

# CURRICULUM VITAE: *Dr Richard Ignace*

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## EDUCATION

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Ph.D. in Astronomy, *University of Wisconsin* 1996

M.S. in Physics, *University of Wisconsin* 1994

M.S. in Astronomy, *University of Wisconsin* 1993

B.S. in Astronomy, *Indiana University* 1991

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## POSITIONS HELD

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Aug 2013–present, Full Professor: *East Tennessee State University*

Jan 2015–Jul 2020, Director of Undergraduate Research, *East Tennessee State University*

Aug 2016–Dec 2019, Consultant, *TAE Technologies*

Aug 2007–Jul 2013, Associate Professor: *East Tennessee State University*

Aug 2003–Jul 2007, Assistant Professor: *East Tennessee State University*

Sep 2002–Jul 2003, Assistant Scientist: *University of Wisconsin*

Aug 1999–Aug 2002, Visiting Assistant Professor: *University of Iowa*

Nov 1996–Aug 1999, Postdoctoral Research Assistant: *University of Glasgow*

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## SELECTED PROFESSIONAL ACTIVITIES

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### **Involved with service to discipline, institution, and community**

Mission Scientist: for NASA/SMEX mission concept proposal POLSTAR through Lockheed Martin; involved in all aspects of mission planning and developing the science case

Patent: Systems and methods for non-perturbative measurements of low and null magnetic field in high temperature plasmas, via TAE Technologies (PCT/US2017/035746; WO 2018/075095 AI)

Director of Undergraduate Research & Creative Activities: Administration of grant programs and activities that support undergraduate scholarship, and advocated for undergraduate research

Successful with publishing scholarly articles and competing for grant funding; author of the astronomy textbook “Astro4U: An Introduction to the Science of the Cosmos,” of the popular astronomy book “Understanding the Universe,” and co-editor of the conference proceedings “The Nature and Evolution of Disks around Hot Stars”

Principal organizer for STELLAR POLARIMETRY: FROM BIRTH TO DEATH, Jun 2011; and THE NATURE AND EVOLUTION OF DISKS AROUND HOT STARS, Jul 2004

Co-organizer for ANNUAL MEETING OF THE TENNESSEE ACADEMY OF SCIENCE, Nov 2020; EDUCATION, RESEARCH, AND ECONOMIC IMPACT: MAKING THE FUTURE BRIGHTER FOR NORTHEAST TENNESSEE, Mar 2013

Scientific Organizing Committee for RADIO STARS III, Apr 2024; IAU SYMPOSIUM 370: WINDS OF STARS AND EXOPLANETS, Aug 2022; RADIO STARS II, Nov 2017; THE PHYSICS AND MODELING OF POLARIZATION IN ASTROPHYSICS, May 2014

Member of the *American Astronomical Society*, the *International Astronomical Union*

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## RESEARCH FUNDING AND OBSERVING TIME

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Funding awards in aggregate (nearest \$1000), as PI or co-I: \$5,818,000

(proposals under review are not listed)

103. 2025, NASA/Nustar – “Exploring the dynamics of the colliding wind region through key orbital phase studies of  $\gamma^2$  Vel” Pradhan (PI), et al., funding \$38,500
102. 2024, NASA/NICER – “Investigating the Circum-Binary Environment of IGR J16320-4751 Through X-Ray Tomography.” Pradhan (PI), et al., funding \$38,500
101. 2024, NASA/NICER – “A First Look at Colliding Wind Binary WR 133 with NICER.” Pradhan (PI), et al., funding \$38,500
100. 2024, NASA/NICER – “X-Ray Variability of the Unusual Wolf-Rayet Star WR 6 with NICER.” Pradhan (PI), et al., funding \$38,500
99. 2024, NASA/NICER – “A First Look at the X-Ray Variability during the Negative Magnetic Extremum of the  $\beta$  Cep Pulsator  $\xi^1$  CMa.” Pradhan (PI), et al., funding TBD
98. 2024, XMM-Newton – “X-ray counterparts of radio aurorae.” Naze (PI), Leto, Robrade, **Ignace**, no funding involved
97. 2024, XMM-Newton/NuStar – “Is the most magnetic star crowned by X-ray aurora?” Oskinova (PI), Leto, Shenar, Wade, **Ignace**, funding TBD
96. 2024, XMM-Newton – “X-ray tomography of the colliding wind binary, WR 133 with XMM.” Pradhan (PI), et al, no funding involved
95. 2024, IXPE – “X-ray Polarimetry of Accreting White Dwarfs: A case study of EX Hydrae.” Gunderson (PI), et al, TBD
94. 2024, NICER – “First NICER Observations of WR 140 at Periastron: Hot gas, organics and the relic.” Corcoran (PI), et al, \$35,000
93. 2023, XMM-Newton – “Is the Most Magnetic Star Crowned by an X-ray Aurora?” Oskinova (PI), Leto, Shenar, Wade, **Ignace**, no funding involved
92. 2023, XMM-Newton – “X-ray Counterparts of Radio Aurorae.” Naze (PI), Leto, Robrade, **Ignace**, no funding involved
91. 2023, CFHT/ESPaDOnS – “Investigating the true nature of WR6 via linear polarimetry.” Fabiani (PI), et al, no funding involved
90. 2023, NASA/Chandra – “Investigating the Circumbinary Environment of the HMXB IGR J16320-4751 through High Resolution Studies.” Pradhan (PI), **Ignace**, Huenemoerder, Nichols, Pollock, Malacaria, Ballhausen, Coley, Wilms, Pottschmidt, \$63,000
89. 2022, Very Large Array (VLA) – “A Deep VLA Survey of Magnetic B/A Stars Dominated by Centrifugal Breakouts.” Leto (PI), et al, no funding involved
88. 2022, NASA/Chandra – “Probing Plasmas in the Colliding Wind Binary WR 25.” Huenemoerder (PI), Pradhan, **Ignace**, Pollock, Nichols, Schulz, \$74,590
87. 2022, NASA/Chandra – “Characterizing the Energetics and Dynamics of V750 Ara, A  $\gamma$  Cas-Type Star.” Huenemoerder (PI), Pradhan, **Ignace**, Pollock, Nichols, Schulz, \$80,100

86. 2022, NASA/IRTF – “IRTF Observations of Large-scale Wind Structure and Mass-loss in Wolf-Rayet Stars.” Butner (PI), **Ignace**, Smith, Erba, St-Louis, Prinja, no funding involved
85. 2021, NASA/Chandra (GTO) – “Identifying the nature of the  $\gamma$  Cas-like system,  $\pi$  Aqr, with HETGS”, Canizares (PI), Pradhan, Huenemoerder, Nichols, **Ignace**, Torrejon, Schulz, no funding involved
84. 2020, NASA/Chandra – “Chandra’s Study of Cosmic Neon Lights: The WD Merger Cas J005311 and its Remarkable Nebula,” Oskinova (PI), Toala, Graefener, Langer, Gvaramadze, **Ignace**, Antoniadis, Todt, \$38,619
83. 2020, National Science Foundation – “Lifting the Veil on Wolf-Rayet Rotation Using Wind Structure: Multi-wavelength and Spectropolarimetric Approaches,” **Ignace (PI)**, \$302,768
82. 2020, Australia Telescope Compact Array – “The definitive understanding of the magnetospheres of two Ap magnetic stars,” Leto (PI), +21 co-Is, no funding involved
81. 2020, NASA/HST – “Wolf-Rayet Stars in the Outskirts of M33: Unveiling Helium-Star Evolution and Feedback at Subsolar Metallicity,” Sanders (PI), Hainich, Hamann, Higgins, **Ignace**, Oskinova, Prtitzkuleit, Ramachandran, Shenar, Todt, Vink, \$21,063
80. 2019, NASA/XMM-Newton+HST – “Tight surveillance of the exemplary O star zeta Ophiuchi with XMM-Newton and HST,” Oskinova (PI), Massa, Prinja, Toala, **Ignace**, Waldron, \$56,550
79. 2019, Very Large Array (VLA) – “Prevalence of SED turn-down among Be stars: Are all Be stars close binaries?,” Klement (PI), Matthews, Carciofi, **Ignace**, Bjorkman, observing time awarded, no funding involved
78. 2019, William Herschel Telescope (WHT) – “Revealing the Magnetic Field that Powers the Fastest Known Stellar Wind,” Graefener (PI), Bagnulo, Vink, Landstreet, Gvaramadze, Langer, **Ignace**, Gayley, Wade, no funding involved
77. 2019, NASA/Chandra-Archival – “Catalog of Serendipitous Gratings Observations,” Nichols (PI), Huenemoerder, **Ignace**, \$62,000
76. 2019, NASA/Chandra – “Wind Emission B+B Binaries: Shocks, Collisions, and Suppression,” Hole (PI), **Ignace**, Oskinova, \$46,640
75. 2019, Hubble Space Telescope – “Is the Type Ic Supernova Progenitor WS35 a White Dwarf Merger Product?” Graefener (PI), Gvaramadze, **Ignace**, Langer, Sana, Schwab, Shenar, \$48,068
74. 2019, Hubble Space Telescope – “Anchoring Mass-Loss and Metallicity for the WR Population in M31 - A prototype study,” Sander (PI), Hainich, Hamann, **Ignace**, Oskinova, Shenar, Todt, Vink, \$19,088
73. 2018, South African Astronomical Observatory – “The Connection of Optical Wind Structures to Observed X-ray Variability in Massive Stars: The Case of Zeta Pup,” Richardson (PI), **Ignace**, Moffat, Naze, Miller, Nichols, Waldron, Hamann, Shenar, no funding involved
72. 2018, ASTRON/LOFAR – “LOFAR Observation of the Radio Lighthouse: CU Vir,” Cerrigone, +19 co-Investigators (including **Ignace**), no funding involved
71. 2017, NASA/XMM-Newton – “Tight Surveillance of the Exemplary O Star zeta Ophiuchi with XMM-Newton,” Oskinova (PI), Massa, Lobel, Prinja, Toala, Hamann, Waldron, **Ignace**, Bozzo, Shenar, Sander, (Pri. C time)
70. 2017, NASA/XMM-Newton (joint NuSTAR) – “X-ray Aurora of the Early Magnetic B-Type Star HR 7355,” Oskinova (PI), Leto, Triglio, **Ignace**, no funding available
69. 2017, NASA/Chandra – “Legacy HETG Spectrum of a Massive Star:  $\zeta$  Pup,” Waldron (PI), Nichols, Huenemoerder, Moffat, **Ignace**, Naze, Richardson, Oskinova, Hamann, Miller, Lauer, Dahmer, Gayley, Ramiamantsoa, Shenar, \$230,897
68. 2017, NASA/Chandra/Archival – “Classification of Massive Stars Based on their X-ray Spectra,” **Ignace (PI)**, Huenemoerder, Nichols, \$44,999
67. 2016, National Radio Astronomy Observatory/VLA – “Revealing the Structure of the Outer Disks of Classical Be Stars,” Klement (PI), Matthews, Rivinius, **Ignace**, Bjorkman; observing time awarded, no funding involved
66. 2016, NASA/Chandra – “Using the Sharp Chandra’s Eyes to Find a Neutron Star Lurking in

