

Curriculum Vitae ¹



Yalia Divakara Mayya
Astrophysicist

- Full-time **Professor** (tenure)

National Institute of Astrophysics, Optics and Electronics (INAOE)
Luis Enrique Erro 1, Tonantzintla, CP 72840, Puebla, Mexico

Nationality : Mexican
Country of Origin : India
Date of Birth : 30 Jan 1964
E-mail : ydm@inaoep.mx
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Telephone : 52-222-2663100 ext.1317

Education and experience

- **1997–present:** Researcher at INAOE, Mexico
- **1996–97:** *Guillermo Haro fellow* at INAOE, Mexico
- **1994–96:** *Postdoctoral fellow* at Tata Institute of Fundamental Research, Mumbai, India
- **Ph.D.** (1993) Indian Institute of Science (IISc), Bangalore, India
Title : Star Formation in Giant Extragalactic H II Regions
Work place: Indian Institute of Astrophysics (IIA), Bangalore
Supervisors: Prof. Tushar P. Prabhu (IIA) and Prof. Chanda Jog (IISc)
- **Masters in Science (M.Sc.)** (1986) in Physics,
Specialization: Solid State Physics (Mangalore Univ., India)
- **Bachelor in Science (B.Sc.)** (1984) in Physics, Chemistry and Mathematics
at St. Philomena College (Mangalore Univ., India)

Research Field and Experiences

- more than 30 years of experience in Scientific research and postgraduate teaching
- **Main area of research:** Extragalactic astronomy
- **Research problems:** Star formation, evolution of star clusters, evolution of galaxies
- **Topics of interest:** Disks of normal and interacting galaxies, Starburst nuclei, Ring galaxies, Morphological analysis of galaxies
- **Development of astronomical tools:** Author of a Population Synthesis code (Mayya 1995, 1997)
- **Main Technical expertise:** Image processing, Optical spectroscopy, Analysis of 3D spectral images, Calibration of CCDs and NIR arrays

¹Updated on 5th September 2020

Summary of Principal Research products

- Author of more than 60 research papers in peer reviewed international journals
- Supervisor (or co-supervisor) of 6 Ph.D. thesis
- Supervisor (or co-supervisor) of 8 Master's thesis
- Supervisor (or co-supervisor) of 7 Bachelors thesis
- Supervisor of 2 postdocs
- Editor (or co-editor) of 3 conference proceedings
- Principal investigator of 5 externally financed research projects

Summary of Administrative responsibilities

- Staff representative of the INAOE Academic consulting committee (2019–)
- Head of Astrophysics postgraduate programme at INAOE (2010–2014)
- Mexico's representative in the User's committee for the 10.4-m *Gran Telescopio Canarias* (GTC) (2013–2014)
- Coordinator of INAOE's Science projects in multi-nation instrumentation projects MEGARA (2015–) and WEAVE (2015–)
- Part of the Organizing committee of more than 20 international conferences/workshops organized by INAOE (1997-2020)
- Part of various evaluation committees (telescope time, promotions, project grants, international journal papers etc.)

Honors and Memberships

- Part of the Mexican Council of Researchers
(*Sistema Nacional de Investigadores (SNI) Nivel II*)
- International Astronomical Union (IAU) (Life membership)
- Astronomical Society of India (ASI) (Life membership)
- Mexican Academy of Sciences (AMC) (Life membership)

