Tiffany Summerscales Ph.D.
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EDUCATION:

- Penn State University, University Park, PA — 1999-2006
  - Graduated with a Ph.D. in Physics — May 2006
  - Dissertation: Gravitational Wave Astronomy with LIGO: From Data to Science
- Andrews University, Berrien Springs, MI — 1995-1999
  - B. S. in Mathematics and Physics — June 1999

EXPERIENCE:

- Professor of Physics, Andrews University — 2016-present
- Associate Professor of Physics, Andrews University — 2011-2016
- Assistant Professor of Physics, Andrews University — 2006-2011
- Graduate Research Assistant, Penn State University — 2000-2006
- Graduate Teaching Assistant, Penn State University — 1999-2006

AWARDS:

- John Nevins Andrews Medallion — May 2018
- Siegfried H. Horn Excellence in Research & Creative Scholarship — Mar 2017
- Daniel A. Augsberger Excellence in Teaching Award — Mar 2012
- College of Arts & Sciences Excellence Award — May 2010

HONOR & PROFESSIONAL SOCIETY MEMBERSHIPS:

- Council for Undergraduate Research — 2018-present
- American Association of Physics Teachers — 2014-present
- Sigma Xi – The Scientific Research Society — 2010-2014
- Pi Mu Epsilon – Mathematics Honor Society — 2007-present
- American Physical Society — 2001-present
- Sigma Pi Sigma – Physics Honor Society — 1998-present

PROFESSIONAL ACTIVITIES:

TEACHING:

- PHYS 110 Astronomy
- PHYS 141, 142 General Physics
- PHYS 141-L, 142-L General Physics Lab
- PHYS 235 MATLAB
- PHYS 242 Physics for Scientists & Engineers II
- PHYS 271, 272 Physics for Scientists & Engineers Lab
- PHYS 325 Astrophysics
- PHYS 377, 477 Advanced Physics Lab I & II
- PHYS 430 Thermodynamics & Statistical Mechanics
- PHYS 440 Relativity

- PHYS 460 Solid State Physics
- HONS 497 Senior Honors Research
- PHYS 495 Physics Research
- AP Physics II

SERVICE:

Andrews University Service

• Member of the Faculty Research Review Committee	2017-present
• Chair of the Andrews University National Scholarship Committee	2013-2017
• Chair of the Architecture Program Review Panel	2010-2011
• Chair of the Undergraduate Program Review Committee	2009-2013
• Member of the Professional Recommendations Committee	2010-present
• Member of the Advancement Criteria Committee	2009-present
• Faculty Representative to the Goldwater Foundation	2008-2017
• Member of General Education Sub-Committee: Composition, Communication & Computers	2007-2011
• Member of General Education Sub-Committee: Arts & Humanities	2007-2011
• Member of Honors Council	2007-present
• Member of Undergraduate Council	2007-2012
• Vice-Chair of Undergraduate Council	2008-2012
• Member of Accreditation Self-Study Sub–Committee: Acquisition, Discovery & Application of Knowledge	2007-2008
• Science enrichment activities for 7th-8th grade Topics in Science at RMES	2006-2011

Gravitational Wave Community Service

• Member of the LIGO Scientific Collaboration Elections and Membership Committee	2017-present
• Member of the LIGO-Virgo Collaboration Conference Committee	2014-present
• Member-at-Large of the Executive Committee of the APS Topical Group on Gravitation	2014-2017
• Chair of the APS Topical Group on Gravitation Nominating Committee	Fall 2014
• Member of the LIGO Scientific Monitoring (Scimon) Committee	2012-2013
• Senior Member of the LIGO Academic Advisory Council (LAAC)	2012-2014
• Member of the Editorial Board of The Gravitational Lens Newsletter	2006-2007

Internal Talks

Andrews University Celebration of Research Plenary — Nov 2017
- The New Era of Gravitational Wave Astronomy.

Andrews University Faculty Institute Workshop — Aug 2017
- Mentoring Student Research

Adventist Forum — Aug 2016
- What Can We Learn From Gravitational Waves?