- the Wind of WR 124,” Oskinova (PI), **Ignace**, Toala, Torrejon, Hainich, Hamann, Chu, Guerrero, \$26,500
65. 2016, National Science Foundation – “Time Resolved Echelle Spectroscopy of Massive Stars at the SARA Observatory,” Petit (PI), Batcheldor, Henson, **Ignace**, \$417,399
  64. 2016, NASA/Hubble Space Telescope– “The Wind Variability in Oscillating Massive Stars,” Oskinova (PI), Balona, Hamann, Hubrig, Huenemoerder, **Ignace**, Massa, Prinja, Todt, \$42,426
  63. 2016, Gemini Observatory – “Gemini Planet Imager Classical Cepheid Survey,” Neilson (PI), et al (**Ignace** is a co-I), no funding available
  62. 2015, National Radio Astronomy Observatory/VLA – “Early-type Stars Magnetospheres,” Leto (PI/Osservatorio Astrofisico di Catania), Oskinova, Trigilio, Umana, Buemi, Ingallinear, **Ignace**, Todt, Leone; observing time only, no funding available
  61. 2015, NASA/Chandra – “Using Chandra to Explore New Physics of Magnetic A-Type Stars: KQ Vel and Its Mysterious Companion.” Hubrig (PI/Potsdam), Oskinova, **Ignace**, \$17,000
  60. 2015, NASA/Chandra – “A Probe of the Hybrid Colliding Wind and Centrifugal-Magnetospheric X-ray Emission of Plaskett’s Star,” Leutenegger (PI/NASA-GSFC), Grunhut, Wade, Petit, Cohen, Owocki, Sundqvist, Naze, Mahy, **Ignace**, Moffat, Leyder, ud-Doula, \$150,000
  59. 2015, NASA/Swift – “SWIFT Monitoring of Rotationally Modulated X-rays from the Keystone Massive Star and SN Progenitor, WR 110,” Oskinova (PI/Potsdam), **Ignace**, Massa; observing time only, no funding involved
  58. 2015, NASA/Hubble Space Telescope – “The Wind of ksi Per: A Tomographic View of Stellar Wind Dynamics,” Massa (PI/Space Science Institute), Oskinova, Hamann, Huenemoerder, **Ignace**, Prinja, Lobel, \$12,825 (portion for Ignace)
  57. 2014, National Radio Astronomy Observatory/VLA – “The definitive radio study of 3 representative magnetic massive stars,” Leto (PI/Osservatorio Astrofisico di Catania), Oskinova, Trigilio, Umana, Buemi, Ingallinear, **Ignace**, Todt; observing time only, no funding available
  56. 2014, NASA/Chandra – “A Deep X-ray Look at a Very Massive Star: HETG Spectroscopy of the Blue Hypergiant HIP 101364,” Huenemoerder (PI/Mass. Inst. of Tech.), Oskinova, Hamann, **Ignace**, Schulz, Neilson, \$56,366
  55. 2014, NASA/Chandra – “A Study of Colliding Winds in Short Period B Star Binaries,” **Ignace (PI)**, Hole, Oskinova, \$27,595
  54. 2013, NASA/Suzaku – “Comparative Study of Magnetic O-Type Stars with Suzaku,” Oskinova, (PI/U. of Potsdam), Kitamoto, **Ignace**, Hubrig, Kueker, no funding available
  53. 2013, NASA/XMM-Newton – “X-ray Characterization of The Unique Stellar Radio Pulsar CU Virginis,” Oskinova (PI/U. of Potsdam), et al, awarded priority “C” time
  52. 2012, NASA/XMM-Newton – “What is Nunki?,” Oskinova (PI/U. of Potsdam), **Ignace**, Huenemoerder, no funding involved
  51. 2012, NASA/Chandra – “Particle Acceleration in a Bow Shock around  $\zeta$  Oph,” Oskinova (PI/U. of Potsdam), Pohl, **Ignace**, \$24,497
  50. 2012, NASA/Chandra (Large Program) – “Wolf-Rayet Winds at High Spectral Resolution,” Huenemoerder (PI/Chandra X-ray Center), Gayley, Hamann, **Ignace**, Nichols, Oskinova, Pollock, Schulz, \$126,217
  49. 2012, NASA/Chandra (Large Program) – “X-ray Geometry of the Wind of the Giant O-Star  $\delta$  Orionis,” Corcoran (PI/NASA-Goddard), Pollock, Gull, Hamaguchi, Evans, Owocki, Moffat, Walborn, Maiz-Apellanix, Leutenegger, Russell, Waldron, Oskinova, **Ignace**, Nichols, Naze, et al., \$152,216
  48. 2012, National Science Foundation/Astronomical Sci. – “REU Supplement for: Tracing the Spectropolarimetric History of Circumstellar Structures from High-Mass Stars through Supernovae,” **Ignace (PI)**, \$7,995
  47. 2011, NASA/XMM-Newton – “X-ray Portrait of a Massive Star with a Magnetic Personality:  $\xi^1$  CMa,” Oskinova (PI/U. of Potsdam), Naze, **Ignace**, Hubrig; awarded observing time, no funding involved

46. 2011, Tennessee Space Grant – “Student Attraction and Retention in Physics and Astronomy (SARPA) Scholarships,” Smith (PI/ETSU), Giroux, Henson, **Ignace**, Luttermoser, \$10,000
45. 2011, European Southern Observatory/VLT – “Confirming the Presence of Magnetic Fields in the Most-Evolved Massive Stars,” Hamann (PI/U. of Potsdam), Hubrig, **Ignace**, Oskinova; observing time awarded, no funding involved
44. 2011, National Science Foundation/Astronomical Sci. – “A Workshop on Stellar Polarimetry: From Birth to Death,” **Ignace (PI)**, Hoffman, \$22,190
43. 2010, NASA/XMM-Newton – “X-ray Study of Tau-Sco-Like Massive Stars,” **Ignace (PI)**, Oskinova, Massa; observing time awarded, no funding involved
42. 2010, Tennessee Space Grant – “Student Attraction and Retention in Physics and Astronomy (SARPA) Scholarships,” Smith (PI/ETSU), Giroux, Henson, **Ignace**, Luttermoser, \$18,000
41. 2010, NASA/Astrophysical Data Program – “Why Evolved Massive Single Stars Create X-rays: Analysis of XMM Observations of WR 6 (EZ CMa),” Gayley (PI/U. of Iowa), **Ignace**, \$42,000
40. 2010, NASA/Chandra – “Understanding the Weak Winds: High-Resolution Chandra Spectroscopy of  $\mu$  Col,” Oskinova (PI/U. of Potsdam), Huenemoerder, Hamann, **Ignace**, Todt, Feldmeier, Krticka, Waldron, \$41,802
39. 2010, European Southern Observatory/VLT – “Search for Magnetic Fields in the Most-Evolved Massive Stars,” Hamann (PI/U. of Potsdam), Hubrig, **Ignace**, Oskinova; awarded observing time, no funding involved
38. 2010, European Southern Observatory/VLT – “Massive Stars as Cosmic Engines: A VLT-FLAMES survey of massive stars in the supergiant shell SGC SMC 1,” Oskinova (PI/U. of Potsdam), et al. (**Ignace** a listed co-I); awarded observing time, no funding involved
37. 2010, Canada-France-Hawaii Telescope – “The Magnetic Topology of Tau Sco Analogues,” Petit (PI/West Chester U.), **Ignace**, Kochukhov, Massa, Wade, awarded Priority-C time (dynamic scheduling); no funding involved
36. 2010, National Radio Astronomy Observatory/EVLA – “A Radio Study of Flaring Be Disks,” **Ignace (PI)**, Matthews, Bjorkman; awarded observing time, no funding involved
35. 2009, NASA/XMM-Newton – “X-rays at the Latest Stage of a Massive Star’s Life: A thorough study of the Wolf-Rayet star WR 6 with XMM-Newton,” Oskinova (PI/U. of Potsdam), **Ignace**, Hamann, Gayley, Feldmeier; awarded observing time, no funding involved
34. 2009, NASA/Chandra (Large Program) – “Cosmic Archaeology with Chandra: From a Supergiant Shell to Young Stellar Objects,” Oskinova (PI/U. of Potsdam), Chu, Gallagher, Guerrero-Roncel, Hamann, **Ignace**, Manuel, Naze, Silich, Townsley, Vink, \$63,825
33. 2009, National Science Foundation/Major Research Instrumentation – “Enhancing and Enlarging the Scientific Impact of the SARA Observatories,” **Ignace (PI)**, Hillwig, Oswalt, and the SARA Consortium, \$382,144
32. 2009, National Science Foundation/Astronomical Sci. – “REU Supplement for: Tracing the Spectropolarimetric History of Circumstellar Structures from High-Mass Stars through Supernovae,” **Ignace (PI)**, \$9,270
31. 2008, NASA/XMM-Newton – “X-ray Archaeology of NGC 602: Are massive stars engines of cosmic evolution,” Oskinova (PI/U. of Potsdam), Chu, Guerrero-Roncel, Hamann, **Ignace**, Maddox, Manuel, Naze, Richter, Silich, Vink; awarded observing time, no funding involved
30. 2008, NASA/XMM-Newton – “Exploring Connections between Magnetism and X-ray Emission in Massive Stars,” **Ignace (PI)**, Oskinova, Brown, Cassinelli, Hamann, Waldron, \$65,151
29. 2008, National Science Foundation/Astronomical Sci. – “Galaxy Wars: Star Formation and Stellar Populations in Interacting Galaxies Conference,” Smith (PI/ETSU), Giroux, Henson, **Ignace**, Luttermoser, \$15,000
28. 2008, NASA/Astrophysical Theory Program – “A Study of Clumps and Bow Shock Structures in Hot Star Stellar Winds,” Waldron (PI/Eureka Scientific Inc.), Cassinelli, **Ignace**, Cho, \$365,703
27. 2008, National Science Foundation/Astronomical Sci. – “Collaborative Research: RUI: Tracing the Spectropolarimetric History of Circumstellar Structures from High-Mass Stars through Super-