Publications in Refereed International Journals ²

61. **Y.D. Mayya**, E. Carrasco, V.M.A. Gómez-González, et al.
2020 MNRAS (in press) MEGARA-IFU detection of extended
HeII4686 nebular emission in the central region of NGC1569 and its ionization budget
60. Sudhanshu Barway, **Y.D. Mayya**, Aitor Robleto-Orús
2020 MNRAS 497, 44
Discovery of a near-infrared bar and a pseudobulge in the collisional ring galaxy
Cartwheel
58. V. M. A. Gómez-González, J. A. Toalá, M. A. Guerrero, H. Todt, L. Sabin,
G. Ramos-Larios, **Y.D. Mayya** **2020 MNRAS 496, 959** Planetary nebulae
with Wolf-Rayet-type central stars - I. The case of the high-excitation NGC 2371
57. R. Retes-Romero, **Y.D. Mayya**, A. Luna, L. Carrasco
2020 ApJ 897, 53 Infrared Dark Clouds and high-mass star formation activity
in Galactic Molecular Clouds
56. Serrano-Bernal, E. O., Sabin, L., Luna, A., Devaraj, R., **Mayya, Y.D.**,
Carrasco, L. **2020 MNRAS 495, 2599**
The Near-Infrared Polarization of the Pre-Planetary Nebula Frosty Leo
55. Gómez-González V M, **Mayya, Y.D.**, Rosa-Gonzalez D, Rodríguez-Merino L H,
et al. **2020 MNRAS 493, 3879** Wolf-Rayet stars in M81 using GTC/OSIRIS:
7 new detections, analysis and classification of the full sample
54. L. H. Rodríguez-Merino, **Y.D. Mayya**, P. R. T. Coelho, Gustavo Bruzual,
et al. **2020 ApJL 889, L31**
High-resolution Spectral Line Indices Useful for the Analysis of Stellar Populations
53. Cuevas-Otahola, B.³, **Mayya, Y.D.**, Puerari, I.; Rosa-González, D.
2020 MNRAS 492, 993 Structural analysis of disc super star clusters of M82:
size and profile shape at intermediate ages
52. Garcia-Barreto, J. A.; **Mayya, Y.D.**; Guichard, J. **2019 PASP 131, 094101**
Alpha Nuclear Geysers (Bipolar Outflow) from the Barred Galaxy NGC 1415
51. Zaragoza-Cardiel, J.; Fritz, J.; Aretxaga, I.; **Mayya, Y.D.**; et al.
2019 MNRAS 487, 61
Detection of the self-regulation of star formation in galaxy discs

²A complete list in all Journals with links to the full text can be found at
http://adsabs.harvard.edu/cgi-bin/nph-abs_connect?author=Mayya%2C+Y.+D.

³Student collaborator

50. González-Lópezlira, R. A., [Y.D. Mayya](#) et al. **2019 ApJ 876, 39**
Spectroscopy of NGC 4258 globular cluster candidates: membership confirmation and kinematics
49. Rosa González, D.; Muriel, H.; [Mayya, Y.D.](#); Aretxaga, I. et al. **2019 MNRAS 482, 5422** New GTC Spectroscopic Data and a Statistical Study to Better Constrain the Redshift of the BL Lac RGB J2243+203
48. F. Nicastro, J. Kaastra, Y. Krongold, ... [Mayya, Y.D.](#); **2018 Nature 558, 406**
Observations of the missing baryons in the warm-hot intergalactic medium
47. [Devaraj, R.](#)³; Luna, A.; Carrasco, L.; Vázquez-Rodríguez, M. A.; [Mayya, Y.D.](#); Tánori, J. G.; Serrano Bernal, E. O. **2018 PASP 130, 055002** (astroph-1803.02478)
POLICAN: A Near-infrared Imaging Polarimeter at the 2.1m OAGH Telescope
46. [Devaraj, R.](#)³; [Mayya, Y.D.](#); Carrasco, L.; Luna, A. **2018 PASP 130, 055001** (astroph-1803.02457)
Characterization and Performance of the Cananea Near-infrared Camera (CANICA)
45. [Venkatapathy, Y.](#)³, Bravo-Alfaro, H. [Mayya, Y.D.](#) et al. **2017, AJ, 154, 227**
Environmental effects on galaxy evolution. II: quantifying the tidal features in NIR-images of the cluster Abell 85
44. Carrasco, L. et al. **2017, RMxAA, 53, 497**
CANICA: The Cananea Near-Infrared Camera at the 2.1-M OAGH Telescope
43. [Retes-Romero, R.](#)³; [Mayya, Y.D.](#); Luna, A.; Carrasco, L. **2017, ApJ 839, 113**
The Star-formation Law in Galactic High-mass Star-forming Molecular Clouds
42. Rosa-González, D.; Coutiño de Leon, S.; [Mayya, Y.D.](#); Carramiñana, A.; Aretxaga, I.; Becerra González, J.; Furniss, A.; Terlevich, E.; Vega, O.; Mendez-Abreu, J.; and 3 coauthors **2017, MNRAS 466, 540**
On the Redshifts of the BL Lac 3FGL J0909.0+2310 and its Close Companion
41. Wong, O. Ivy; Vega, O.; Sánchez-Arguelles, D.; Narayanan, G.; Wall, W. F.; Zwaan, M. A.; Rosa González, D.; Zeballos, M.; Bekki, K.; [Mayya, Y.D.](#); and 2 coauthors **2017, MNRAS 466, 574**
Early Science with the Large Millimeter Telescope: discovery of the 12CO(1-0) emission line in the ring galaxy, VII Zw466
40. [Gomez-González, V. M. A.](#)³; [Mayya, Y.D.](#); Rosa-González, D. **2016, MNRAS, 460, 1555** Wolf-Rayet stars in M81: Detection and Characterization using GTC/OSIRIS spectra and HST/ACS images
39. [Arellano-Córdova, K. Z.](#)³; Rodríguez, M.; [Mayya, Y.D.](#); Rosa-González, D.

