

Dr. Matthew A. Taylor

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EDUCATION

July 2016	Pontificia Universidad Católica de Chile <i>PhD in Astrophysics</i> Distinción Maxima Dissertation: The Global Globular Cluster System of the Nearby Giant Elliptical Galaxy NGC5128 Advisors: Dr. Thomas H. Puzia, Dr. Steffen Mieske	Santiago, Chile
June 2011	University of Victoria <i>Bachelor of Science in Physics and Astronomy</i> Co-operative Education Distinction	Victoria, Canada

EMPLOYMENT

June 2017-	Gemini Observatory, Northern Operations Center <i>Gemini Science Fellow</i>	Hilo, Hawai'i
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HONOURS, GRANTS, AND AWARDS

2017	Postdoctoral Fellowship Grant (\$45000CAD/year declined) <i>National Research Council of Canada</i>	Canada
2014–2016	Student Fellowship <i>European Southern Observatory</i>	Santiago, Chile
2014–2015	Instructor Becario Senior Doctoral Scholarship, <i>Pontificia Universidad Católica de Chile</i>	Santiago, Chile
2013–2014	Ayudante Becario Junior Doctoral Scholarship, <i>Pontificia Universidad Católica de Chile</i>	Santiago, Chile
2012–2013	Beca de Excelencia para Alumnos Extranjeros Foreign Doctoral Student Scholarship, <i>Pontificia Universidad Católica de Chile</i>	Santiago, Chile
2011	NSERC-USRA National Research Council of Canada Undergraduate Student Research Award <i>University of Victoria</i>	Victoria, Canada
2008, 2009	University of Victoria Physics/Astronomy Co-operative Education Award: Best Co-op Work Term Report <i>University of Victoria</i>	Victoria, Canada

SKILLS

Languages	English: mother tongue; Spanish: intermediate
Programming	Python, IDL, R, Java, Maple
Software	IRAF, ds9, Astromatic software suite, Supermongo, MESA, standard office software
Platforms:	Linux (various), Mac OSX, Windows

ACCEPTED PI OBSERVING PROGRAMS

2019A	"The Need for Speeds: Using Globular Clusters to Map the Kinematics of NGC5128 and its Surrounding Environment" (6.5 nights awarded in grey/dark time on 2dF/AAOmega/AAT) Multi-object spectroscopy of ~2000 globular clusters. Prog. ID: A/19A/09	Australian National TAC
2018A	"The Need for Speeds: A pilot study to map the velocity field of NGC5128 with ultra-compact dwarf galaxies". (7.5 hours awarded in Band 1 on Gemini South/GMOS) Long-slit optical spectroscopy of ultra-compact dwarf galaxies. Prog. ID: GS-2018A-FT-108	Gemini Fast Turnaround
2018A	"Dancing in the Dark: GMOS-S imaging of a potential dwarf binary pair" (6.2 hours awarded in Bands $\frac{1}{2}$ on Gemini South/GMOS) Direct <0.6" seeing photometry of dwarf galaxies in g' and i' filters. Prog. ID: GS-2018A-Q-206, GS-2018A-FT-102	Gemini National and Fast Turnaround TACs
2016A	"Redder is Better: The Survey of Centaurus A's Baryonic Structures - Near-Infrared Supplement" (37.5 hours awarded on VISTA/VIRCam) Direct, wide-field, near-infrared photometry of NGC 5128 in J, and K_s filters. Prog. ID: 097.B-0603	ESO OPC
2015A	"The Dark Side of NGC 5128's Globular Cluster System" (13.2 hours awarded on VLT/XSHOOTER) High-resolution spectroscopy of dark star clusters around NGC 5128. Prog. ID: 095.B-0492	ESO OPC
2013/2014B	"Compact Stellar Systems in Hickson Compact Groups: A MultiBand Photometric Survey for their Origins" (36.5 hours awarded on VLT/HAWK-I+VIMOS) Direct photometry of Hickson Compact Group 90 in U, I, and K_s filters. Prog. IDs: 092.B-0476; 094.B-0366	ESO OPC
2014A	"Nowhere Left to Hide: SCABS, The Survey of Centaurus A's Baryonic Structures" (2 nights awarded on Blanco/DECam) Direct, wide-field photometry of NGC 5128 in u' , g' , r' , i' , and z' filters. Prog. ID: CN2014A-92	Chilean National TAC