- novae,” **Ignace (Co-PI)**, Hoffman (Co-PI/U. of Denver), Henson, \$997,702
26. 2008, CFHT – “Magnetism in Massive Stars (MiMeS),” a Large Programme, Wade (PI/Royal Mil. Coll. of Canada), **Ignace** a named collaborator
  25. 2007, NASA/Suzaku – “X-rays from Magnetically Confined Hot Plasma in  $\tau$  Sco,” **Ignace (PI)**, Cassinelli, Cohen, Donati, Oskinova, Townsend, Jardine, Ud-Doula, \$20,929
  24. 2007, NASA/XMM-Newton – “Wolf-Rayet 1: A Study of X-ray Production from a Structured and Massive Wind,” **Ignace (PI)**, Oskinova, Ishibashi, Feldmeier, Cassinelli, Brown, \$38,478
  23. 2007, NASA/XMM-Newton – “The Fastest Stellar Winds as New Sources of Hard X-rays,” Oskinova (PI/U. of Potsdam), **Ignace**, Hamann, Chu, Feldmeier, \$30,200
  22. 2007, NASA/Astrophysical Data Program – “A Study of the Variable Hard X-ray Emission from the Massive Interacting Binary Beta Lyrae,” Waldron (PI/Eureka Scientific Inc.), **Ignace**, Hoffman, \$108,915
  21. 2007, AAS International Travel Grant – to attend the Manchester Microlensing Conference (Jan 2008), \$900
  20. 2007, NASA/Chandra – “Can Different Elements Move with Different Velocities in a Radiatively Driven Stellar Wind?,” Oskinova (PI/U. of Potsdam), Feldmeier, Hamann, **Ignace**, Waldron, Guerrero, \$21,431
  19. 2007, National Science Foundation/Astronomical Sci. – “A Workshop on The Biggest, Baddest, Coolest Stars,” Luttermoser (PI/ETSU), Giroux, Henson, **Ignace**, Smith, \$12,730
  18. 2007, NASA/RXTE – “A Study of the Variable Hard X-ray Emission from the Massive Interacting Binary Beta Lyrae,” Waldron (PI/Eureka Scientific Inc.), Hamann, Hoffman, **Ignace**, Oskinova; observing time awarded, no funding involved
  17. 2007, NASA/FUSE – “Non-Spherical Winds and Disks around Rapidly Rotating, Luminous Stars,” **Ignace (PI)**, Kraus, \$20,000
  16. 2006, ESO/VLT – “The Hanle Effect as a Diagnostic of Magnetic Fields in High-Mass Stars,” Hubrig (PI/European Southern Obs.), **Ignace**, Schnerr, Chesneau; observing time awarded, no funding involved
  15. 2006, National Science Foundation/REU Program (SARA Consortium) – “The Southeastern Association for Research in Astronomy REU Site Program,” Wood (PI/Florida Institute of Tech.), **Ignace** listed among Senior Personnel, \$478,180
  14. 2006, ETSU/Research Development Committee Grants – “Development of a Radiative Transfer Code that Incorporates the Hanle Effect,” **Ignace (PI)**, \$2,950
  13. 2006, NASA/Suzaku – “X-ray Study of Hot Plasma in the Interacting Binary Beta Lyrae,” **Ignace (PI)**, Hamann, Hoffman, Oskinova, Waldron, \$24,992
  12. 2005, ETSU – Basler Fellowship, \$10,000
  11. 2004, NASA/Spitzer – “Determining Wolf Rayet Wind Structure from IRS Spectra,” Cassinelli (PI/U. of Wisconsin), Lamers, Churchwell, **Ignace**, \$22,000
  10. 2004, National Science Foundation/Astronomical Sci. – “A Workshop on The Nature and Evolution of Disks around Hot Stars,” **Ignace (PI)**, Bjorkman, Cassinelli, Gayley, \$16,420
  9. 2004, Tennessee Space Grant Consortium – “Promoting Careers in Science: Connecting with Guidance Counselors,” **Ignace (PI)**, Henson, \$2,475
  8. 2003, NASA/Chandra (Theory Program) – “The Clumpy Outflows of Hot Stars and Their X-ray Signatures,” Cassinelli (PI/U. of Wisconsin), Lazarian, Cho, **Ignace**, \$75,000
  7. 2001, National Science Foundation/Astronomical Sci. – “Circumstellar Magnetic Field Diagnostics from the Polarization of Line Scattering,” Nordsieck (PI/U. of Wisconsin), Cassinelli, **Ignace**, Lazarian, \$394,000
  6. 2000, VLBA – “Probing Shock Structure in the Wolf-Rayet Binaries WR146 and WR147,” Mutel (PI/U. of Iowa), **Ignace**, Gayley, no funding involved
  5. 1999, National Science Foundation/Astronomical Sci. – “Probing Circumstellar Envelopes with Gravitational Microlensing”, **Ignace (PI)**, Bjorkman, \$196,000

4. 1999, NASA/XMM-Newton – “X-ray Emission from Single Wolf-Rayet Stars”, **Ignace (PI)**, Brown, Oskinova, \$32,600+\$2,200 augmentation
3. 1998, PPARC – “Reach for the Stars”, Hendry (PI/U. of Glasgow), Barrett, Conway, **Ignace**, awarded under Small Awards Scheme for Projects in Public Understanding of Science
2. 1994 and 1996, NASA/Infrared Space Observatory – “The Velocity Structure of Wolf-Rayet Winds from Infrared Line and Continuum Observations”, Cassinelli (PI/U. of Wisconsin), **Ignace** (while grad student)
1. 1994, NASA/Astrophysical Theory Program – “Multi-Wavelength Diagnostics of Rotation and Non-Spherical Winds in the Wolf-Rayet Stars,” Cassinelli (PI/U. of Wisconsin), Nordsieck, Wood, **Ignace** (while grad student)

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## PROFESSIONAL DEVELOPMENT

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NASA MissionSTEM Summit 2016 ([missionstem.nasa.gov](http://missionstem.nasa.gov)), 2016 Aug

SoCon “LEAD” Workshop ([www.citadel.edu/root/socon-lead-program](http://www.citadel.edu/root/socon-lead-program)), 2016 Jul

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## AWARDS/HONORS

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ETSU Distinguished Research Award for the College of Arts & Sciences (2015-16)

ETSU Distinguished Research Award for the College of Arts & Sciences (2008-09)

Marsico Short Term Visiting Scholar (University of Denver, 2008 Oct)

Selected as the 2005 ETSU Basler Fellow

UNDERSTANDING THE UNIVERSE selected as a Science - Grades 7-12 Honor Book, 2003 Book Awards  
- Society of School Librarians International (SSLI)

Member of Phi Beta Kappa (since 1990)

Graduated with honors from Indiana University

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## REFERENCES

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1. *Martin A. Hendry, Professor*  
(former Head of School)  
Physics & Astronomy  
Kelvin Building  
University of Glasgow  
Glasgow G12 8QQ  
Scotland  
UK 141 330 5685  
[Martin.Hendry@glasgow.ac.uk](mailto:Martin.Hendry@glasgow.ac.uk)
2. *Paul A. Scowen, Senior Research Astrophysicist*  
Exoplanets & Stellar Astrophysics Lab  
NASA Goddard Space Flight Center  
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Greenbelt, MD 20771  
301 286 8771  
[paul.a.scowen@nasa.gov](mailto:paul.a.scowen@nasa.gov)

3. *Judith B. Slagle, Professor Emerita*  
(former Dean of the Honors College)  
Literature & Language  
East Tennessee State University  
131 Yoakley Hall  
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423 439 6076  
slagle@etsu.edu

4. *Nicole St-Louis, Professor*  
Director of Department  
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## ADMINISTRATIVE EXPERIENCE

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For 5 1/2 years while Director of the Office of Undergraduate Research & Creative Activities (hereafter, "Office") in the ETSU Honors College, I performed several administrative functions, as summarized in the following.