- 2016, *MNRAS*, **455**, 2627 The oxygen abundance gradient in M81 and the robustness of abundance determinations in H II regions
38. Dewangan, L. K.⁴; Ojha, D. K.; Luna, A.; Anandarao, B. G.; Ninan, J. P.; Mallick, K. K.; **Mayya, Y.D.** 2016, *ApJ* **819**, 66
A multi-wavelength study of star formation activity in the S235 complex
37. Dewangan, L. K.⁴; Luna, A.; Ojha, D. K.; Anandarao, B. G.; Mallick, K. K.; **Mayya, Y.D.** 2015, *ApJ* **811**, 79
The Physical Environment of the Massive Star-forming Region W42
36. Dewangan, L. K.⁴; **Mayya, Y.D.**; Luna, A.; Ojha, D. K. 2015, *ApJ* **803**, 100
Massive Young Stellar Object W42-MME: the Discovery of an Infrared Jet Using VLT/NACO Near-infrared Images
35. Rodríguez-González, A.; **Hernández-Martínez, L.**⁵; Esquivel, A.; Raga, A. C.; Stasinska, G.; Peña, M.; **Mayya, Y.D.** 2015, *A&A*, **575**, 1
A two-mode planetary nebula luminosity function
34. Westmoquette, M. S.; Bastian, N.; Smith, L. J.; Seth, A. C.; Gallagher, J. S., III; O’Connell, R. W.; Ryon, J. E.; Silich, S.; **Mayya, Y.D.**; Muñoz-Tunon, C.; Rosa González, D. 2014 *ApJ* **789**, 94 (Astro-ph/1405.7543) “An optical–near-IR study of a triplet of super star clusters in the starburst core of M82”
33. **Mayya, Y.D.**, Rosa González, D., Santiago-Cortés, M., Rodríguez-Merino, L.H., Vega, O., Torres-Papaqui, J.P., Bressan, A., & Carrasco, L. 2013, *MNRAS*, Vol.436, Pag.2763-2773
“On the nature of the brightest globular cluster in M81”
32. **Mayya, Y.D.**, Rosa González, D., Vega, O., Méndez-Abreu, J., Terlevich, R., Terlevich, E., Bertone, E., Rodríguez-Merino, L. H., Muñoz-Tuñón, C., Rodríguez-Espinosa, J. M., Sánchez Almeida, J., & Aguerri, J. A. L. 2012, *PASP*, **124**, 885 “Flux calibrated emission line imaging of extended sources using GTC/OSIRIS Tunable Filters”
31. Méndez-Abreu, J., Sánchez Almeida, J., Muñoz-Tuñón, C., Rodríguez-Espinosa, J. M., Aguerri, J. A. L., Rosa González, D., **Mayya, Y.D.**, Vega, O., Terlevich, R., Terlevich, E., Bertone, E., Rodríguez-Merino, L. H. 2011, *PASP*, **123**, 1107 “Wavelength Calibration for OSIRIS/GTC Tunable Filters”
30. L.H. Rodríguez-Merino, D. Rosa-González & **Y.D. Mayya** 2011, *ApJ*, **726**, 51
Spatially Resolved Star Formation History Along the Disk of M82 Using Multi-band Photometric Data

