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J. Ross Macdonald Distinguished Professor

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Education

- 1989 – 1993 📖 **Ph.D., Physics.** University of Notre Dame, IN, USA.
Thesis title: *Explosive stellar hydrogen burning in the mass $A = 30 - 40$ region.*
Advisor: Michael Wiescher.
https://iliadis.web.unc.edu/wp-content/uploads/sites/17033/2021/02/PhD_thesis_lowRes.pdf
- 1987 – 1989 📖 **Diplom, Physics.** Westfälische Wilhelms-Universität Münster, Germany.
Thesis title: *Wasserstoff-Brennen der Nuklide ^{25}Mg , ^{26}Mg , und ^{27}Al in Sternen.*
Advisor: Claus Rolfs.
<https://iliadis.web.unc.edu/wp-content/uploads/sites/17033/2021/02/Stellare-Reaktionstraten.pdf>








Professional Experience

- 2018 – . . . 📖 **J. Ross Macdonald Distinguished Professor.** Department of Physics & Astronomy, University of North Carolina, Chapel Hill, NC, USA.
- 2016 – 2021 📖 **Department Chair.** Department of Physics & Astronomy. University of North Carolina, Chapel Hill, NC, USA. In charge of: 33 tenure-line, 6 teaching, 5 research faculty; 15 academic staff; 85 graduate students; 200 majors; 5,800 annual course enrollment; \$11.6M research funding; \$8.2M endowments; \$840k private funds; 4 startup companies. Achievements: hired 7 new tenure-line faculty; revised graduate student curriculum; led external 10-year department review; supervised building renovations; established new CoSMS Institute.
- 2006 – 2018 📖 **Professor.** Department of Physics & Astronomy. University of North Carolina, Chapel Hill, NC, USA.
- 2001 – 2006 📖 **Associate Professor.** Department of Physics & Astronomy. University of North Carolina, Chapel Hill, NC, USA.
- 1996 – 2001 📖 **Assistant Professor.** Department of Physics & Astronomy. University of North Carolina, Chapel Hill, NC, USA.
- 1993 – 1996 📖 **Postdoctoral Fellow.** Tri-University Meson Facility (TRIUMF), Vancouver, Canada.
- 1991 – 1993 📖 **Research Assistant.** Department of Physics, University of Notre Dame, Notre Dame, IN, USA.
- 1989 – 1991 📖 **Teaching Assistant.** Department of Physics, University of Notre Dame, Notre Dame, IN, USA.





Honors

- 2018 – . . . 📖 **J. Ross Macdonald Distinguished Professor.**
- 2022 📖 **W. N. Reynolds Research Leave.** University of North Carolina at Chapel Hill.




Honors (continued)

- 2019  **Jesse W. Beams Research Award of the Southeastern Section of the American Physical Society.** [jointly with A. E. Champagne]. Citation: “For their research leadership in experimental nuclear astrophysics, especially for the conception and development of their measurement program of thermonuclear reaction rates at TUNL’s Laboratory for Experimental Nuclear Astrophysics.” [<https://engage.aps.org/sesaps/honors/prizes-awards/beams>]
- 2015  **Kevin Westfold Distinguished Visitor.** Monash University, Melbourne, Australia.
- 2014  **University of North Carolina Board of Governor’s Award for Excellence in Teaching.** UNC’s highest teaching award, annually awarded to a single member of the entire UNC-CH faculty. [<https://www.northcarolina.edu/teaching-awards-2014/>].
- 2012  **W. N. Reynolds Research Leave.** University of North Carolina at Chapel Hill.
- 2008  **Star Heel Outstanding Service Award.** University of North Carolina at Chapel Hill.
- 2007  **Visiting Professorship.** Universite Catholique de Louvain, Belgium.
- 1996  **Junior Faculty Development Award.** University of North Carolina at Chapel Hill.

Research Areas





- Nuclear Physics  Experimental studies of nuclear reactions; nuclear level structures; measurement of cross sections, spins and parities, angular correlations; theoretical calculation of level properties and astrophysical S-factors.
- Astrophysics  Thermonuclear reaction rates; nuclear reaction networks; Monte Carlo simulations of nucleosynthesis; globular star clusters; presolar grains; classical nova and supernova explosions; stellar evolution; nuclear reaction sensitivity studies.
- Instrumentation  Gamma-ray coincidence setups; germanium γ -ray detectors; scintillation neutron detectors; radiation transport in detector crystals; high-intensity low-energy ion accelerators; ultra-clean nuclear target fabrication.
- Statistics  Modeling of pulse-height spectra; Bayesian estimation of nuclear reaction cross sections.

Citation Record [Google Scholar]

-  Total number of citations: >8000
-  h index: 50
-  i10 index: 110

Research Publications

Books and Book Chapters

-  **5** **Iliadis, C.** (2023, projected release). *Nuclear physics of stars* (2nd ed., revised and enlarged). Tsinghua University Press. Chinese translation by Jianjun He.
-  **4** **Iliadis, C.** (2019; Persian year 1398). *Nuclear physics of stars* (2nd ed., revised and enlarged). University of Guilan. Persian (Farsi) translation by Abbas Ghasemizad, Soheil Khoshbinfar, and Seyed Soheil Esmaili. https://basalam.com/idebook/product/2142548?utm_medium=PPC&utm_source=Torob.
-  **3** **Iliadis, C.** (2015). *Nuclear physics of stars* (2nd ed., revised and enlarged). Wiley-VCH.
 doi:10.1002/9783527692668

