

Dr. Matthew A. Taylor

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EDUCATION AND ACADEMIC EMPLOYMENT

Dec. 2019	Herzberg Astronomy & Astrophysics Research Centre <i>NRC Postdoctoral Fellow</i>	Victoria, BC
June 2017	Gemini Observatory, Northern Operations Center <i>Gemini Science Fellow</i>	Hilo, Hawai'i
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

HONOURS, GRANTS, AND AWARDS

2017	Postdoctoral Fellowship Grant (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

ACCEPTED PI OBSERVING PROGRAMS

2019A	"The Need for Speeds: Using Globular Clusters to Map the Kinematics of NGC5128 and its Surrounding Environment" <i>(6.5 nights awarded in grey/dark time on 2dF/AAOmega/AAT)</i>	Australian National TAC
2018A	"The Need for Speeds: A pilot study to map the velocity field of NGC5128 with ultra-compact dwarf galaxies"	Gemini Fast Turnaround
2018A	"Dancing in the Dark: GMOS-S imaging of a potential dwarf binary pair" <i>(7.5 hours awarded in Band 1 on Gemini South/GMOS)</i>	

	Gemini National and Fast Turnaround TACs	
2016A	(6.2 hours awarded in Bands $\frac{1}{2}$ on Gemini South/GMOS) "Redder is Better: The Survey of Centaurus A's Baryonic Structures - Near-Infrared Supplement"	ESO OPC
2015A	(37.5 hours awarded on VISTA/VIRCam) "The Dark Side of NGC 5128's Globular Cluster System"	ESO OPC
2013/2014B	(13.2 hours awarded on VLT/XSHOOTER) "Compact Stellar Systems in Hickson Compact Groups: A MultiBand Photometric Survey for their Origins"	ESO OPC
2014A	(36.5 hours awarded on VLT/HAWK-I+VIMOS) "Nowhere Left to Hide: SCABS, The Survey of Centaurus A's Baryonic Structures"	Chilean National TAC
	(2 nights awarded on Blanco/DECam)	

OBSERVING AND OBSERVATORY EXPERIENCE

2020--	Colloquia Coordinator Helped organize and host visiting speakers to NRC's Herzberg Astronomy and Astrophysics Research Centre	Hilo, USA
2018--2019	Queue Observing Coordinator Daily organization and development of nightly queue observing plans	Hilo, USA
2018--2019	Seminar Coordinator Helped organize and host visiting speakers to Gemini Northern Operations Center	Hilo, USA
2017--2019	Gemini Fast Turnaround Team Member Support for Gemini Fast Turnaround Observing Mode Program	Hilo, USA
2017--2019	Gemini North Queue Observer Nighttime queue observing duties at Gemini North	Hilo, USA
2017--2019	Member Gemini Near-Infrared Support Team Support for Gemini's Near-Infrared Instrumentation	Hilo, USA
2015	"Near-UV Spectroscopy of Galactic Globular Clusters: Probing the Self-Enrichment Scenario" 2 nights on SOAR/Goodman Spectrograph	Cerro Pachón
2015	"Mapping the Radial Distribution of the Unusual Globular Cluster System of NGC 4365" 0.5 night on Magellan (Baade)/Fourstar Imager	Las Campanas
2014	"SCABS: The Survey of Centaurus A's Baryonic Structures" 2 nights on Blanco/DECam	Cerro Tololo
2013	"Chemodynamical Characterization of Blue Straggler Stars in Galactic Globular Clusters" 3 nights on VLT/FLAMES	Cerro Paranal

SCIENCE COMMUNITY SERVICE AND OUTREACH

June-Aug. 2019	Mentorship of Akamai Workforce Initiative Intern Supervision of undergraduate Akamai intern carrying out artificial star experiments.	Hilo, USA
June-Oct. 2019	Mentorship of Undergraduate Intern Supervision of undergraduate intern carrying out image reduction and photometry.	Hilo, USA
May 2019	Hilo Astroday Community outreach in the Hawaiian community to inspire children and youth to observatory careers.	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.	Hilo, USA
Dec. 2018	TMT Early Career Initiative Workshop	Pasadena, USA