⁴Postdoc under my supervision

29. [M. Santiago-Cortés³](#), [Y.D. Mayya](#) & D. Rosa-Gonzalez **2010**, *MNRAS* **405**, **1293**
Wide-field HST/ACS images of M81: The population of Compact Star Clusters
28. A. Luna, [Y.D. Mayya](#), L. Carrasco & L. Bronfman **2010**, *ApJ*, **713**, **45L**
“The Discovery of a Molecular Cavity in the Norma I arm Associated to H.E.S.S Gamma-ray source in the Direction of Westerlund 1”
27. S. Barway, Y. Wadadekar, A.K. Kembhavi & [Mayya, Y.D.](#)
2009 MNRAS, **394**, **1991**
“Near-Infrared bulge-disk correlatons of lenticular galaxies”
26. [Romano, R.³](#), [Mayya, Y.D.](#) & Vorobyov, E. I. **2008**, *AJ*, **136**, **1259-1289**
“Stellar disks of Collisional Ring Galaxies I. Deep multiband images, Radial intensity and color profiles, and confrontation with N-body simulations”
25. [Mayya, Y.D.](#), Romano, R., Rodriguez-Merino, H., Luna, A., Carrasco, L. & Rosa-Gonzalez, D. **2008**, *Astrophysical Journal*, **679**, **404**
“HST/ACS Imaging of M82: A Comparison of Mass and Size Distribution Functions of the Younger Nuclear and Older Disk Clusters”
24. Barway, S., Kembhavi, A., Wadadekar, Y., Ravikumar, C. D. & [Mayya, Y.D.](#)
2007, *Astrophysical Journal*, **661**, **L37-40**
“Lenticular Galaxy Formation: Possible Luminosity Dependence”
23. [Mayya, Y.D.](#), Bressan, A., Carrasco, L. & Hernandez-Martinez, L.
2006, *Astrophysical Journal*, **649**, **172-180**
“The Star Formation History of the Disk of the Starburst galaxy M 82”
22. [Mayya, Y.D.](#), Carrasco, L. & Luna, A.
2005, *Astrophysical Journal*, **628**, **L33–L36**
“The Discovery of Spiral Arms in the Starburst Galaxy M 82”
21. [Mayya, Y.D.](#), Bizyaev, D., Romano, R., Garcia-Barreto, J.A., & Vorobyov, E.I. ,
2005, *Astrophysical Journal*, **620**, **L35–L38**
“The detection of non-thermal radio continuum spokes and the study of star formation in the Cartwheel”
20. [Barway, S.⁴](#), [Mayya, Y.D.](#), Kembhavi, A.K., and Pandey, S.K.
2005, *Astronomical Journal*, **129**, **630–646**
“Multicolor Surface Photometry of Lenticulars I. The Data”
19. Kamath, U.S., Anupama, G.C., Ashok, N.M., [Mayya, Y.D.](#), & Sahu, D.K.
2005, *Monthly Notices of Royal Astronomical Society*, **361**, **1165–1172**
Optical and Near-Infrared spectroscopy of Nova V1494 Aquilae 1999 No.2