Andrews University Eigen*Talk / Public Lecture — Feb 2016
- LIGO's First Measurement of Gravitational Waves

Andrews University New Faculty Orientation — Aug 2014
- Improving Engagement with Peer Instruction

Andrews University Faculty Institute Workshop — Aug 2014
- Providing Feedback to Students: Lessons Learned from Feedback Survey (Panel Discussion)

Andrews University Faculty Institute Workshop — Aug 2013
- Applying for a National Science Foundation Grant

Andrews University Eigen*Talk — Feb 2011
- Gravitational Waves: A New Kind of Astronomy

Andrews University Center for Teaching & Learning Excellence Workshop — Apr 2011
- Student Engagement
  (Panel Discussion)

Andrews University Center for Teaching & Learning Excellence Wed Workshop — Nov 2008
- Assessment of Classroom Learning: Four Diverse Approaches
  (Panel Discussion)

Andrews University Eigen*Talk — Nov 2006
- Cosmic Ripples: LIGO's Search for Gravitational Waves

Andrews University Departmental Assembly — Mar 2006
- How to Catch a Gravitational Wave: Doing Astronomy with Wrinkles in Spacetime

RESEARCH/SCHOLARSHIP:

Mentored Student Presentations

- Kelsey Rook (Andrews undergraduate), "Finding optimal input parameters for BayesWave" APS April Meeting 2018, Abstract L01.00056
- Jonathan Wheeler (Andrews undergraduate), "Assessing the Effectiveness of Gravitational Wave Outreach Video Games in High School Students", APS March Meeting 2016, Abstract G1.00126
- Jonathan Wheeler (Andrews undergraduate), "Assessing the Effectiveness of Gravitational Wave Outreach Video Games", 2015 Fall Ohio Regional Meeting of the APS (American Physical Society), Poster B11
- Belinda Cheeseboro (Andrews undergraduate), "Locating Gravitational Waves with BayesWave", APS April Meeting 2015, Abstract L1.00041
- Christopher Greenley (presenter, Andrews undergraduate), Tiffany Z. Summerscales, Lee S. Finn, "Application of the Maximum Entropy Method to Hardware Injections in the LIGO Gravitational Wave Detectors", January AAS (American Astronomical Society) Meeting 2013 (#221)
  NASA ADS Abstract entry: http://adsabs.harvard.edu/abs/2013AAS...22143214G
- C. W. Greenley (presenter, Andrews undergraduate), L. S. Finn, T. Z. Summerscales, "Application of the Maximum Entropy Method to Data from the LIGO Gravitational Wave Detectors", April APS Meeting 2012, E1.00023
  PDF of poster at https://dcc.ligo.org/LIGO-G1200018/public
- Jason Lee (presenter, Andrews undergraduate), S. Desai, K. Hayama, S. Mohanty, M. Rakhmanov, T. Summerscales, "The RIDGE pipeline as a method to search for gravitational waves associated with magnetar bursts", April APS Meeting 2008 S1.00042
- Nicholas Valles (Andrews undergraduate) – "Web Interface for Human Generated Data Quality Flags", March 2008 LIGO Scientific Collaboration (LSC) Meeting

Invited Talks

Michiana Astronomical Society Star Party

- The New Era of Gravitational Wave Astronomy — May 2018

North Dakota State University, ID Fellowship Talk
- What can we learn from Gravitational Waves? — Feb 2017

North Dakota State College of Science, ID Fellowship Talk
- What can we learn from Gravitational Waves? — Feb 2017

Michiana Astronomical Society Meeting
- What can we learn from Gravitational Waves? — Nov 2016

LIGO-Virgo Collaboration Meeting: LIGO Academic Advisory Council Tutorial
- Finding a Faculty Job and then How to Survive (Panel Discussion) — Mar 2012

Hope College Physics Colloquium
- Cosmic Ripples: LIGO's Search for Gravitational Waves — Apr 2007

MIT LIGO Seminar
- Extracting Supernova Physics from a LIGO Detection — Apr 2006

Pacific Union College
- LIGO: Viewing the Universe with Wrinkles in Spacetime — Feb 2006

Center for Gravitational wave Physics Sources and Simulations Seminar
- LIGO Supernova Astronomy with Maximum Entropy — Jan 2006

Contributed Talks

LIGO Scientific Collaboration (LSC) Meetings
- Data Quality Flagging S5 Elog Entries — Mar 2007
- LSC Proposal: Andrews University Gravitational Wave Group — Aug 2006

Grants Awarded

National Science Foundation Award No. PHY-0969810, "RUI: Gravitational Waveform recovery from a network of detectors" — Apr 2010