OBSERVING AND OBSERVATORY EXPERIENCE

Aug. 2018--	Queue Observing Coordinator <i>Daily organization and development of nightly queue observing plans</i>	Hilo, USA
Jan. 2018--	Seminar Coordinator <i>Organization and hosting visiting speakers to Gemini Northern Operations Center</i>	Hilo, USA
Nov. 2017--	Gemini Fast Turnaround Team <i>Support for Gemini Fast Turnaround Observing Mode Program</i> Organization of monthly submitted proposals and user support.	Hilo, USA
Oct. 2017--	Gemini North Queue Observer <i>Nighttime queue observing duties at Gemini North</i>	Hilo, USA
June 2017--	Gemini Near-Infrared Support Scientist	Hilo, USA

Aug. 2015	<i>Support for Gemini's Near-Infrared Instrumentation</i> "Near-UV Spectroscopy of Galactic Globular Clusters: Probing the Self-Enrichment Scenario" <i>2 nights on SOAR/Goodman Spectrograph</i> Drift-scan spectroscopy of Milky Way globular clusters. <i>Prog. ID: CN2015B-96 (PI: Thomas H. Puzia)</i>	Cerro Pachón
Feb. 2015	"Mapping the Radial Distribution of the Unusual Globular Cluster System of NGC 4365" <i>0.5 night on Magellan (Baade)/Fourstar Imager</i> Near infrared (Ks-band) imaging of the giant elliptical galaxy NGC 4365. <i>Prog. ID: CN2015A-120 (PI: Maren Hempel)</i>	Las Campanas
Apr. 2014	"SCABS: The Survey of Centaurus A's Baryonic Structures" <i>2 nights on Blanco/DECam</i> Deep, multi-band survey of nearby giant elliptical galaxy NGC 5128 (Centaurus A). <i>Prog. ID: CN2014A-92 (PI: Matthew A. Taylor)</i>	Cerro Tololo
Oct. 2013	"Chemodynamical Characterization of Blue Straggler Stars in Galactic Globular Clusters" <i>3 nights on VLT/FLAMES</i> Spectroscopy of blue straggler stars in Milky Way globular clusters. <i>Prog. ID: 092.D-0477 (PI: Mirko Simunovic)</i>	Cerro Paranal

SCIENCE COMMUNITY SERVICE AND OUTREACH ACTIVITIES

Dec. 2018	TMT Early Career Initiative Workshop Seven-day early career focused workshop to develop skills relevant for future operations with the Thirty Metre Telescope, where I was in a leadership role.	Pasadena, USA
Mar. 2018	Maunakea Spectroscopic Explorer International Science Team Contributing member of Galaxy Formation and evolution science development team for the Maunakea Spectroscopic Explorer project. This service is ongoing.	Hilo, USA
Mar. 2018,19	Journey Through the Universe Community outreach to share astronomy with Hawaiian children through hands-on classroom activities and "ask-me-anything" sessions.	Kona, USA
Nov. 2017	Kona Astroday Community outreach day to connect with Hawaiian community and inspire children and youth to observatory careers.	Kona, USA
2016, 2017	Preparing TMT Future Leaders Workshop Multi-day workshops to prepare early career researchers for future operations with the Thirty Metre Telescope.	Hilo/Santa Cruz, USA
Feb. 2017	Thirty Meter Telescope International Science Development Team (ISDT) Contributing member to the "Milky Way and Nearby Galaxies" ISDT to help define for the Thirty Meter Telescope. This service is ongoing.	
Apr. 2016	Astrostatistics Using R Workshop Attended weeklong tutorial by Dr. Eric Feigelson on astrostatistics applications using the R programming language.	Santiago, Chile
Apr. 2015	Conference Local Organizing Committee Participated in local organizing committee duties for the <i>Satellites and Streams in Santiago</i> meeting held 13-17 April 2015.	Santiago, Chile
2009–2010	University of Victoria Astronomy Open House Assisted in UVic's Department of Physics and Astronomy weekly open house.	Victoria, Canada

CONFERENCE CONTRIBUTIONS AND INVITED TALKS

(2 invited talks; 6 contributed talks; 7 contributed posters)

