & SCHOOLS

Scientific Conferences

Astroparticle Physics

- 1. 33rd International Cosmic Ray Conference (ICRC 2013): The Astroparticle Physics Conference, Rio de Janeiro, Brazil, July 2013
- 2. "HEP 2013: Conference on Recent Development in High Energy Physics and Cosmology", Chios, Greece, April 2013
- 3. "The Biggest accelerators in space and on earth", joint workshop with the CERN Theoretical Physics Division and the Large Hadron Collider Physics Centre at CERN (LPCC), COST Action MP0905 'Black Holes in a Violent Universe', Geneva, Switzerland, March 2013
- 4. "High Energy Phenomena in Relativistic Outflows III (HEPRO III)" Conference Series III, Barcelona, Spain, June 2011.
- 5. 11th Roma International Conference on Astro-Particle Physics (RICAP 11), Roma, Italy, May 2011.
- 6. Arena 2010, 4th International Workshop on Acoustic and Radio EeV Neutrino detection Activities, Nantes, France, June 2010
- HEP2008 (annual workshop of the Hellenic Society for the study of High Energy Physics), Hellenic Society for the study of High Energy Physics (EESFYE), Ancient Olympia, Greece, 16-19 April 2008.
- 8. XXV Workshop on Recent Developments in High Energy Physics & Cosmology, Hellenic Society for the study of High Energy Physics (EESFYE), National Technical University of Athens, Politechnioupoli Zografou, Athens, Greece, 28-31 March 2007.
- 9. 3rd Collaboration Meeting, Nestor Institute, Pilos, Messinia, Greece, 16-18 April 2007.
- HEP2006 entitled 'Recent Developments in High Energy Physics and Cosmology, International Center of Hellenic Culture and Vocational Training, University of Ioannina, Ioannina, Greece, 13-16 April 2006.

 KM3NeT Kick-off Meeting, University of Erlangen-Nuremberg, Erlangen, Nuremberg, Germany, 11-13 April 2006.

Astrophysics

- SETI Meetings: COSPAR 2018 SETI session, Breakthrough Discuss 2018 and 2019, Breakthrough Listen Committee Meetings 2018 and 2019, "Detecting Extraterrestrial Technology: Signals and Artefacts" at the Decoding Alien Intelligence Workshop of the SETI Institute – December 2018
- 2. Cosmo21-Statistical Challenges in 21st Century Cosmology, May 2016
- 3. 11th Hellenic Astronomical Conference, Athens, Greece, September 2013.
- 4. 5th WGs- Meeting of COST Action MP0905 "Black Holes & Jets", Palermo, Sicely, November 2012
- 5. EGSG 2012 "ExtraGalactic Science with Gaia: 'Unresolved galaxies' 'QSOs' 'Reference Frames', Working Group 3 of the ESA Gaia Mission, Nice, France, September 2012
- 6. 10th Hellenic Astronomical Conference, Ioannina, Hellas, September 2011.
- 7. 11th Asian-Pacific Regional IAU Meeting, NARIT, Chiang Mai, Thailand, July 2011.
- IAU Symposium No. 275 entitled "Jets at all scales", Buenos Aires, Argentina, September 2010
- 9. ISKAF 2010, Astronomy Meeting, Assen, The Netherlands, May 2010
- 10. "Astronomy with Megastructures: Joint science with the E-ELT and SKA", Crete, Greece, May 2010
- 11. 13th Hellenic Conference of the Association of Greek Physicists entitled "Physics and Man: Scientific Results and Technologies for the improvement of the quality of life", Patra, May 2010.
- 12. 9th Hellenic Astronomical Conference, University of Athens, Athens, Greece, September 2009.
- 13. 8th Hellenic Astronomical Conference, Thassos Island, Greece, September 2007.
- 14. 6th Hellenic Astronomical Conference, National Observatory of Athens, Athens, Greece, September 2003.
- 15. 25th General Assembly of the IAU, Sydney, Australia, July 2003.
- 16. International Conference entitled Multi-wavelength Cosmology, Myconos, Greece, June 2003.
- 17. 6th EVN Symposium, MPIfR, Bonn, Germany, June 2002.
- International Workshop 'AGN Variability Across the Electromegnetic Spectrum', ATNF, Sydney, Australia, June 2001.
- 19. International Conference 'Multicolour Universe', TIFR, Mumbai, India, 11-14 September, 2001.
- 20. IAU Workshop 'Astronomical Site Evaluation in the Visible and Radio Range', Marrakesh, Morocco, November 2000.
- 21. JENAM 2000 "European Astronomy at the Turn of the Millennium", University of Moscow, Moscow, Russia, June 2000.
- 22. 5th EVN Symposium, Onsala, Sweden, June 2000.
- 23. Astronomy 2000+ Workshop entitled "Greek Prospects for the 21st century", NAO, Athens, Greece, November 1998.