18. **Mayya, Y.D.**, Bressan, A. Rodriguez, M., Valdes, J.R. & Chavez, M.
2004, **Astrophysical Journal**, **600**, 188–203
“Star Formation History and Extinction in the Central Kiloparsec of M82-like Starbursts ”
17. Binette, L.; González-Gómez, D. I., & **Mayya, Y.D.**
2002, **Rev Mex de Astronoma y Astrofísica** **38**, 279–288
“Density Gradients and Internal Dust in the Orion Nebula”
16. Korchagin, V.I., **Mayya, Y.D.**, Vorobyov, E.I.
2001, **Astrophysical Journal**, **554**, 281–290
“Optical Color Gradients in Star-forming Ring Galaxies”
15. Dewangan, G.C., Singh, K.P., **Mayya, Y.D.**, & Anupama, G.C.
Monthly Notices of Royal Astronomical Society, 2000, **MNRAS**, **318**, 309–320
“Active Nucleus in a Poststarburst Galaxy: KUG 1259+280”
14. Korchagin, V.I., Vorobyov, E.I. & **Mayya, Y.D.**
1999, **Astrophysical Journal**, **522**, 767-771
“Chemical Abundance Gradients in the Star-forming Ring Galaxies”
13. **Mayya, Y.D.**, Swara Ravindranath & Carrasco, L.
1998, **Astronomical Journal**, **116**, 1671–1678
“Near infrared and optical morphology of the dusty galaxy NGC 972”
12. Korchagin, V.I., **Mayya, Y.D.**, Vorobyov, E., & Kembhavi, A.K.
1998, **Astrophysical Journal**, **495**, 757–764
“Surface brightness gradients produced by ring waves of star formation”
11. **Mayya, Y.D.** 1997, **Astrophysical Journal**, **482**, L149–L153
“Use of Red Supergiant spectral features as age indicators in starburst regions”
10. **Mayya, Y.D.** & Rengarajan, T.N. 1997, **Astronomical Journal**, **114**, 932–945
“Spatial Distribution of Far infrared emission in Spiral galaxies
I. Relation with Radio continuum Emission”
9. **Mayya, Y.D.** & Rengarajan, T.N. 1997, **Astronomical Journal**, **114**, 946–957
“Spatial Distribution of Far infrared emission in Spiral galaxies
II. Heating sources and gas-to-dust ratio”
8. **Mayya, Y.D.**⁵ & Prabhu, T.P. 1996, **Astronomical Journal**, **111**, 1252–1266
“Embedded Clusters in Giant Extragalactic H II Regions:

⁵Publication based of my Ph.D. thesis

III. Extinction and Star Formation”

7. **Mayya, Y.D.**⁶ **1995, Astronomical Journal, 109, 2503–2521**
“ Embedded Clusters in Giant Extragalactic H II Regions:
II. Evolutionary Population Synthesis Model”
6. Korchagin, V.I., Kembhavi, A.K., **Mayya, Y.D.** & Prabhu, T.P.
1995, Astrophysical Journal, 446, 574–582
“Are Nuclear Hotspots in Galaxies Sites of Sequential Star formation?”
5. Prabhu, T.P., **Mayya, Y.D.**...*et. al*
1995, Astronomy & Astrophysics, 295, 403–412
“ SN 1993J in M 81: The first two months”
4. **Mayya, Y.D.**⁶ **1994, Astronomical Journal, 108, 1276–1287**
“ Embedded Clusters in Giant Extragalactic H II Regions: I. *BVRH α* Photometry”
3. Stirpe, G.M.,...,**Mayya, Y.D.**...*et. al*
1994, Astrophysical Journal, 425, 609–621
“ Steps towards determination of the size and structure of the broad-line region in
AGN VI. Variability of NGC 3783 from ground-based data”
2. Prabhu, T.P., **Mayya, Y.D.** & Anupama, G.C.
1992, J. Astrophys. Astr., 13, 129–144
“Gain Calibration of CCD Systems at VBO ”
1. **Mayya, Y.D.**⁶ **1991, J. Astrophys. Astr., 12, 319–331**
“Photometric Calibration of the CCD Camera of 1-m Telescope at VBO”