- Jan. 2019 **Dwarf Galaxies, Globular Clusters, and Ultra-compact Dwarfs: Getting to know the outer halo of NGC5128**
Contributed **talk**: AAS 233, Seattle, USA, 6-10 January 2019.
- Dec. 2018 **The Curiously Complex Satellite System of NGC5128**
Contributed **poster**: TMT Science Forum, Pasadena, USA, 9-12 December 2018.
- Aug. 2018 **A Newly Discovered Reservoir of Dwarf Galaxies in the Centaurus A Group**
Contributed **talk**: IAU-GA Symposium 344, Vienna, Austria, 20-24 August 2018.
- May 2018 **Neighbourhood Watch: A survey of baryonic structures in the Local Universe**
Contributed **talk**: CASCA 2018, Victoria, Canada, 22-26 May 2018.
- Sept. 2016 **The Extended Globular Cluster System of NGC5128 and its Nearby Environment**
Invited **talk**: University of Victoria, Victoria, Canada, 22 Sept. 2016.
- Sept. 2016 **The Extended Globular Cluster System of NGC5128 and its Nearby Environment**
Invited **talk**: Herzberg Institute of Astrophysics, Victoria, Canada, 13 Sept. 2016.
- Aug. 2015 **Evidence for a Dark Side to NGC 5128's Globular Cluster System**
Contributed **poster**: *IAUS316: Formation, Evolution, and Survival of Massive Star Clusters*, Honolulu, USA, 11-14 Aug. 2015.
- Aug. 2015 **SCABS: The Survey of Centaurus A's Baryonic Structures**
Contributed **poster**: *IAUS317: The General Assembly of Galaxy Halos: Structure, Origin and Evolution*, Honolulu, USA, 3-7 Aug. 2015.
- May 2015 **SCABS: The Survey of Centaurus A's Baryonic Structures**
Contributed **talk**: *Multiwavelength Dissection of Galaxies*, Sydney, Australia, 24-29 May 2015.
- Apr. 2015 **SCABS: The Survey of Centaurus A's Baryonic Structures**
Contributed **poster**: *Satellites and Streams in Santiago*, Santiago, Chile, 13-17 Apr. 2015.
- Mar. 2015 **Observational Evidence for a Dark Side to Centaurus A's Globular Cluster System**
Contributed **talk**: *Modelling and Observing Dense Stellar Systems 15*, Concepción, Chile, 2-6 Mar. 2015.
- Jul. 2014 **Discovering the Dark Side of Centaurus A's Globular Cluster System**
Contributed **poster**: *IAUS311: Galaxy Masses as Constraints of Formation Models*, Oxford, United Kingdom, 21-25 July 2014.
Contributed **poster**: *IAUS309: Galaxies in 3D Across the Universe*, Vienna, Austria, 7-11 July 2014.
Contributed **poster**: *Nuclear Clusters in Galaxies, and the Role of the Environment*, Leiden, The Netherlands, 30 June-4 July 2014.
- May 2014 **Observational Evidence for a Bifurcation in the Dynamical Mass Scaling Relations of Compact Stellar Systems in NGC 5128**
Contributed **talk**: *Formation and Evolution of Star Clusters*, Santiago, Chile, 14-16 May 2014.