- 24. ASPE'98 (Advances in Solar Physics Euroconferences) Conference "Magnetic Fields and Oscillations", Potsdam/Caputh, Germany, September 1998.
- 25. ASPE '97 Conference "3-Dimensional Structure of Solar Active Regions", Preveza, Greece, October 1997.
- 26. 1st Greek Astronomical Meeting, Athens, Greece, September 1992.

Scientific Schools

- ADA-8 Astrostatistical School, May 2016
- ERIS 2015 radio interferometry School, Garching 2015
- 3rd LOFAR Data Processing School, Dwingeloo, November 2014
- "Astrophysics at Very-High Energies", 40th Saas-Fee Course: Reducing and analysing γ -ray data from the Fermi, Integral and Egret satellites, Les Diablerets, Switzerland, 14-20 March 2010
- "Cosmic rays and neutron monitors: A training course in science and applications", Neutron Monitor Database (NMDB), Training Course, University of Athens, Athens, 14-19 September 2009 http://www2.nmdb.eu/?q=node/123
- CORSIKA SCHOOL 2008. International yearly scientific school for simulations of extensive air showers from cosmic rays (and of their radio emission–REAS Package), Karlsruher Institut für Technologie (KIT), Freudenstadt-Lauterbad, Germany, November 2008.
- International Advanced School entitled 'A Pan-Chromatic View of Clusters of Galaxies and the Large-Scale Structure', Instituto Nacional de Astrofísica, Óptica y Electrónica (), Puebla, Mexico, June 2005.
- 1st VLTI school, Les Houches, France, February 2002. Tought optical interferometry (just established) and how to reduce VLTI data.
- 3rd EVN VLBI School, JIVE, Dwingeloo, Holland, November 1999. Tought VLBI Interferometry and how to reduce VLBI data.

Schools for Professional skills

• Engineering and Physical Sciences Research Council (EPSRC) Summer School, Sheffield University, Sheffield, UK, July 1996. Obtained professional skills.

Public Outreach

- Organized the Workshop of Astronomy and Astrophysics for the public at the Hellenic Open University, July 2017
- Panhellenic Meeting of Greek Amateur Astronomers, Parnonas Mountain, July 2010
- 6th Conference of Greek Amateur Astronomers, Alexandroupoli, 25-27 September 2009