Resume of my Ph.D. thesis:

- Publications of Astronomical Society of Pacific, 106, 424–424 (1994)
- *Bull Astr. Soc. India*, 21, 367–369 (1993) (Mumbai, March 1993, XV ASI meeting) and
- *J. Astrophys. and Astr.*, 16, 281–284 (1995) (Pune, August 1993, VI APM-Astronomy)

Invited Reviews in Conferences:

- **Plenary talk** titled “The search for the evolutionary connection between Superstellar clusters and glubular clusters” in XXVII Mexican National Astronomical conference (*Congreso Nacional de Astronomía*), Puebla, 9-12 October 2018
 - **Invited talk** titled “Discovery of Spiral arms in the irregular II galaxy M82” in Mexican National Astronomical conference (*Congreso Nacional de Astronomía*), Morelia, March 2006
 - **Invited Commentary** “On Two H II Regions near the nucleus of M82 by Recillas-Cruz & Peimbert (1970)”: The archetype Galaxy of the Starburst Phenomena” (Eds. Torres-Peimbert & O. López-Cruz) by E. Recillas, Y.D. Mayya, M. Peimbert, 2011, *Revista Mexicana de Astronomia y Astrofisica (Serie de Conferencias)* Vol. 39, 14–19
 - **Invited Review** titled “M82 as a Galaxy: Morphology and Stellar Content of the Disk and Halo” in “A Long Walk Through Astronomy: A Celebration of Luis Carrasco’s 60th Birthday” (Eds. E. Recillas, A. Luna, & Y.D. Mayya) by Y.D. Mayya & L. Carrasco, 2009, *Revista Mexicana de Astronomía y Astrofísica (Serie de Conferencias)* Vol. 37, 44–55
- *Contribution in International Astronomical Union (IAU) Circulars and Astronomer’s Telegram*
- Carrasco, L. **Mayya, Y.D.**, .. et al. (2010-2018), more than 100 ATel Circulars on the variability of Blazars using CANICA instrument.
 - **Y.D. Mayya**, I. Puerari and O. Kuhn, IAU Circular No. 6907, 1998 May 16, “Supernova 1998bu in NGC 3368” (*JHK* photometry for 3 **pre-maximum** nights)
 - Bhattacharyya, J.C.,..., **Y.D. Mayya** et al. IAU Circular No. 4913 “HDE 245770”

Detailed description of scientific outputs

Principal investigator of financially-supported research projects

- “Study of compact star clusters in nearby galaxies” (2019-2021)
(CONACyT grant for Basic Science #A1-S-25070)
- “History of the formation of stars and compact clusters in nearby galaxies” (2012–2017)
(CONACyT grant for Basic Science #155142-G3)
- “Formation and evolution of Ring galaxies” (2007–2010)
(CONACyT grant for Basic Science #58956-F1)
- “Photo-chemical evolution of interacting galaxies” (2003–2006)
(CONACyT grant for Basic Science #39714-F)
- “Determination of star formation history of starburst galaxies” (1998–2001)
(CONACyT grant for Basic Science #25869-E)

Human Resource Development (Post-docs, reserach students and teaching)