### Oversight of Grant Programs

Student-Faculty Collaborative Grants: issue a call for proposals in Fall and Spring semesters, supervise application review process, issue awards, manage project reports

Summer Fellowship Grants: issue a call for proposals for the summer, supervise application review process, issue awards, manage project reports

Travel Grants: provided on a rolling basis; review of grant requests, issue awards, manage reports

Research Discovery Program: allows federal work study and appalachian performance scholars in need of service hours to have research experiences

### Institutional Engagement

Boland Undergraduate Research Symposium: principal organizer for this annual meeting, formation of a student organizing committee, general management of the meeting and process

Committee Involvement: serve on the ETSU Research Advisory Committee and the Appalachian Research Forum Committee, and engage with various other committees and meetings as needed (such as the Tennessee Board of Regents High Impact Practices Taxonomy Committee), and *ex officio* member for the Advisory Board for Undergraduate Research & Creative Activities

Undergraduate Conferences: attended and/or led a student group to Tennessee Posters-at-the-Capitol for Spr 2016, 2017, 2018, 2019, 2020; Tennessee Experiential Learning Symposium (TELS) for Aut 2015; National Collegiate Honors Council (NCHC) for Aut 2015; National Conference for Undergraduate Research (NCUR) for Spr 2016; SoCon Undergraduate Research Forum (SURF) for Aut 2016, 2017, 2018, 2019

### Oversight of Training Programs



Laboratory Safety Workshop: the Office offers a lab safety workshop every fall and spring semester, with an online version for summer

Oral Presentation Workshop: the Office offers an annual workshop to ETSU students on delivering a conference talk

### Notables as Director

In partnership with Dr. J. Adler of the ETSU Roan Scholars program, started the “180 Undergraduate Research Competition” (a 180 sec video pitch contest with prizes; estab. Spr 2019)

Involved with establishing a student-led undergraduate research club (estab. Spr 2018)

Involved with efforts to start crowdfunding for research at ETSU, including undergraduate students (estab. Spr 2018)

Formed an Advisory Board for the Office (estab. Spr 2017)

Partnered with the ETSU Sherrod Library to produce an online Faculty Mentor database and a Student Researcher database (since 2017)

Represented ETSU among organizers for the SoCon Undergraduate Research Forum, or SURF (2015-present)

Produced a series of proposal guidelines for grant programs, overhauled online content for undergraduate research web pages, and maintained online content

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## RESEARCH EXPERIENCE

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### Theoretical

*Radiative Transfer:* Spectral diagnostics, wind emission lines, spectropolarimetry, line profile inversion, IR/radio continua

*Stellar Magnetism:* Line polarization diagnostics based on the Hanle and Zeeman effects

*High Energy Astrophysics:* Spectral diagnostics of X-ray emissions from stars

*Gravitational Microlensing:* As a probe of background sources through selective amplification

*Stellar Wind Dynamics:* Studies of winds from rotating stars, wind bow shock formation

*Exoplanetary Astronomy:* substellar companions to white dwarf stars; the influence of red giant winds on planetary atmospheres

### Observational/Interpretational

(PI/co-I/collaborator in numerous multi-wavelength studies, mainly stellar astrophysics)

*X-ray Astronomy:* Awarded observing time with Chandra, XMM-Newton, Swift, RXTE, Suzaku

*Ultraviolet Astronomy:* Awarded observing time with the Hubble Space Telescope (HST), Far Ultraviolet Spectroscopic Explorer (FUSE)

*Optical Astronomy:* Awarded observing time with the South African Astronomical Observatory (SAAO), Canada-France-Hawaii Telescope, ESO's Very Large Telescope (VLT), and Southeastern Association for Research in Astronomy (SARA) facilities; also use of archival Kepler, AAVSO, HPOL, Ritter Observatory, and BRITe data

*Infrared Astronomy:* Awarded observing time with the Infrared Space Observatory (ISO), Spitzer, Gemini

*Radio Astronomy: Awarded observing time with the Very Large Array (VLA), the Expanded Very Large Array (EVLA), the Australia Telescope Compact Array (ATCA), the Low-Frequency Array (LOFAR)*

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## TEACHING EXPERIENCE

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### Undergraduate Courses

#### East Tennessee State University

- *Astronomy I*: the solar system for non-science majors (includes lab)
- *Astronomy II*: stars and galaxies for non-science majors (includes lab)
- *Research Methods*: contributor for a data analysis lab experience for physics majors
- *General Physics I & II*: algebra/trig level course of physics (mechanics, thermo, E&M, optics)
- *General Physics I and II Labs*
- *Statics*: calculus-based engineering course
- *Astrophysics*: calculus-based course on stellar astronomy and selected topics
- *Electricity & Magnetism*: vector-calculus E&M course intended for physics majors
- *Physics Seminar*: instructor also serves as seminar organizer for the department
- *Independent Study*: student-led investigation of a problem of interest, with faculty guidance
- *Senior Thesis*: faculty-directed research for majors

#### University of Iowa

- *Modern Astronomy*: survey of astronomy for non-science majors
- *Characteristics and Origins of the Solar System*: for non-science majors
- *General Astronomy*: survey of astronomy for science majors
- *College Physics*: algebra/trig level course on mechanics and thermodynamics

### Research Supervision and Mentoring

#### Undergraduate

- 1997, E Todd (Glasgow), Monte Carlo Radiative Transfer
- 1998, now Dr C Foullon (Glasgow), X-ray Properties of Wolf-Rayet Winds
- 1999, now Dr M Brookes (Glasgow), Metallicity Effects for Be Star Disks
- 2003, A Ogden-Nussbaum (Wisconsin), X-ray Spectral Modeling of Stellar Winds
- 2003, M Vils (Wisconsin), Microlensing of Large Stellar Sources
- 2005, A Brimeyer (Iowa State) – SARA/REU, Forbidden Lines from Axisymmetric Stellar Winds
- 2006, R Bessey (Berry) – SARA/REU, Forbidden Lines from Colliding Wind Binaries
- 2006, A Burke (Vassar) – SARA/REU, X-ray Line Profiles from Clump Bow Shocks
- 2007, C Bunker (Stony Brook) – SARA/REU, Microlensing of Dusty Envelopes
- 2007, J Carson (Western Kentucky) – SARA/REU, Circumstellar Polarization
- 2007, S Gray (ETSU),  $H\alpha$  Variability from  $\beta$  Lyrae
- 2008, R Pedigo (ETSU) – NASA/Chandra/EPO, Analysis of Spitzer Spectra of WR Stars
- 2008, C Price (ETSU) – SARA/REU, Forbidden Line Shapes from Colliding Winds
- 2009, H Fries (ETSU) – NSF, Be Star Target List for SARA
- 2009, M Goodman (ETSU) – REU Supp, Spectral Slopes from Axisymmetric Envelopes
- 2009, S Gray (ETSU) – NSF, Polarimetry from ETSU
- 2009, now Dr M Gorski (U of Iowa) – SARA/REU, X-ray Emission from  $\alpha$  Cru
- 2009, J Herrington (Clemson) – SARA/REU, Forbidden Lines in Supernovae

- 2009, A Hopkins (ETSU) – NASA/XMM, X-ray Emissions from OB Stars
- 2009, C Price (ETSU) – NASA/ATFP, X-rays from Clumped Hot Star Winds
- 2010, M McFall (Butler) – SARA/REU, X-rays from CIRs in WR Winds
- 2010, B Madsen-Larson (ETSU) – NSF, Emission Lines from Be Disks
- 2010, E Middlemas (ETSU) – TN Space Grant, SARA Be Star Hit List
- 2011, C Brown (ETSU) – NSF, The Hanle Effect in Stellar Photospheres
- 2012, now Dr A Adams (ETSU) – REU Supp, Polarization of Mira Stars
- 2012, now Dr N Pingel (U of Wisconsin) – SARA/REU, Faraday Rotation Studies
- 2014, J McNeil (ETSU) – Research Discovery Program, Exoplanet Light Curves (co-supervisor with H. Neilson)
- 2015, W Asbury (ETSU) – NSF, Polarization of  $\epsilon$  Aur (co-supervisor with G. Henson)
- 2015, H Dingus (ETSU) – NSF, Kepler Light Curves of Symbiotic Stars (co-supervisor with G. Henson)
- 2015, F Proulx-Girardeau (U of Montreal) – Polarimetric modeling of CIRs (lead supervisor N. St-Louis at Montreal)
- 2016, P Tremblay (U of Montreal) – Emission line modeling of CIRs (lead supervisor N. St-Louis at Montreal)
- 2016, A Morelock (ETSU) – Microlensing of Pulsating Stars
- 2016, N Woo (ETSU) – Inversion of Bubble Intensity Profiles for Emissivity
- 2017, M Magno (ETSU) – Modeling Emission Lines from Beta Lyrae
- 2018, M Magno (ETSU) – Modeling Emission Lines from Beta Lyrae
- 2018, Z Damrau (ETSU) – Modeling Variability in  $f/i$  Line Ratios for Massive Star Winds
- 2022, J Hewa (ETSU) – Modeling f-i-r Line Profiles for Massive Star Winds

#### Independent Study

- 2016, A Morelock (ETSU) – Microlensing of Pulsating Stars
- 2018, D Gilmer (ETSU) – Factors that Influence Success in Research Funding
- 2019, A Glovier (ETSU) – Exploring the Diversity of Astronomy Labs
- 2023, G Anderson (ETSU) – Modeling Long-Wavelength Emissions from Rigidly Rotating Magneto-spheres