Educational Seminars & Courses

On Computing-Software

- "Coursera Data Mining" (University of Illinois at Urbana-Champaign), "Coursera Introduction to Python" (University of Rice), ""Coursera - Image Processing" (Duke University), January - August 2015
- "Coursera Genetics and Evolution, Duke University, January April, 2013
- "Coursera Genetics and Evolution, Duke University, January April, 2013 "Coursera Astrobiology, University of Endiborough, 2013
- Oracle Database 10g: Administration Workshop I, Seminar by Oracle for installation of the ORACLE database, Patra, Greece, duration 5 days, January 2007.
- Oracle Database 10g: SQL Fundamentals II, Seminar by Oracle for learning the ORACLE database, Patra, Greece, duration 2 days, January 2007.
- Educational course on the creation of SQL databases on the web, February 2004-May 2004. Practice at the National Observatory of Athens (May 2004). Used tools: Html web editors, FrontPage, Dreamweaver MX, Html, xml, CSS, Java Script, ASP, Oracle, ANSI SQL, Access, programming languages, VBScript, multimedia technology (graphics (including 3D), sound, moving pictures, video for web), communication with the web server, drawing web-places, case study & planning/drawing-practicing, planning, drawing and creating a web application, security of the web application (300 hours).
- 1-Day Seminar on storage solutions entitled: Freedom for All, Storage Exclusively: Web storage, The storage Market, Data Management Solutions, by Hitachi Data Systems & Sun Microsystems, organised by the General Data Business (GDB), November 2003.
- Course on Networking, Unix and programming languages C and C++ organised by EMA Information Systems, funded by the European Community, 150 hours, Athens, Greece, September-December 1993
- Arithmetic Analysis and FORTRAN programming Language Courses by the National Institute of Research, Centre of Theoretical and Physical Chemistry, funded by the European Community, 300 hours, Athens, October-December 1993

On Instrumentation

• 1-Day Automatization seminar entitled Instrumentation and Counting & Control Systems: Oscilloscopes (storage & sampling, Digital & Optical Communications-Signal Analyzers, Data Generators-Arbitrary Waveform Generators, Logic Analyzers, Real time spectrum Analysis-Wireless systems, General purpose & Defense Applications), by Theodorou Automatization Company ABETE and TEXTRONIX Company, March 2004.

Courses on other Scientific Topics

- 1-day seminar on "Basics for Space", organized by Si-Cluster via Corallia. We were informed about space applications and greek effort, as well as the participation of the Hellenic industry, October 2015.
- International Conference "Reserving Energy in buildings", organised by the European Community as part of the SAVE program for reserving energy and the Center of Education in Energy matters of the National and Kapodistrian University of Athens, Athens, Greece, December 1993.

- International Conference "Newtonian Physics and the Balcans", organised by the Hellenic Physics Association, Athens, Greece, December 1993.
- 4-day Educational Seminar "Skills of Teaching", organised by the Pataki Editions and the S. Pataki A.E., Athens, Greece, November 1993.
- International Meeting "The Effects of Ozone and the Solar Ultraviolet Radiation in the Mediterranean and in the Human Health", organized by the Department of Applied Physics and Medical Dermatological Department, Athens, Greece, October 1993.
- Course on Archeometry by the Academy of Athens, funded by the European Community, Athens, Greece, September 92–June 93.

Courses for acquiring professional skills

- Attended the seminar entitled "Managing and Organizing Educational Classes" organized by the Institute of Adult Life Learning (IDEKE) and the General Secretary of Adult Education (Ministery of Education), in order to be able as a Manager in the Dodecanese Perfecture to run the program 'Isiodos' for enabling Farmers to undertake initiatives in Finance, 6 hours, January 2006
- Career Seminar for understanding how to obtain skills for finding work in Greece and for obtaining a certificate of knowledge in Computing and Telecommunications, New Horizons Computer Learning Centers, 3 hours, Athens, September 2005.

Courses for acquiring skills in the area of Finance

- Attended the educational program entitled "Marketing" by the Institute of Adult Life Learning (IDEKE) and the General Secretary of Adult Education (Ministery of Education), Centre of Educating Adults, Dodecanese Perfecture, 25 hours, 7/04/2006-18/04/2006.
- Attended the educational program entitled "Business Administration" by the Institute of Adult Life Learning (IDEKE) and the General Secretary of Adult Education (Ministery of Education), Centre of Educating Adults, Dodecanese Perfecture, 25 hours, 8/03/2006-03/04/2006.

Courses for acquiring general skills

• Attended the seminar entitled "ISIODOS-Enabling Farmers to undertake initiatives in Finance" organized by the Institute of Adult Life Learning (IDEKE) and the General Secretary of Adult Education (Ministery of Education), Rhodes, Dodecanese Perfecture, 7/04/2006-03/06/2006, 150 hours.