Selected Publications

B. P. Abbott et. al. "GW170608: Observation of a 19 solar-mass binary black hole coalescence" Ap. J. Lett. 851 (2017) L35, arXiv/1711.05578

B. P. Abbott et. al. "A gravitational-wave standard siren measurement of the Hubble constant" Nature 551 (2017) 85, arXiv/1710.05835

B. P. Abbott et. al. "Multi-messenger observations of a binary neutron star merger" Ap. J. Lett. 848 (2017) L12, arXiv/1710.05833

B. P. Abbott et. al. "Gravitational waves and gamma-rays from a binary neutron star merger: GW170817 and GRB 170817A" Ap. J. Lett. 848 (2017) L13, arXiv/1710.05834

B. P. Abbott et. al. "GW170817: Observation of gravitational waves from a binary neutron star inspiral" Phys. Rev. Lett. 119 (2017) 161101, arXiv/1710.05832

B. P. Abbott et. al. "GW170814: A three-detector observation of gravitational waves from a binary black hole coalescence" Phys. Rev. Lett. 119 (2017) 141101, arXiv/1709.09660

B. P. Abbott et. al. “GW170104: Observation of a 50-solar-mass binary black hole coalescence at redshift 0.2” Phys. Rev. Lett. 118 (2017) 221101, arXiv/1706.01812

B. P. Abbott. et. al. “GW151226: Observation of Gravitational Waves from a 22-Solar-Mass Binary Black Hole Coalescence”, Phys. Rev. Lett. 116 (2016) 241103, arXiv/1606.04855

B. P. Abbott et. al. “Observation of Gravitational Waves from a Binary Black Hole Merger”, Phys. Rev. Lett. 116, (2016) 061102, arXiv/1602.03837

B. Abbott, et. al. “Search for gravitational-wave bursts associated with gamma-ray bursts using data from LIGO Science Run 5 and Virgo Science Run 1”, Ap. J. 715 (2010) 1438, arXiv/0908.3824

M. Cavaglià, M. Hendry, D. Ingram, S. Milde, D. Reitze, K. Riles, B. Schutz, A. Stuver, T. Summerscales, J. Thacker, C. Torres, D. Ugolini, M. Vallisneri, A. Zermeno, “Gravitational-wave Astronomy: Opening a New Window on the Universe for Students, Educators and the Public”, Astronomical Society of the Pacific Conference Series, 400 (2008) 328, arXiv/0806.3764

K. Hayama, S. Desai, K. Kotake, S. Mohanty, M. Rakhmanov, T. Summerscales, S. Yoshida, “Determination of the angular momentum distribution of supernovae from gravitational wave observations”, Class. Quantum Grav. 25 (2008) 184022, arXiv/0807.4514

K. Hayama, S. Desai, S. Mohanty, M. Rakhmanov, T. Summerscales, S. Yoshida, “Source Triacking for Sco X-1”, Class. Quantum. Grav. 25 (2008) 184021, arXiv/ 0807.4171

K. Hayama, S. Desai, S. Mohanty, M. Rakhmanov, T. Summerscales, S. Yoshida, “Searches for gravitational waves associated with pulsar glitches using a coherent network algorithm”, Class. Quantum Grav. 25 (2008) 184016, arXiv/0807.3983

S. Desai, K. Hayama, S. Mohanty, M. Rakhmanov, T. Summerscales, S. Yoshida, “Proposed method for searches of gravitational waves from PKS 2155-304 and other blazar flares”, Class. Quantum Grav, 25 (2008) 184024, arXiv/0804.3393

K. Hayama, S. Mohanty, M. Rakhmanov, S. Desai, and T. Summerscales, “Monitoring Sco X-1 for the detection of gravitational waves with networks of gravitational wave detectors”, J. Phys.: Conf. Ser. 120 (2008) 032009

T. Summerscales, A. Burrows, L.S. Finn, C. Ott, “Maximum Entropy for Gravitational Wave Data Analysis: Inferring the Physical Parameters of Core-Collapse Supernovae”, Ap.J., 678 (2008) 1142, arXiv/0704.2157

J. McNabb, M. Ashley, L.S. Finn, E. Rotthoff, A.L. Stuver, T.Z. Summerscales, P. Sutton, M.M. Tibbits, K.A. Thorne, and K. Zaleski, “Overview of the BlockNormal Event Trigger Generator”, Class. Quantum Grav. 21 (2004), S1705S1710, gr-qc/0404123