PUBLICATIONS

Conference Proceedings

- 2019 **The Gemini Fast Turnaround Program**
Anderson, M., Chiboucas, K., Geball, T., Salinas, R., Scharwaechter, J., Eckersley, J., Kim, H., **Taylor, M.A.**, Dupuy, T., & Sanmartin, D. 2019, American Astronomical Society Meeting Abstracts #233, 233, #455.03
- 2019 **Dwarf Galaxies, Globular Clusters, and Ultra-compact Dwarfs: Getting to know the outer halo of NGC5128**
Taylor, M.A., Puzia, T.H., Eigenthaler, P., Ribbeck, K.X., Zhang, H.X., Ordenes-Briceño, Y., & Bovill, M.S. 2019, American Astronomical Society Meeting Abstracts #233, 233, #339.01
- 2018 **A New Reservoir of Dwarf Galaxy Candidates in the Centaurus A Group**
Taylor, M.A., Eigenthaler, P., Puzia, T.H., Muñoz, R.P., Ribbeck, K.X., Zhang, H.X., Ordenes-Briceño, Y., & Bovill, M.S. 2018, in IAU Symp. 344, *Dwarfs from the Deep Universe to the Present*, ed. Kristen McQuinn, 2018, IAU General Assembly, *in press*
- 2017 **Faint Dwarf Galaxies in Hickson Compact Group 90**
Ordenes-Briceño, Y., **Taylor, M.A.**, Puzia, T.H., & Muñoz, R.P., 2017, Revista Mexicana de Astronomía y Astrofísica Conference Series, 49, 130
- 2017 **The Extended Globular Cluster System of NGC3923**
Ahumada, T., Miller, B., Candlish, G., McGaugh, S.S., Mihos, C., Smith, R., Puzia, T.H., & **Taylor, M.A.**, 2017, American Astronomical Society Meeting Abstracts, 229, 343.22
- 2015 **Forming NGC 5128's High M/L Globular Clusters**
Sauda Bovill, M., Puzia, T.H., Ricotti, M., & **Taylor, M.A.**, 2015, IAU General Assembly, 22, 2258170
- 2015 **SCABS: A Survey of Centaurus A's Baryonic Structures**
Puzia, T.H., & **Taylor, M.A.**, 2015, IAU General Assembly, 22, 2258151
- 2015 **The Dark Side of SCABS: Predictions for Centaurus A's Baryonic Substructure**
Sauda Bovill, M., **Taylor, M.A.**, Puzia, T.H., Padilla, N., & Eigenthaler, P., 2015, IAU General Assembly, 22, 2258133
- 2015 **Evidence for a Dark Side to NGC5128's Globular Cluster System**
Puzia, T.H., & **Taylor, M.A.**, 2015, IAU General Assembly, 22, 2258025
- 2015 **NGC 5128's Globular Cluster System: Is there a dark side?**
Taylor, M.A., Puzia, T.H., Gomez, M., and Woodley, K.A., 2015, in IAU Symp. 309 *Galaxies in 3D Across the Universe*, ed. Ziegler, B.L., Combes, F., Dannerbauer, H., & Verdugo, M., (Cambridge, UK: Cambridge Univ. Press), pp. 348
- 2011 **The Scattered Disk and Hot Belt, Two Sides of the Same Coin?**
Kavelaars, J.J., Petit, J.-M., Gladman, B., Jones, R.L., Parker, J., & **Taylor, M.**, 2011, in EPSC-DPS Joint Meeting 2011, pp. 1318

Peer Reviewed Journal Articles

(Four first-author papers with 73 citations; fourteen co-author papers with 281 citations; H=8)

- 2019 **The Next Generation Fornax Survey (NGFS): V. Discovery of an isolated dwarf-dwarf galaxy pair at $z=0.30$ and its characterization using deep VLT/MUSE observations**
Johnson, E., Eigenthaler, P., Puzia, T.H., Ordenes-Briceño, Y., **Taylor, M.A.**, Alamo-Martínez, K., Côté, P., Galaz, G., Grebel, E., Hilker, M., Lançon, A., Mieske, S., Sánchez-Janssen, and Rong, Y., *The Astrophysical Journal*, vol. 873, no. 1, 59
- 2019 **How nucleation and luminosity shape faint dwarf galaxies**