#### Undergraduate Thesis

- 2012-13, A Adams (ETSU) – Exploring Mira-Type Stars with Spectropolarimetry
- 2015-16, H Dingus (ETSU) – A Flickering Analysis of CH Cygni Using Kepler Data
- 2017-18, M Magno (ETSU) – Modeling  $\beta$  Lyrae's  $H\alpha$  Line Profile
- 2023-24, J Hewa (ETSU) – Modeling X-ray Line Profiles for Massive Star Winds
- 2024-25, F Simmons (ETSU) – Photopolarimetry of Luminous Blue Variables

#### Postdoctorate

- 2001 Sep - 2003 Jul, Dr H. M. Bryce, Microlensing of Extended Sources
- 2009 May - 2012 Jun, Dr K. T. Hole, Spectropolarimetry of Supernovae, currently faculty at Norwich University
- 2012 Oct - 2014 Aug, Dr H. Neilson, Spectropolarimetry of Massive Stars, currently faculty at Memorial University of Newfoundland & Labrador
- 2021 Oct - 2024 Sep, Dr C. Erba, Spectropolarimetry of Wolf-Rayet Stars

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## SERVICE ACTIVITIES

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### *For Discipline*

Program reviewer for Appalachian State University's Dark Sky Observatory (DSO), Mar 2023

Contributor to a science white paper entitled “PolStar – An Explorer-Class FUV Spectropolarimetry Mission to Map the Environments of Massive Stars” for the Astro2020 Decadal Survey Committee

Elected member of the Organizing Committee for Commission B6: *Astronomical Photometry and Polarimetry*, International Astronomical Union, Aug 2015 - Aug 2018

Local organizing committee for GALAXY WARS: STELLAR POPULATION AND STAR FORMATION IN INTERACTING GALAXIES, Jul 2009; THE BIGGEST, BADDEST, COOLEST STARS, Jul 2007; and PROBING THE DISTANT UNIVERSE WITH GRAVITATIONAL WAVES, Nov 2005

Peer review referee for several journals in astrophysics, including the *Astrophysical Journal*, *Astrophysical Journal Letters*, *Astronomy & Astrophysics*, *Astronomical Journal*, *Monthly Notices of the Royal Astronomical Society*, *Nature Astronomy*, *Icarus*, *Astronomische Nachrichten*, *Journal of Quantitative Spectroscopy and Radiative Transfer*

Contributor to a science white paper for the Stars and Stellar Evolution Science Frontiers Panel of the Astro2010 Decadal Survey Committee ([www7.nationalacademies.org/bpa/Astro2010.html](http://www7.nationalacademies.org/bpa/Astro2010.html); [lanl.arxiv.org/abs/0902.4222](https://arxiv.org/abs/0902.4222))

Peer review for National Science Foundation in the Astronomical Sciences, including CAREER, PAARE, and REU

Peer reviewer for NASA, including Astrophysics Data Analysis, Astrophysical Theory, Chandra, and RXTE

Reviewer for the CFHT ground-based observing program

Member of the Editorial Board for the online undergraduate research publication *Journal of the Southeastern Association for Research in Astronomy* (JSARA), 2007-2013

Reviewer of astronomy and physics textbook chapters, e.g. *College Physics* (W. H. Freeman & Co.), *College Physics* (Wiley), *Visualizing Astronomy* (Wiley), *College Physics* (McGraw-Hill), *Explorations* (McGraw-Hill), *Investigating Astronomy* (W. H. Freeman & Co.), and a physics book by Etkina et al (Pearson)

Reviewer for the 2016 Clean Tech Competition

### For Institution

Member of the Research Advisory Committee in Arts & Sciences	(spr 2022 - aut 2022)
Judge for the 3-Minute Thesis competition at ETSU	(aut 2019)
Member of search committee for Dean of the Honors College	(spr 2019)
Review for ETSU’s Department of Philosophy	(spr 2019)
University Research Advisory Committee	(spr 2015 - sum 2020)
Promotion and Tenure Appeals Committee	(2017-2019)
SoCon Undergraduate Research Conference, Planning Committee	(2015-17)
Tennessee Board of Regents – High Impact Practice Taxonomy Project	(aut 2015)
Tenure & Promotion Committee for College of A&S	(2013-15)
Served as a member of the ETSU 125 Task Force	(aut 2012)
Reviewer for TBR Diversity Research Grants	(spr 2010)
College of Arts & Sciences Standing Committee for Academic Misconduct	(spr 2012)
College of Arts & Sciences Faculty Council	(aut 2009 - spr 2011; aut 2018 - spr 2021)
College of Arts & Sciences Awards Committee	(aut 2009 - spr 2011; aut 2023 - spr 2025)
Member of TBR Audit team for Physics & Astronomy at Austin Peay State University	(2009)
Advisor for Pre-Engineering Program	(2007-2013)
Selection committee for new Director of Sponsored Programs	(2007)
ETSU High Performance Cluster Computer Advisory Committee	(2006-07; 2010-2013)
Committee for Academic Misconduct	(2006-07)
Established new courses <i>Statics</i> and <i>Dynamics</i> for the Pre-Engineering track	(2005-06)
Basler Chair Selection Committee	(2005-07)
Departmental seminar coordinator	(2004-05; spr 2009)
Public presentations at ETSU Observatory and Planetarium	
Led the development of a Minor in Astronomy at ETSU (estab. aut 2010)	

### For Community

Presenter for physical sciences at 2nd annual Learning Together Day regional teacher professional development, 2022 October

Presentations for children and young adults:

- Presenter for University School AP Research class

- Astronomy clubs, schools, libraries, and scouts
- Wellmont Madison House, Kingsport, TN – assisted living care facility
- Mountain Missions School in Grundy, VA – Presentation to 6-12 assembly, senior physics, science in 8th, science in 6th
- “Science Night” for St. Dominics School in Kingsport
- *Encore After School Program*, Kingsport City Schools (Dec 09 – May 10): Jackson Elem, Kennedy Elem, Lincoln Elem, Roosevelt Elem, Sevier Middle, Robinson Middle
- Developed instructions for a “Sidewalk Solar System” for schools
- Participation in “Career Day” at Gray Elementary; in Science Career Adventure
- 2017 Solar Eclipse – provided informative interviews for print and televised news libraries; assisted with Jonesborough 2017 Solar Eclipse Block Party

Science Fair judge in various years

Participated as an author of “The Night Sky” column with the Johnson City Press newspaper

Science Olympiad hosted by ETSU: astronomy competition for various years since 2003

Lecturer at adult evening classes (U of Glasgow)

Participant in educating children using a transportable Starlab planetarium (U of Glasgow)

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## PUBLICATIONS

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### Books

1. **Ignace**. *Astro4U: An Introduction to the Science of the Cosmos* (3rd ed). 2022, astronomy textbook, Cognella Publishing (cognella.com)
2. **Ignace** and Gayley (eds). *The Nature and Evolution of Disks around Hot Stars*. 2005, proceedings of the workshop, ASP Conf. Ser. #337
3. Prinja and **Ignace**. *Understanding the Universe*. 2002, a popular astronomy book (London: Philips, philips-maps.co.uk) (US edition with Facts On File, factsonfile.com)

### Refereed Journals

(Students indicated by †)

1. Scowen, Gayley, **Ignace**, Drake, Woodruff. “Polstar - The Role of Rapid Rotation in the Evolution of Massive Stars and the Galaxy.” 2025, *Journal of Astronomical Telescopes, Instruments, and Systems*, submitted
2. Gunderson, +10. “A XRISM Observation of  $\pi$  Aquarii: Spectral and Temporal Properties.” 2025, *Astrophysical Journal*, submitted
3. Erba, **Ignace**, Simmons<sup>†</sup>, Davies. “Variable Polarization of WR 31a: Binary Companion or Co-Rotating Interaction Region?” 2025, *Astronomical Journal*, accepted
4. **Ignace**, Fullard, Panopoulou, Hillier, Erba, Scowen. “Analyzing Stellar and Interstellar Contributions to Polarization: Modeling Approaches for Hot Stars.” 2025, *Astrophysics & Space Science*, accepted
5. Gunderson, **Ignace**, Golay. “Methods to Test the Source of the Extreme Gas Motions in WS 35.” 2025, *Astrophysical Journal*, accepted
6. **Ignace**, Gayley, Casini, Scowen, Drake, Erba. “Spectropolarimetry for Discerning Geometry and Structure in Circumstellar Media of Hot Stars.” 2025, *Galaxies*, accepted (arXiv:2504.02659)
7. Leto, Oskinova, Shenar, Wade, Owocki, Buemi, **Ignace**, Trigilio, Umana, ud-Doula, Todt, Hamann. “X-ray and radio data obtained by XMM-Newton and VLA constrain the stellar wind of the magnetic quasi-Wolf-Rayet star in HD45166.” 2025, *Nature Astronomy*, accepted (arXiv:2503.07205)
8. Brands, +25. “X-Shooting ULLYSES: Massive Stars at Low Metallicity XI. The clumped winds of O-type (super)giants in the Large Magellanic Cloud.” 2025, *Astronomy & Astrophysics*, accepted (arXiv:2503.14687)