- **Post-docs** under my supervision
 1. Liliana Hernández-Martínez (2012–2014)
 2. Lokesh Dewangan (2014–2015)
 3. Bolivia Cuevas-Otahola (2020–2021)
- Completed **Ph.D.** thesis under my guidance (or co-guidance)
 1. Roberto Romano, “Optical and near infrared photometric study of ring galaxies and their comparison with the theoretical predictions”, (INAOE 2006)
 2. Olga Vega, “Study of the Dense Interstellar Medium and the Evolution of the Starbursts in Luminous Infrared Star-forming galaxies” (INAOE 2007) (co-director).
 3. Mauricio Gómez González, “Wolf-Rayet stars and their association with stellar clusters in M81” (INAOE 2017).
 4. Mayra Santiago Cortés, “Study of three distinct populations of stellar clusters in the spiral galaxy M81” (INAOE 2017).
 5. Ricardo Retes, “ Star formation law in the Galactic molecular clouds with high-mass star formation (INAOE 2017)
 6. Bolivia Cuevas-Otahola, “Survival analysis of M82 disk super star clusters” (INAOE 2020)
- Completed **Masters** thesis under my guidance (or co-guidance)
 1. Roberto Romano Rivera, “Physical interpretation of the asymmetry parameter in galaxies” (INAOE 1999).
 2. Ricardo Retes Romero, “Población estelar joven embebida en la nube molecular galáctica asociada a la fuente IRAS 18236-1205” (INAOE 2008).
 3. Mayra Santiago Cortes, “Búsqueda de Cúmulos Estelares Compactos en M81 utilizando imágenes del Telescopio Espacial Hubble” (INAOE 2008).
 4. Karla Ziboney Arellano Córdova, “Estudio de Regiones HII en M81 utilizando espectros de GTC” (INAOE 2012) (co-director).

5. Kenia Osorio López, “Abundancias de oxígeno/nitrógeno y propiedades de la formación estelar en las regiones HII de las galaxias anilladas Arp143 y Arp141” (IA-UNAM 2014).
 6. Pedro Antonio Ovando Ramírez, “Población de Cúmulos estelares en las galaxias NGC3077 y NGC5253” (INAOE 2015) (co-director).
 7. Juan David Jurado Buch, “Estudio multibanda en el grupo de Cartwheel” (INAOE 2016).
 8. Alan Yoset “On the Environment around the Neutrino Source TXS0506+056” (INAOE 2019) (co-director).
- Completed **Bachelors** thesis under my guidance (or co-guidance)
 1. Dulce Isabel González, “Regiones ionizadas gigantes” (BUAP 1999).
 2. Liliana Hernández, “Extinción Interestelar” (Universidad Veracruzana 2003).
 3. María Fernanda Navarro Poupard, “Efectos ambientales en la evolución de galaxias espirales: imágenes del cercano infrarrojo en el cúmulo Abell 85” (Universidad de Guanajuato 2011).
 4. Gisela Domínguez Guzmán , “Medición de abundancias químicas en la galaxia Cartwheel” (BUAP 2013)
 5. Aitor Robleto Orús, “Historia de formación estelar en la galaxia anillada Cartwheel” (Univ. Nacional de Autonomía de Nicaragua (UNAN), Managua 2014)
 6. Palmira Jimenez “Análisis de Burbujas ionizadas en la galaxia espiral M81” (BUAP 2016)
 7. Ruherí Cesín Gorostieta “Observación de estrellas OB mediante burbujas en M81” (BUAP 2019)
 - Thesis in progress:
- Ph.D.:**
1. Pedro Antonio Ovando Ramírez, “Star formation history of Irr II galaxies” 2016– (INAOE) (co-director).
 2. Luis Lomeli, “Study of stellar clusters in nearby galaxies”, 2017– (INAOE).
 3. Alan Yoset “On the Environment around Blazars” 2020– (INAOE) (co-director).
- Masters:**
1. Juan Gonzalez “Design of a focal reducer for OAGH” 2019– (INAOE) (co-director).
- Master’s level courses imparted at INAOE
 - Observational Astronomy and Instrumentation (5 times).
 - Extragalactic Astronomy (once).
 - Galactic structure and stellar dynamics (8 times).
 - Interstellar Medium (4 times).
 - Interstellar Medium - advanced topics (once).
 - Galaxies - advanced topics (3 times).
 - Seminar I (2 times).
 - Examiner of more than 15 (Ph.D. and M.Sc.) thesis at INAOE and UNAM.