- Sánchez-Janssen, R., Puzia, T.H., Ferrarese, L., Côté, P., Eigenthaler, P., Miller, B., Ordenes-Briceño, Y., Peng, E., Ribbeck, K.X., Roediger, J., Spengler, C., and **Taylor, M.A.**, *Monthly Notices of the Royal Astronomical Society Letters*, accepted, *arXiv:1901.04509*
- 2018 **A Collection of New Dwarf Galaxies in NGC5128's Western Halo**
Taylor, M.A., Eigenthaler, P., Puzia, T.H., Muñoz, R.P., Ribbeck, K.X., Zhang, H.-X., Ordenes-Briceño, Y., and Bovill, M.S., *The Astrophysical Journal Letters*, vol. 867, no. 1, L15
- 2018 **The Fornax Cluster VLT Spectroscopic Survey. I – VIMOS spectroscopy of compact stellar systems in the Fornax core region**
Pota, V., Napolitano, N.R., Hilker, M., Spavone, M., Schulz, C., Cantiello, M., Tortora, C., Iodice, E., Paolillo, M., D'Abrusco, R., Capaccioli, M., Puzia, T.H., Peletier, R.F., Romanowsky, A.J., van de Ven, G., Spiniello, C., Norris, M., Lisker, T., Muñoz, R.P., Schipani, P., Eigenthaler, P., **Taylor, M.A.**, Sánchez-Janssen, R., and Ordenes-Briceño, Y., *Monthly Notices of the Royal Astronomical Society*, vol. 481, no. 2, pp. 1744-1756
- 2018 **The GEMS/GSAOI Galactic Globular Cluster Survey (G4CS) I: A pilot study of the stellar populations in NGC2298 and NGC3201**
Monty, S., Puzia, T.H., Miller, B.W., Carrasco, E.R., Simunovic, M., Schirmer, M., Stetson, P.B., Venn, K.A., Dotter, A., Goudfrooij, P., Perina, S., Pessev, P., Sarajedini, A., and **Taylor, M.A.**, *The Astrophysical Journal*, vol. 865, no. 2, pp. 160-183
- 2018 **The Next Generation Fornax Survey (NGFS). IV. Mass and Age Bimodality of Nuclear Star Clusters in the Fornax Core Region**
Ordenes-Briceño, Y., Puzia, T.H., Eigenthaler, P., **Taylor, M.A.**, Muñoz, R.P., Zhang, H., Alamo-Martínez, K., Ribbeck, K.X., Grebel, E.K., Ángel, S., Côté, P., Ferrarese, L., Hilker, M., Lançon, A., Mieske, S., Miller, B., Rong, Y., and Sánchez-Janssen, R. *The Astrophysical Journal*, vol. 860, no. 1, 2018, pp. 4-25
- 2018 **The Next Generation Fornax Survey (NGFS). III. Revealing the spatial substructure of the dwarf galaxy population inside half of Fornax's virial radius**
Ordenes-Briceño, Y., Eigenthaler, P., **Taylor, M.A.**, Puzia, T.H., Alamo-Martínez, K., Ribbeck, K.X., Muñoz, R.P., Zhang, H., Grebel, E.K., Ángel, S., Côté, P., Ferrarese, L., Hilker, M., Lançon, A., Mieske, S., Miller, B., Rong, Y., and Sánchez-Janssen, R. *The Astrophysical Journal*, vol. 859, no. 1, 2018, pp. 52-60
- 2018 **Stellar Population Properties of Ultra-Compact Dwarfs in M87: A mass-metallicity correlation connecting low-metallicity globular clusters and compact ellipticals**
Zhang, H.-X., Puzia, T.H., Peng, E.W., Liu, C., Côté, P., Ferrarese, L., Duc, P.-A., Eigenthaler, P., Lim, S., Lançon, A., Muñoz, R.P., Roediger, J., Sánchez-Janssen, R., **Taylor, M.A.**, and Yu, J., *The Astrophysical Journal*, vol. 858, no. 1, 2018, pp. 37-48
- 2018 **The Next Generation Fornax Survey (NGFS). II. The Central Dwarf Galaxy Population**
Eigenthaler, P., Puzia, T.H., **Taylor, M.A.**, Ordenes-Briceño, Y., Muñoz, R.P., Ribbeck, K.X., Alamo-Martínez, K., Zhang, H., Ángel, S., Capaccioli, M., Côté, P., Ferrarese, L., Galaz, G., Grebel, E.K., Hempel, M., Hilker, M., Lançon, A., Mieske, S., Miller, B., Paolillo, M., Powalka, M., Richtler, T., Roediger, J., Rong, Y., Sánchez-Janssen, R., and Spengler, C., *The Astrophysical Journal*, vol. 855, no. 2, 2018, pp. 142-161
- 2017 **The Extended Baryonic Halo of NGC3923**
Miller, B., Ahumada, T., Puzia, T.H., Candlish, G., McGaugh, S.S., Mihos, C., Sanderson, R., Schirmer, M., Smith, R., & **Taylor, M.A.**, 2017, *Galaxies*, 5, 29