9. Gunderson, Huenemoerder, Torrejon, Swarm, Nichols, Pradhan, **Ignace**, Pollock, Schulz. "A Time-Dependent Analysis of  $\gamma$  Cassiopeiae." 2025, *Astrophysical Journal*, 978, 105
10. **Ignace**, Scowen. "The Polstar UV Spectropolarimetry Mission." 2024, *Bulletin de la Societe Royale des Sciences de Liege*, v. 93, no. 3, 156
11. Erba, Anderson, Cox, Henson, **Ignace**. "Astronomy in Appalachia: Five Lessons in Designing a Planetarium Show." 2024, *Planetarium*, v. 53, #3, 14
12. Ramachandran, +16. "X-Shooting ULLYSES: Massive Stars at low metallicity VIII. Stellar and wind parameters of newly revealed stripped stars in Be binaries." 2024, *Astronomy & Astrophysics*, 692, 90
13. Backs, +23. "X-Shooting ULLYSES: Massive Stars at Low Metallicity VI. Atmosphere and mass-loss properties of O-type giants in the Small Magellanic Cloud." 2024, *Astronomy & Astrophysics*, 692, 88
14. **Ignace**, Henson. "Impulsive Magnetic Damping: Linear damping of a pendulum." 2024, *The Physics Teacher*, 62, 587
15. Hawcroft, +28. "X-Shooting ULLYSES: Massive Stars at low metallicity III. Terminal Wind Speeds of ULLYSES Massive Stars." 2024, *Astronomy & Astrophysics*, 688, 105
16. Huenemoerder, Pradhan, Canizares, Gunderson, **Ignace**, Nichols, Pollock, Schultz, Swarm, Torrejon. "Chandra HETG X-ray Spectra and Variability of  $\pi$  Aqr, a  $\gamma$  Cas-Type Be Star." 2024, *Astrophysical Journal Letters*, 966, L23
17. Barclay, Rosu, Richardson, Chene, St-Louis, **Ignace**, Moffat. "Using Spectroscopy to Test the Hypothesis of a Precessing Orbit for the WN4 star EZ CMa." 2024, *Monthly Notices of the Royal Astronomical Society*, 527, 2198
18. **Ignace**, Bjorkman, Chene, Erba, Fabiani, Moffat, Sincennes, St-Louis. "Modeling Variable Linear Polarization Produced by Co-Rotating Interaction Regions (CIRs) Across Optical Recombination Lines of Wolf-Rayet Stars." 2023, *Monthly Notices of the Royal Astronomical Society*, 526, 1298
19. Orio, +21. "The RS Oph outburst of 2021 monitored in X-rays with NICER." 2023, *Astrophysical Journal*, 955, 37
20. Neilson, Steenken, Simpson, **Ignace**, Shrestha, Erba, Henson. "A Multi-Year Photopolarimetric Study of the Semi-Regular Variable V CVn and Identification of Analogue Sources." 2023, *Astronomy & Astrophysics*, 677, 96
21. Pradhan, Huenemoerder, **Ignace**, Nichols, Pollock. "Survey of X-rays from Massive Stars Observed at High Spectral Resolution with Chandra." 2023, *Astrophysical Journal*, 954, 123
22. Vink, +80. "X-Shooting ULLYSES: Massive Stars at Low Metallicity. I. Project Description." 2023, *Astronomy & Astrophysics*, 675, 154
23. **Ignace**, Robert, Drissen, Moffat. "Constraints on Clumps in the Representative Wind of the WN8 Wolf-Rayet Star HD 96548 = WR 40 with simultaneous broad-band light and linear-polarization variability" 2023, *Monthly Notices of the Royal Astronomical Society*, 519, 3271
24. Andersson, +8. "Ultraviolet Spectropolarimetry with Polstar: Interstellar Medium Science." 2022, *Astrophysics & Space Science*, 367, 127
25. Folsom, +12. "Ultraviolet Spectropolarimetry: Investigating stellar magnetic field diagnostics." 2022, *Astrophysics & Space Science*, 367, 125
26. Gayley, +15. "Understanding Structure in Line-Driven Stellar Winds Using Ultraviolet Spectropolarimetry in the Time Domain." 2022, *Astrophysics & Space Science*, 367, 123
27. Jones, +14. "Ultraviolet Spectropolarimetry: on the origin of rapidly rotating B stars." 2022, *Astrophysics & Space Science*, 367, 127
28. Peters, +13. "Ultraviolet spectropolarimetry: conservative and nonconservative mass transfer in OB interacting binaries." 2022, *Astrophysics & Space Science*, 367, 119
29. Scowen, +10. "The Polstar High Resolution Spectropolarimetry MIDEX Mission." 2022, *Astrophysics & Space Science*, 367, 121
30. Shultz, +19. "Ultraviolet Spectropolarimetry With Polstar: Using Polstar to test Magnetospheric

- Mass-loss Quenching.” 2022, *Astrophysics & Space Science*, 367, 120
31. St-Louis, +15. “UV Spectropolarimetry with Polstar: Massive Star Binary Colliding Winds.” 2022, *Astrophysics & Space Science*, 367, 118
  32. Wisniewski, +15. “UV Spectropolarimetry with Polstar: Protoplanetary Disks.” 2022, *Astrophysics & Space Science*, 367, 122
  33. Orio, Behar, Luna, Drake, Gallagher, Nichols, Ness, Dobrotka, Mikolajewska, Della Valle, **Ignace**, Rahin. “Shocks in the Outflow of the RS Oph 2021 Eruption Observed with X-ray Gratings.” 2022, *Astrophysical Journal*, 938, 34
  34. Leto, +22. “Discovery and Origin of the Radio Emission from the Multiple Stellar System KQ Vel.” 2022, *Monthly Notices of the Royal Astronomical Society*, 515, 5523
  35. **Ignace**, Fullard, Shrestha, Naze, Gayley, Hoffman, Lomax, St-Louis. “Modeling the Optical to Ultraviolet Polarimetric Variability from Thomson Scattering in Colliding Wind Binaries.” 2022, *Astrophysical Journal*, 933, 5
  36. Erba, **Ignace**. “Radio Spectral Energy Distributions for Single Massive Star Winds with Free-Free and Synchrotron Emission.” 2022, *Astrophysical Journal*, 932, 12
  37. Fullard, O’Brien, Kerzendorf, Shrestha, Hoffman, **Ignace**, van der Smagt. “New Mass Estimates for Massive Binary Systems with Emulator-Accelerated Radiative Transfer.” 2022, *Astrophysical Journal*, 930, 89
  38. Sajadian, **Ignace**, Neilson. “Identifying Low-Amplitude Pulsating Stars through Microlensing Observations” 2021, *Monthly Notices of the Royal Astronomical Society*, 507, 5177
  39. Leto, +22 authors. “A Scaling Relationship for Non-Thermal Radio Emission from Ordered Magnetospheres: From the top of the Main Sequence to planets.” 2021, *Monthly Notices of the Royal Astronomical Society*, 507, 1979
  40. **Ignace**, Henson, Neilson, Asbury<sup>†</sup>. “Modeling the Variable Polarization of  $\epsilon$  Aurigae In and Out of Eclipse.” 2021, *Astronomical Journal*, 162, 105
  41. Pradhan, Huenemoerder, **Ignace**, Pollock, Nichols. “The Colliding Winds of WR 25 in High Resolution X-rays.” 2021, *Astrophysical Journal*, 915, 114
  42. Nichols, Naze, Huenemoerder, Moffat, Miller, Lauer, **Ignace**, Gayley, Ramiaramanantsoa, Oskinova, Hamann, Richardson, Waldron, Dahmer. “Correlated X-ray and Optical Variability in the O-type Supergiant zeta Puppis.” 2021, *Astrophysical Journal*, 906, 89
  43. Shrestha, Neilson, Hoffman, **Ignace**, Fullard. “Polarization simulations of stellar wind bow shock nebulae. II. The case of dust scattering.” 2021, *Monthly Notices of the Royal Astronomical Society*, 500, 4319
  44. Leto et al. (+21 authors). “The Auroral Radio Emission Features of the Magnetic B-type Star  $\rho$  Oph C.” 2020, *Monthly Notices of the Royal Astronomical Society Letter*, 499, L72
  45. Sajadian, **Ignace**. “Non-radially pulsating stars as microlensing sources.” 2020, *Monthly Notices of the Royal Astronomical Society*, 498, 223
  46. Oskinova, **Ignace**, Leto, Postnov. “Chandra’s X-ray Study Confirms that the Magnetic Standard Ap Star KQ Vel Hosts a Neutron Star.” 2020, *Astronomy & Astrophysics Letters*, 641, L8
  47. **Ignace**, St-Louis, Prinja. “Radio Variability from Co-Rotating Interaction Regions Threading Wolf-Rayet Winds.” 2020, *Monthly Notices of the Royal Astronomical Society*, 497, 1127
  48. Sajadian, **Ignace**. “Microlensing of Radially Pulsating Stars.” 2020, *Monthly Notices of the Royal Astronomical Society*, 494, 1735
  49. Huenemoerder, **Ignace**, Miller, Gayley, Hamann, Lauer, Moffat, Naze, Naze, Nichols, Oskinova, Richardson, Waldron. “A Deep Exposure in High Resolution X-Rays Reveals the Hottest Plasma in the  $\zeta$  Puppis Wind.” 2020, *Astrophysical Journal*, 893, 52
  50. Leto et al. (+22 authors). “Evidence for Radio and X-ray Auroral Emission from the Magnetic B-type Star  $\rho$  Oph A.” 2020, *Monthly Notices of the Astronomical Society*, 493, 4657
  51. **Ignace**. “Quantifying Undergraduate Participation in Scholarly Activities.” 2019, *Scholarship and Practice of Undergraduate Research*, 3(2), 62