	Facilitated multi-day instrument design exercise during workshop to develop early-career skills relevant to future operations with the Thirty Meter Telescope.	
Mar. 2018-	Maunakea Spectroscopic Explorer International Science Team Contributing member of “Galaxy Formation and evolution” science development team for the Maunakea Spectroscopic Explorer project.	Hilo, USA
Nov. 2017	Kona Astroday Community outreach in the Hawaiian community to inspire children and youth to observatory careers.	Kona, USA
Feb. 2017-	Thirty Meter Telescope International Science Development Team (ISDT) Contributing member to the “Milky Way and Nearby Galaxies” ISDT for the Thirty Meter Telescope.	
Sept. 2015	Python Plotting Tutorial Provided an introductory tutorial to <i>matplotlib</i> to ESO colleagues.	Santiago, Chile
Apr. 2015	Conference Local Organizing Committee <i>Satellites and Streams in Santiago</i> , 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

SELECTED CONFERENCE CONTRIBUTIONS AND INVITED TALKS

(2 invited talks; 6 contributed talks)

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.
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.
May 2015	SCABS: The Survey of Centaurus A’s Baryonic Structures Contributed talk: <i>Multiwavelength Dissection of Galaxies</i> , Sydney, Australia, 24–29 May 2015.
Mar. 2015	Observational Evidence for a Dark Side to Centaurus A’s Globular Cluster System Contributed talk: <i>Modelling and Observing Dense Stellar Systems 15</i> , Concepción, Chile, 2–6 Mar. 2015.
May 2014	Observational Evidence for a Bifurcation in the Dynamical Mass Scaling Relations of Compact Stellar Systems in NGC 5128 Contributed talk: <i>Formation and Evolution of Star Clusters</i> , 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
- 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

(Five first-author papers with 93 citations; sixteen co-author papers with 421 citations; H=10)

- 2020 **Star Clusters on the Half-Shell: a fresh look at the kinematics of M49's globular cluster system**
Taylor, M.A., Ko, Y., Côté, P., Ferrarese, L., Peng, E.W., Zabludoff, A., Sánchez-Janssen, Hendel, D., Chilingarian, I., Liu, C., Roediger, J., Spengler, C., and Zhang, H.-X. *Astrophysical Journal Letters*, submitted
- 2020 **The Next Generation Fornax Survey (NGFS): VII. A MUSE view of the nuclear star clusters in Fornax dwarf galaxies**
Johnson, E., Puzia, T.H., D'Ago, G., Eigenthaler, P., Galaz, G., Häußler, Mora, M.D., Ordenes-Briceño, Y., Rong, Y., Spengler, C., Vogt, F., Côté, P., Grebel, E., Hilker, M., Mieske, S., Miller, B., Sánchez-Janssen, R., **Taylor, M.A.**, and Zhang, H.-X. *Monthly Notices of the Royal Astronomical Society*, accepted, *arXiv: 2005.01532*
- 2019 **The Next Generation Fornax Survey (NGFS): VI. The Alignment of Dwarf Galaxies in the Fornax Cluster**
Rong, Y., Puzia, T.H., Ordenes-Briceño, Y., Eigenthaler, P., **Taylor, M.A.**, Muñoz, R.P., Zhang, H.-X., Alamo-Martínez, K., Ribbeck, K.X., Grebel, E., Ángel, S., Côté, P., Ferrarese, L., Hilker, M., Lançon, A., Mieske, S., Miller, B., Sánchez-Janssen, R., and Johnston, E.J., *The Astrophysical Journal*, submitted
- 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., 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.,

- 2011 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
The Canada-France Ecliptic Plane Survey -- Full Data Release: The orbital structure of the Kuiper Belt
- 2010 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, 2011, pp. 24
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
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