RESEARCH INTERESTS

Her research Interests lie in the area of the *Extragalactic Observational Astrophysics* (Radioastronomy, X-ray astronomy) and astrophysics and *Astroparticle Physics* and especially:

- Cosmic Magnetic Fields.
- Cosmic Net.
- Active Galactic Nuclei (AGN) and cosmic rays, sites of acceleration of ultra high energy cosmic rays (UHECRs).
- Relics and Halos in clusters of galaxies
- Radio emission from cosmic rays and simulations of this emission

 \bullet The influence of cosmic rays and especially of the solar cosmic rays on humans - Radiation doses estimation

- Observational Cosmology-Cosmic Microwave Background (CMB)
- Study of radio AGN at all wavelengths

• Measuring internal (interior to the AGN) and external (of the environment of the AGN) magnetic fields

- Clusters of Galaxies
- Unified Theories
- Studying Compact Symmetric Sources (CSS)
- Intracluster Medium (ICM)
- Interstellar medium (ISM)
- Simulations of extragalactic radio jets
- Intergalactic Medium (IGM)

As well as in the area of *Solar Physics* and *Instrumentation*.

RESEARCH GRANTS – FELLOWSHIPS

- Post-doctoral research assistant for the work "Design Study of the km3 architecture", which was a part program of the "Design Study for a deep sea facility in the Mediterranean for the neutrino astronomy and associated studies" funded by the European Community
- Post-Doctoral Research Assistant position for the reasearch work "Unique Radio galaxies: Environment & Properties", (created by her), GAAUC, based at Faculdade Ciências, Universidade de Lisboa, sponsored by the Fundação para a Ciênçia e a Tecnologia under the contract No SFRH/BPD/11551/2002 November 2004 - Noveber 2007.
- Postdoctoral research assistant under the contract number 332 from the Hellenic State Scholarships Foundation (IKY) to do work on the research project inspired and created by her, entitled "Peculiar radiogalaxies: Environment and Properties", Institute of Astronomy and Astrophysics, National Observatory of Athens, April 2003-2004.
- Her research work on the analysis of infrared data of active galactic nuclei was funded by the Hellenic-European program "Enigma", May-June 2004.
- Post-Doctoral Research Assistant position, Madeira University and Centro of Astronomia e Astrofísica da Univ. de Lisboa, Portugal, sponsored by the Fundacão para a Ciênçia e a Tecnologia under the contract No PRAXIS XXI/BPD/18860/98, September 1999/2000 and April 2001–April 2003.
- BFWG Charitable Foundation Grant for supporting promising female scientists, Spring 1996.
- Postdoctoral research assistant under the contract PENED number 95, entitled "Solar Plasma Physics: Observations and Theory", from the Hellenic General Secretariat of Research and Technology to do research work in solar radio astronomy using RATAN-600 polarization observations of solar active regions in cm-wavelengths.
- Particle Physics and Astronomy Research Council (PPARC) Fellowship for three years to obtain a Ph.D., directly, in Radio Astronomy at JBO, University of Manchester, UK, September 1994 September 1997.

She has completed her Ph.D. studies in the 3-year time limit.

AWARDS

• It worths mentioning that the scientific proposal for writing-up an auxiliary book and a Glossary to assist the study of the subject area of "Structure of Matter and Universe" in the above context, it was evaluated with the grade 4 out of 5 and it was considered mature and well-thought for direct funding by the "Hellenic Academic Books and Auxilliary Books, called "Kallipos", October 2014.

• Acknowledged for participating among ~ 8000 people in the competition of proposing a name for the landing area J of the Rosetta mission (Philae Lander) at the comet 67P/Churyumov-Gerasimenko, October 2014

• Chozen as a surrogate participant for a scientific trip to Germany in the Institute of my choice (Mpifr), Program of Educative Exchanges between Greece and germany, 2012 (Code of aproovement: 24582/4/08-03-2012, Ministry of Culture, Education and Religious Affairs)

• PhD thesis dissertation proposed for the RAS Thesis Prize, January 1999;

• PhD thesis dissertation proposed for the best Thesis Prize of the Hellenic Astronomical Society (Hel.A.S.), December 1998.