52. Ramiamananantsoa, **Ignace**, et al. (+10 authors). "The Chaotic Wind of WR 40 as Probed by BRITE." 2019, Monthly Notices of the Astronomical Society, 490, 5921
53. Klement, Carciofi, Rivinius, **Ignace**, et al. (+15 authors). "Prevalence of SED Turndown among Classical Be Stars: Are all Be stars close binaries?" 2019, Astrophysical Journal, 885, 147
54. Carlos-Leblanc, St-Louis, Bjorkman, **Ignace**. "Monte Carlo Simulations of Polarimetric and Light Variability from Corotating Interaction Regions in Hot Stellar Winds." 2019, Monthly Notices of the Astronomical Society, 489, 2873
55. **Ignace**, Damrau<sup>†</sup>, Hole. "Variability in X-ray Line Ratios in Helium-Like Ions of Massive Stars: The Wind-Driven Case." 2019, Astronomy & Astrophysics, 625, 86
56. **Ignace**. "Asymmetric Shapes of Radio Recombination Lines from Ionized Stellar Winds." 2019, Revista Mexicana de Astronomia y Astrofisica, 55, 31
57. Massa, Oskinova, Prinja, **Ignace**. "The Connection between X-ray and Wind-Line Variability in  $\xi$  Per." 2019, Astrophysical Journal, 873, 81
58. Toala, Oskinova, **Ignace**, Chu, Hainich, Hamann, Guerrero, Torrejon. "Absence of an Accreting Neutron Star in WR 124: Degenerate Cannibalism?" 2019, Astrophysical Journal Letters, 869, L11
59. Leto, Trigilio, Oskinova, **Ignace**, Buemi, Umana, Cavallaro, Ingallinera, Bufano, Phillips, Agliozzo, Cerrigone, Todt, Riggi. "The Polarization Mode of the HD142301 Auroral Radio Emission." 2019, Monthly Notices of the Royal Astronomical Society Letters, 482, L4
60. **Ignace**, Gray<sup>†</sup>, Magno<sup>†</sup>, Henson, Massa. "A Study of H $\alpha$  Line Profile Variations in  $\beta$  Lyr." 2018, Astronomical Journal, 156, 97
61. Stevance, **Ignace**, Crowther, Maund, Davies, Rate. "Probing the Rotational Velocity of Galactic WO Stars with Spectropolarimetry." 2018, Monthly Notices of the Royal Astronomical Society, 479, 4535
62. Shrestha, Neilson, Hoffman, **Ignace**. "Polarization Simulations of Stellar Wind Bow Shocks. I. The Case of Electron Scattering." 2018, Monthly Notices of the Royal Astronomical Society, 477, 1365
63. Leto, Trigilio, Oskinova, **Ignace**, Buemi, Umana, Ingallinera, Todt, Leone, Phillips, Agliozzo, Cerrigone. "A Combined Multiwavelength VLA/ALMA/Chandra Study Unveils the Complex Magnetosphere of the B-type Star HR5907." 2018, Monthly Notices of the Royal Astronomical Society, 476, 562
64. St-Louis, Tremblay<sup>†</sup>, **Ignace**. "Polarization Lightcurve Modeling of Corotating Interaction Regions in the Wind of the Wolf-Rayet Star WR 6." 2018, Monthly Notices of the Royal Astronomical Society, 474, 1886
65. Ramiamananantsoa, Moffat, Harmon, **Ignace**, (+36 authors). "BRITE-Constellation High-Precision Time-Dependent Photometry of the Early-O-Type Supergiant  $\zeta$  Puppis Unveils the Photospheric Drivers of Its Small- and Large-Scale Wind Structures." 2018, Monthly Notices of the Royal Astronomical Society, 473, 5532
66. **Ignace**, Hole, Oskinova, Rotter<sup>†</sup>. "An X-ray Study of Two B+B Binaries: AH Cep and CW Cep." 2017, Astrophysical Journal, 850, 82
67. Neilson, McNeil<sup>†</sup>, **Ignace**, Lester. "Limb Darkening and Planetary Transits: Testing center-to-limb intensity variations and limb-darkening directly from model stellar atmospheres." 2017, Astrophysical Journal, 845, 65
68. Oskinova, Huenemoerder, Hamann, Shenar, Sander, **Ignace**, Todt, Hainich. "On the Binary Nature of Massive Blue Hypergiants: High-resolution X-ray spectroscopy suggests that Cyg OB2 12 is a colliding wind." 2017, Astrophysical Journal, 841, 39
69. Klement, Carciofi, Rivinius, Matthews, **Ignace**, Cure, Bjorkman, Vieira, Mota, Faes, Bratcher, Stefl. "Revealing the Structure of the Outer Disks of Be Stars." 2017, Astronomy & Astrophysics, Astronomy & Astrophysics, 601, 74
70. Toala, Oskinova, **Ignace**. "On the Absence of Non-Thermal X-ray Emission around Runaway O Stars." 2017, Astronomy & Astrophysics, 838, L19



71. Leto, Triglio, Oskinova, **Ignace**, Buemi, Umana, Ingallinera, Todt, Leone. "The Detection of Variable Radio Emission from the Fast Rotating Magnetic Hot B-Star HR 7355 and Evidence for Its X-ray Aurora." 2017, Monthly Notices of the Royal Astronomical Society, 467, 2820
72. **Ignace**. "Modeling X-ray Emission Lines from Massive Star Winds" (review article). 2016, Advances in Space Research, 58, 694
73. Toala, Oskinova, Gonzalez-Galan, Guerrero, **Ignace**, Pohl. "X-ray Observations of Bow Shocks around Runaway O Stars. The case of  $\zeta$  Oph and BD+43°3654." 2016, Astrophysical Journal, 821, 79
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### Conferences

(Invited or Contributed Talks; students indicated by †)

1. Fouch, Erba, **Ignace**. "First Look at the Approaching Negative Extremum of Xi1 CMa." 2025, *BAAS*, 57, 462.06
2. Simmons, Erba, **Ignace**. "A study of the luminous blue variable Hen 3-519 and its neighbor AG Car." 2025, *BAAS*, 57, 462.05
3. Drake, et al. "The Polstar UV Spectropolarimetry Small Explorer Mission." 2025, *BAAS*, 57, 353.17
4. **Ignace**. "Spectropolarimetry for Discerning Geometry and Structure in Circumstellar Media." 2024, invited presentation at Hot Stars 2024: Life with Circumstellar Matter
5. **Ignace**, Scowen. "The Polstar UV Spectropolarimetry Mission." 2024, to appear in the 41st Liege International Astrophysical Colloquium: The Eventful Life of Massive Star Multiples
6. **Ignace**. "Interpretative Modeling of Structured Winds Using Linear Polarization." 2024, to appear in Fundamentals of Stellar Outflows: Celebrating and Amplifying the Scientific Life of Stan Owocki
7. **Ignace**. "An Application of a Rigidly Rotating Magnetosphere (RRM) Model for the Broad Emission Lines of J005311." 2024, *BAAS*, 56, #7, 409.05
8. Scowen+. "The Polstar SMEX FUV Spectropolarimetry Mission." 2024, at Space Telescopes and Instrumentation 2024: Ultraviolet to Gamma Ray
9. **Ignace**. "Modeling the X-ray Line Profile Shapes from Massive Star Winds." 2023, at High Resolution X-ray Spectroscopy: A Chandra Workshop