- Supervised more than 30 Bachelor students in their summer projects

Books Edited

- “Massive Young Clusters Near and Far: From the Milky Way to Re-ionization — Guillermo Haro Conference to commemorate his birth centenary.” (Eds. **Y.D. Mayya**, Daniel Rosa-González, Elena Terlevich) Academia Mexicana de Ciencias (AMC) June 2014
- “A Long Walk Through Astronomy: A Celebration of Luis Carrasco’s 60th Birthday” (Eds. E. Recillas, A. Luna, & **Y.D. Mayya**) Revista Mexicana de Astronomia y Astrofisica (Serie de Conferencias) Vol. 37
- “New Quests in Stellar Astrophysics: The Link Between Stars and Cosmology” Edited by Miguel Chávez, Alessandro Bressan, Alberto Buzzoni & **Divakara Mayya**, Astrophysics and Space Science Library, Vol. 274, Dordrecht: Kluwer Academic Publishers (2002) (Proceedings of the international conference held in Puerto Vallarta, Mexico, 26-30 March 2001)

Project management and Leadership roles

- **Large Observational projects**
 - Scientific coordinator of INAOE guaranteed time for the 2nd generation GTC instrument MEGARA (2015–) <http://www.gtc.iac.es/instruments/megara/megara.php>
 - Scientific coordinator of INAOE in the WEAVE project (2015–) <https://www.ing.iac.es/weave>
 - Mexican representative of the 10.4-m GTC user’s committee (GUC) (2013–2014). <http://www.gtc.iac.es/gtc/guc.php>
 - Member of the committee to plan the construction of the 6.5-m San Pedro Martir Telescope (2013), and its predecessor SASIR project (2011-2012)
- **Data reduction software development and maintenance**
 - Author of a dedicated software package *GTCMOS* for the reduction of OSIRIS spectroscopic data at the 10.4-m GTC (<https://www.inaoep.mx/~ydm/gtcmos/gtcmos.html>)
 - Hands-on data reduction workshop instructor on Analysis of OSIRIS data using GTCMOS pipeline at Guillermo Haro Workshop 2018 at INAOE (September 2018) https://www.inaoep.mx/~progharo/gh2018/gtcmos_tutorial.html
 - On-line support for growing number of users (~80 as of Feb 2019) of GTCMOS pipeline (2016–)
 - INAOE - A software package for the reduction of NIR imaging data from CAMILA (2003 onwards) and CANICA (2005 onwards) instruments and other utility tasks https://www.inaoep.mx/~ydm/inaoe_iraf.html
- **SOC and LOC in conferences**
 - Active Member of the Scientific Organizing Committee of the - Vth Science with GTC international conference in 2015.

- 5th Guillermo Haro Conference on “Massive Young Star Clusters Near and Far: From the Milky Way to Re-ionization” in 2013.
 - Guillermo Haro Workshop 2018 on “Synergy between the GTC and GTM/LMT”
 - Guillermo Haro Workshop 2010 on “Compact superstar clusters, birth, evolution and feedback”
 - conference titled “A Long Walk Through Astronomy: A Celebration of Luis Carrasco’s 60th Birthday” in 2008
 - Local Organizing Committee member of 10 conferences and workshops organized by INAOE since 1998.
- **Service to host institution (INAOE)**
 - Head of the INAOE Astrophysics Postgraduate program (2010–2014).
 - Member of the postgraduate committee of Astrophysics at INAOE (2008–2019).
 - Member of the *Comisión Dictaminadora Interna* of INAOE (2016–2019).
 - Astrophysics Representative of *Colegio Personal Académico* at INAOE (2019–).
 - Organization of weekly group seminars based on recent published papers (2006–2014).
 - Web-master of Astrophysics department of INAOE (2005–2010)
 - Creation and maintenance of web pages of various conferences organized by INAOE (1998–2003).
 - Member for 3 years of the Time Allocation Committee for the 2.1-m Telescope of OAGH.