• Proposed by the Director of JBO for the postdoc position at Queen's University and was offered this position, Belfast, Ireland, September 1997 (i.e. emmediately after submitting her thesis).

• Her astronomy poster entitled "The Environment of Hercules A ", was the best astronomy poster, Astronomy Department, University of Manchester, Manchester, UK, October 1996.

• The same Poster was the 7th best poster among the ones from various departments of the University of Manchester, Manchester, UK, October 1996.

Leadership skills best shown under difficult circumstances after completing personality and skills tests awarded at the EPSRC Summer School, Sheffield University, Sheffield, UK, September 1996.
Honour Awards for the 3 years of Lycium studies, by the Greek Ministry of Education & Religion, Athens, September 1983–June 1986.

• Medal of being best student of 2nd class of Lycium, by the Athens mayor, Athens, September 1985.

MEMBERSHIP OF PROFESSIONAL ASSOCIATIONS

Hold the position of Associate status in the Committee on Space Research (COSPAR) affiliated with the Scientific Commissions 'Research in Astrophysics from Space ()', 'Fundamental Physics in Space (F)', 'Life Sciences as Related to Space(H)'.

Member of the Hellenic Association of University Women.

Member of the Greek Aerospace Medical Association, http://www.gasma.gr/default.asp?side_menu=0 Member of the Amateur Astronomical Association entitled 'Orionas' (http://www.orionas.gr/),

September 2006 - today Member of the Amateur Hellenic Astronomical Union EAE

(http://www.astronomia.org.gr/links.php), March 2008- today Member of the Hellenic Union of High Energy Physics EESFYE

(http://hsshep.web.cern.ch/hsshep/eesfye/ec_gr.html) Member of the International Astronomical Union (IAU).

Member of the Royal Astronomical Society (RAS).

Member of the European Astronomical Society (EAS).

Member of the Greek Astronomical Society (Hel.A.S.).

Member of the Greek Physics Society ($EE\Phi$).

Member of the Núcleo Interactico de Astronomia (Nuclio) for the public understanding of Science (June 2001–July 2002).

HOBBIES & INTERESTS

Red Cross assistant Volunteer course leading to the title of Red Cross Samareitisa. Attended a 15 -month theoretical (CPR, skills) and practice (105 hours at SAB (First Aid Station), and 150 hours service) training to offer first aid to people in distress and need, September 2006

Lifeguard Red Cross Assistant Volunteer course leading to the title of the Red Cross Lifeguard. 3month theoretical and practical training (75 hours service as lifeguard) for offering first aid to people in distress and need in the water element mainly, as well as at the shore, September 2007 Diving: Member of the European and Greek Diving Center. Open Water Diver (one star), PADI

Diving: Member of the European and Greek Diving Center. Open Water Diver (one star), PADI certificate, June 1994.

Swimming: Silver and Bronze Medals in freestyle and breaststroke swimming styles at the University of Athens Games, Athens, February 1990.

General interests: Chess; Reading; Music; Singing (she has sang in local festivities); (Underwater–) Fishing; Painting (she has gained awards); Handicraft (she has gained awards); Making miniature aeroplanes; Jogging; Tennis, Volleyball; Gymnastics and most sport activities;

Learning foreign languages and everything about the civilization of people of countries other than her own;

Attended dancing classes which include latin dances (salsa cubana and LA style (danced publickly as member of a few couple amateur team) & tango argentino), Reggaeton (ex-member of the local team entitled Desafio, and currently of the 'Los Anormales'), pole dancing, Heels and acrobatics classes, and greek national dances (3 years). Participating in public events

Attended seminars of photography; Done underwater, micro- and macro-photography; Done some developing of Black & White films, September 1991–June 1992.

Attended the 25 hour Training Program entitled "Photography" at the Institute of Adult life long learning of the General Secretariat for Adult Education (Ministry of Education) at the Adult Education Centre, Dodecanese P. 9/03/2006-11/04/2006)). Training Certificate. Fashion designer by profession, CEAC DIPLOM Spain 1988.