- 2017 **The Survey of Centurus A's Baryonic Structures (SCABS). II. The Extended Globular Cluster System of NGC5128 and its Nearby Environment**
Taylor, M.A., Puzia, T.H., Muñoz, R.P., Mieske, S., Eigenthaler, P., and Bovill, M.S., *Monthly Notices of the Royal Astronomical Society*, vol. 469, no. 3, 2017, pp. 3444-3467
- 2016 **Faint Dwarf Galaxies in Hickson Compact Group 90**
Ordenes-Briceño Y., Taylor, M.A., Puzia, T.H., Muñoz, R.P., Eigenthaler, P., Georgiev, I.Y., Goudfrooij, P., Hilker, M., Lançon, A., Mamon, G., Mieske, S., Miller, B., Peng, E.W., and Sánchez-Janssen, R., *Monthly Notices of the Royal Astronomical Society*, vol. 463, no. 2, 2016, pp. 1284-1290
- 2016 **The Lost Dwarfs of Centaurus A and the Formation of its Dark Globular Clusters**
Mia Sauda Bovill, Puzia T.H., Ricotti, M., and Taylor, M.A., *The Astrophysical Journal*, vol. 832, no. 1, 2016, pp. 88-99
- 2015 **Unveiling a Rich System of Faint Dwarf Galaxies in the Next Generation Fornax Survey**
Muñoz, R.P., Eigenthaler, P., Puzia, T.H., Taylor, M.A., Ordenes-Briceño, Y., Alamo-Martínez, K., Ribbeck, K.X., Ángel, S., Capaccioli, M., Côté, P., Ferrarese, L., Galaz, G., Hempel, M., Hilker, M., Jordán, A., Lançon, A., Mieske, S., Paolillo, M., Richtler, T., Sánchez-Janssen, R., and Zhang, H., *The Astrophysical Journal Letters*, vol. 813, no. 1, 2015, pp. 15-21
- 2015 **Observational Evidence for a Dark Side to NGC 5128's Globular Cluster System**
Taylor, M.A., Puzia, T.P., Gomez, M., and Woodley, K.A., *The Astrophysical Journal*, vol. 805, no. 1, 2015, pp. 65-85
- 2014 **The Next Generation Virgo Survey-Infrared (NGVS-IR). I. A New Near-Ultraviolet, Optical, and Near-Infrared Globular Cluster Selection Tool**
Muñoz, R.P., Puzia, T.H., Lançon, A., Peng, E.W., Côté, P., Ferrarese, L., Blakeslee, J.P., Mei, S., Cuillandre, J.-C., Hudelot, P., Courteau, S., Duc, P.-A., Balogh, M.L., Boselli, A., Bournaud, F., Carlberg, R.G., Chapman, S.C., Durrell, P., Eigenthaler, P., Emsellem, E., Gavazzi, G., Gwyn, S., Huertas-Company, M., Ilbert, O., Jordán, A., Läsker, R., Licitra, R., Liu, C., MacArthur, L., McConnachie, A., McCracken, H.J., Mellier, Y., Peng, C.Y., Raichoor, A., Taylor, M.A., Tonry, J.L., Tully, B.R., and Zhang, H., *The Astrophysical Journal Supplement*, vol. 210, no. 1, 2014, pp. 4-27
- 2011 **The Canada-France Ecliptic Plane Survey -- Full Data Release: The orbital structure of the Kuiper Belt**
Petit, J.-M., Kavelaars, J.J., Gladman, B.J., Jones, R.L., Parker, J. Wm., Van Laerhoven, C., Nicholson, P., Mars, G., Rousselot, P., Mousis, O., Marsden, B., Bieryla, A., Taylor, M., Ashby, M.L.N., Benavidez, P., Campo Bagatin, A., and Bernabeu, G., *The Astronomical Journal*, vol. 142, no. 4, article id. 131, 2011, pp. 24
- 2010 **Chemodynamics of Compact Stellar Systems in NGC 5128: How similar are globular clusters, ultra-compact dwarfs, and dwarf galaxies?**
Taylor, M.A., Puzia, T.H., Harris, W.E., Harris, G.L.H., Kissler-Patig, M., and Hilker, M., *The Astrophysical Journal*, vol. 712, no. 2, 2010, pp. 1191-1208