10. **Ignace**. "A Study of Wind Clumps in WR40 from Broadband Photometric and Linear Photopolarimetric Variations." 2023, at The Wolf-Rayet Phenomenon in the Universe
11. **Ignace**. "The Adventures & Tales of Big, Fluffy Stars." 2022, invited presenter for 37th annual Bays Mountain StarFest
12. **Ignace**, Ramiaramanantsoa, Moffat. "A BRITE study of wind clumps in the WN8 star WR 40." 2022, 240th meeting of the American Astronomical Society, BAAS, 54, #6 111.01
13. Pradhan, Huenemoerder, **Ignace**, Pollock, Nichols. "A High Resolution Spectral Study of Massive Stars with Chandra/HETGS." 2022, at 50 years astronomical X-ray spectroscopy in the Netherlands
14. Scowen, +10. "The Polstar High Resolution Spectropolarimetry MIDEX Mission." 2022, Proceedings of the SPIE, v. 12181, id. 1218106
15. Nichols, Naze, Huenemoerder, Moffat, Miller, **Ignace**, Gayley, Hamann, Oskinova, Lauer. "X-ray Variability of the Massive O star zeta Pup." 2021, in proceedings of MOBSTER-1 virtual conference: Stellar Variability as a Probe of Magnetic Fields in Massive Stars
16. Scowen, +9. "The Polstar High Resolution Spectropolarimetry MIDEX Mission." 2021, Proc. of the SPIE, v. 11819, id. 1181908
17. Shrestha, Hoffman, **Ignace**, Neilson. "Astronomy in Denver: Polarization of bow shock nebulae around massive stars." 2018, Jun AAS meeting, #232, oral 117.02
18. Oskinova, **Ignace**, Huenemoerder. "X-ray Diagnostics of Massive Star Winds." 2017, in *The Lives and Death-Throes of Massive Stars*, IAU Symp. #329, (ed) J. J. Eldredge, 151-155
19. Klement, Carciofi, Rivinius, Matthews, **Ignace**, Bjorkman, Vieira, Mota, Faes, Stefl. "The outer disk of the classical Be star  $\psi$  Per." 2017, in *The Lives and Death-Throes of Massive Stars*, IAU Symp. #329, (ed) J. J. Eldredge, 414
20. **Ignace**, St-Louis, Tremblay<sup>†</sup>, Proulx-Girardeau<sup>†</sup>. "Variable Polarization from Co-Rotating Interaction Regions in Massive Star Winds." 2017, Jan AAS meeting, #229, oral 232.07
21. **Ignace**, Henson, Asbury<sup>†</sup>. "Modeling the Variable Polarization of Epsilon Aurigae." 2016, Jun AAS meeting #228, oral 208.04
22. Huenemoerder, Oskinova, **Ignace**, Hamann, Schulz, Neilson, Shenar. "A Deep X-ray look at a very massive star: HETGS spectroscopy of the blue hypergiant Cyg OB2-12 (HIP 101364)." 2016, American Astronomical Society, HEAD meeting #15, 117.02
23. Huenemoerder, Gayley, Hamann, **Ignace**, Nichols, Oskinova, Pollock, Schulz. "High Resolution X-ray Spectra of WR 6." 2015, in *Wolf-Rayet Stars*, (eds) W.-R. Hamann, A. Sander, H. Todt, (Universitätsverlag Potsdam)
24. **Ignace**. "Radio Emission from Macroclumps in Massive Star Winds." 2014, Jun AAS meeting #224, oral 404.06
25. Neilson, **Ignace**. "Cepheid in the Eclipsing Binary System OGLE-LMC-CEP1812 is a Stellar Merger." 2014, Jun AAS meeting #224, 314.03
26. **Ignace** (invited). "Continuum Polarization in Circumstellar Media." 2014, oral presentation given at Theory and Modelling of Polarisation in Astrophysics (see [www.asu.cas.cz/~wg2prague](http://www.asu.cas.cz/~wg2prague))
27. **Ignace** (invited). "Faraday Rotation Effects for Diagnosing Magnetism in Bubble Environments." 2014, in *Wind Bubbles, Astrospheres and the Heliosphere: Environments and Cosmic Rays*, (eds) D. Bomans, H. Fichtner, K. Scherer, J. Tjus, K. Weis, ASTRA Proc., vol. 1, (Copernicus Pub.), 1
28. **Ignace**, Waldron, Cassinelli. "X-ray Emissions from Clump Bowshocks in Massive Star Winds." 2012, Jan AAS meeting #219, oral 224.01
29. Huenemoerder, Oskinova, Hamann, **Ignace**, Todt, Waldron. "X-Ray Line Emission from Weak Wind O-Stars." 2011, American Astronomical Society, HEAD meeting #12, #10.02
30. Oskinova, Todt, **Ignace**, Brown, Cassinelli, Hamann. "Early Magnetic B-Type Stars: X-ray Emission and Wind Properties." 2011, to appear in *The X-ray Universe*
31. **Ignace**, Hole, Cassinelli, Henson. "Linear Polarization Light Curves of Oblique Magnetic Rotators." 2011, May AAS meeting #218, oral #121.06
32. Oskinova, Hamann, **Ignace**, Feldmeier. "X-rays, Clumping, and Wind Structures." 2011, Proceedings of the 39th Liege Astrophysical Colloquium, (eds) G. Rauw, M. de Becker, Y. Naze, J.-M. Vreux, P. Williams, v. 80, 54
33. **Ignace**, Giroux, Luttermoser. "Radio Emissions from Companions to Cool Giant Stars." 2010, January AAS meeting #215, oral #377.04

34. Gayley, **Ignace**. "The Zeeman Effect in Hot-Star Winds with a Split Monopole Magnetic Field." 2009, in Recent Directions in Astrophysical Quantitative Spectroscopy and Radiation Hydrodynamics, AIP Conf. Proc. #1171, 187
35. **Ignace**, Bjorkman, Bunker<sup>†</sup>. "Polarization and SEDs from Microlensing of Circumstellar Envelopes." 2008, Proceedings of the Manchester Microlensing Conference: The 12th International Conference and ANGLES Microlensing Workshop, (eds.) Kerins, Mao, Rattenbury, Wyrzykowski (arXiv:0804.2176)
36. **Ignace**, Gayley (*invited*). "Circumstellar Magnetic Field Diagnostics from Line Polarization." 2008, in Clumping in Hot Star Winds, (eds.) Hamann, Feldmeier, Oskinova, 137
37. Cassinelli, **Ignace**, Waldron, Cho, Murphy, Lazarian. "X-ray Line Emission Produced in Clump Bow Shocks." 2008, in Clumping in Hot Star Winds, (eds.) Hamann, Feldmeier, Oskinova, 217
38. Hubrig, Scholler, Briquet, Szeifer, Pogodin, Yudin, Gonazalez, Aerts, Morel, De Cat, **Ignace**, North, Mathys, Peters. "Magnetic Fields in Massive Stars." 2007, in Contributions of the Astronomical Observatory Skalnaté Pleso, v. 38, 223
39. **Ignace**. "The Hanle Effect for Circumstellar Media." 2007, Solar and Stellar Astrophysics, a symposium in honor of John Brown, Regius Professor of Astronomy at the University of Glasgow and Tenth Astronomer Royal for Scotland
40. **Ignace**, Oskinova, Waldron, Hoffman, Hamann. "An X-ray View of the Interacting Binary Beta Lyrae with Suzaku." 2007, oral, BAAS, 38, 1217
41. **Ignace**, Bryce, Hendry. "Microlensing Effects on Emission Lines from Homologously Expanding Winds." 2005, oral, BAAS, 36, 1401
42. **Ignace**. "Discerning Circumstellar Magnetic Fields with the Hanle Effect." 2004, at Massive Stars: from Photosphere to  $V_{\infty}$ , a workshop to honor the career of Joseph P. Cassinelli
43. **Ignace**, Churchwell. "Considerations of Clumpiness for the Free-Free Radio Spectra of Compact HII Regions." 2004, oral, BAAS, 35, 1319
44. **Ignace** (*invited*). "Issues in Modelling X-ray Line Profiles from Circumstellar Flows." 2003, at Structure in Hot Star Winds, workshop held at UCL
45. **Ignace** (*invited*). "The Hanle Effect as a Diagnostic of Magnetic Fields." 2003, in Magnetic Fields in O, B and A Stars: Origin and Relation to Pulsation, Rotation and Mass Loss, (eds.) Balona, Henrichs, and Medupe, 28
46. **Ignace**, Oskinova, Pollock, Brown, Hamann. "X-rays from Wolf-Rayet Stars." 2002, oral, BAAS, 34, 1156
47. Oskinova, Brown, Cassinelli, **Ignace**. "What Do the Filling Factors of X-ray Emitting Material Tell Us?" 2002, in Interacting Winds from Massive Stars, ASP Conf. #260, (eds.) A. Moffat and N. St.-Louis, 205
48. **Ignace**, Gayley. "Theoretical X-ray Emission Line Profiles in Expanding Flows, and Application to the Wind of  $\zeta$  Puppis." 2002, oral, BAAS, 33, 1523
49. Cassinelli, Nordsieck, **Ignace**. "Determination of Magnetic Fields in the Winds from Hot Stars Using the Hanle Effect." 2001, in Magnetic Fields across the Hertzsprung-Russell Diagram, ASP Conf. Ser. #248, (eds.) G. Mathys, S. Solanki, and D. Wickramasinghe, 409
50. **Ignace**. "Polarization Light Curves from Microlensing of Extended Spherical Envelopes." 2001, oral, BAAS, 33, 817
51. Bryce, Hendry, **Ignace**, Valls-Gabaud. "Microlensing of Extended Sources." 2001, in Gravitational Lensing: Recent Progress and Future Goals, ASP Conf. Ser. #237, (eds.) Brainerd and Kochanek, 251
52. Gayley, **Ignace**, Owocki. "Radiative Forces in Be Disks: Precession of Nearly Circular Orbits." 2001, oral, BAAS, 32, 1502
53. **Ignace**. "Status of the Hanle Effect for Stars." 2001, in Advanced Solar Polarimetry – Theory, Observation, and Instrumentation, ASP Conf. Ser. #236, (ed.) M. Sigwarth, 227
54. **Ignace**, Hendry. "Analytic Inversion of Emission Lines of Arbitrary Optical Depth for the Structure of Supernova Ejecta." 2000, oral, 32, 764
55. Oskinova, **Ignace**. "Variability of X-ray Emission from Inhomogeneous Hot Star Winds." 2000, in Thermal and Ionization Aspects of Flows from Hot stars, ASP Conf. Ser. 204, (eds.) H. Lamers and A. Sagar, 221
56. **Ignace**. "Polarization from Be Disks with 1-Armed Density Waves." 2000, in The Be Phenomenon in Early-Type Stars, IAU Colloq. #175, (eds.) M. Smith, H. Henrichs, and J. Fabregat, 452
57. **Ignace**. "Polarimetric Variability in Inhomogeneous Stellar Winds." 1999 Robert Cormack Bequest Meeting in Astronomy hosted by Glasgow Caledonian University, (organizer) B. Steves
58. **Ignace**. "Imaging Circumstellar Envelopes with Microlensing." 1999, a one day meeting on Gravitational

- Micro lensing hosted by The Royal Astronomical Society, (organizers) D. Valls-Gabaud and W. Sutherland
59. Brown, **Ignace**, Piana. "Inverse Spectropolarimetric Modeling of Hot Star Wind Structure and Variability." 1999, in *Variable and Non-Spherical Stellar Winds in Luminous Stars*, IAU Colloq # 169, (eds.) B. Wolf, O. Stahl, and A. Fullerton, 111
  60. **Ignace** (invited). "The Hanle Effect as a Probe of Stellar Magnetic Fields." 1998, in *Cyclical Variability of Stellar Winds*, (eds.) L. Kaper and A. Fullerton (Berlin: Springer), 224
  61. Cassinelli, **Ignace**. "Disks Around B[e] and LBV Stars." 1997, in *Luminous Blue Variables: Massive Stars in Transition*, (eds.) A. Nota and H. Lamers, ASP Conf. Series #120, 166
  62. **Ignace**. "Theoretical and Observational Consequences of Rotation and Magnetic Fields in Stellar Winds." 1996, oral contribution (dissertation) at the 188th AAS meeting
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