- 2 Starrfield, S., **Iliadis, C.**, & Hix, W. R. (2008). Thermonuclear processes. In M. F. Bode & A. Evans (Eds.), *Classical novae* (2nd ed., Vol. 43, pp. 77–99). Cambridge University Press.
doi:10.1017/CB09780511536168.006
- 1 **Iliadis, C.** (2007). *Nuclear physics of stars*. Wiley-VCH. doi:10.1002/9783527618750

Refereed Journal Articles [excluding refereed conference proceedings]

- 123 Gribble, D., **Iliadis, C.**, Janssens, R. V. F., Friman-Gayer, U., Krishichayan, & Finch, S. (2022). Investigation of ^{11}B and ^{40}Ca levels at 8–9 MeV by nuclear resonance fluorescence. *Phys. Rev. C*, 106, 014308. doi:10.1103/PhysRevC.106.014308
- 122 Downen, L. N., **Iliadis, C.**, Champagne, A. E., Clegg, T. B., Coc, A., & Dermigny, J. (2022). Thermonuclear reaction rate of $^{29}\text{Si}(p, \gamma)^{30}\text{P}$. *Phys. Rev. C*, 105, 055804. doi:10.1103/PhysRevC.105.055804
- 121 Downen, L., **Iliadis, C.**, Champagne, A., Clegg, T., Coc, A., & José, J. (2022). Hydrogen burning of ^{29}Si and its impact on presolar stardust grains from classical novae. *The Astrophysical Journal*, 928(2), 128. doi:10.3847/1538-4357/ac582b
- 120 Lotay, G., Doherty, D. T., Janssens, R. V. F., Seweryniak, D., Albers, H. M., Almaraz-Calderon, S., ... Zhu, S. (2022). Revised decay properties of the key 93-keV resonance in the $^{25}\text{Mg}(p, \gamma)$ reaction and its influence on the MgAl cycle in astrophysical environments. *Physical Review C*, 105, L042801. doi:10.1103/PhysRevC.105.L042801
- 119 Moscoso, J., de Souza, R. S., Coc, A., & **Iliadis, C.** (2021). Bayesian estimation of the $\text{D}(p, \gamma)^3\text{He}$ thermonuclear reaction rate. *The Astrophysical Journal*, 923(1), 49. doi:10.3847/1538-4357/ac1db0
- 118 **Iliadis, C.**, & Friman-Gayer, U. (2021). Linear polarization-direction correlations in γ -ray scattering experiments. *European Physics Journal A*, 57(6), 190–229. [Invited review]. doi:10.1140/epja/s10050-021-00472-1
- 117 Rodgers, C. R., & **Iliadis, C.** (2021). On the analysis of signal peaks in pulse-height spectra. *Nuclear Instruments and Methods A*, 998, 165172. doi:10.1016/j.nima.2021.165172
- 116 **Iliadis, C.**, & Coc, A. (2020). Thermonuclear reaction rates and primordial nucleosynthesis. *The Astrophysical Journal*, 901(2), 127. doi:10.3847/1538-4357/abb1a3
- 115 Dermigny, J., **Iliadis, C.**, Champagne, A., & Longland, R. (2020). Thermonuclear reaction rate of $^{30}\text{Si}(p, \gamma)^{31}\text{P}$. *Physical Review C*, 102, 014609. doi:10.1103/PhysRevC.102.014609
- 114 de Souza, R. S., Tan, H. K., Coc, A., & **Iliadis, C.** (2020). Hierarchical Bayesian thermonuclear rate for the $^7\text{Be}(n, p)^7\text{Li}$ big bang nucleosynthesis reaction. *The Astrophysical Journal*, 894(2), 134. doi:10.3847/1538-4357/ab88aa
- 113 Starrfield, S., Bose, M., **Iliadis, C.**, Hix, W. R., Woodward, C. E., & Wagner, R. M. (2020b). Carbon–oxygen classical novae are galactic ^7Li producers as well as potential supernova Ia progenitors. *The Astrophysical Journal*, 895(1), 70. doi:10.3847/1538-4357/ab8d23
- 112 **Iliadis, C.** (2019). Calculation of resonance energies from Q values. *Physical Review C*, 99, 065809. doi:10.1103/PhysRevC.99.065809
- 111 Hunt, S., **Iliadis, C.**, Champagne, A., Downen, L., & Cooper, A. (2019). New measurement of the $E_\alpha^{\text{lab}} = 0.83$ MeV resonance in $^{22}\text{Ne}(\alpha, \gamma)^{26}\text{Mg}$. *Physical Review C*, 99, 045804. doi:10.1103/PhysRevC.99.045804
- 110 de Souza, R. S., **Iliadis, C.**, & Coc, A. (2019). Astrophysical S-factors, thermonuclear rates, and electron screening potential for the $^3\text{He}(d, p)^4\text{He}$ big bang reaction via a hierarchical Bayesian model. *The Astrophysical Journal*, 872(1), 75. doi:10.3847/1538-4357/aafda9

- 109** de Souza, R. S., Boston, S. R., Coc, A., & **Iliadis, C.** (2019). Thermonuclear fusion rates for tritium + deuterium using Bayesian methods. *Physical Review C*, *99*, 014619. [doi:10.1103/PhysRevC.99.014619](https://doi.org/10.1103/PhysRevC.99.014619)
- 108** Hunt, S., Hunt, C., **Iliadis, C.**, & Falvo, M. (2019). Blister resistant targets for nuclear reaction experiments with α -particle beams. *Nuclear Instruments and Methods A*, *921*, 1–7.
[doi:10.1016/j.nima.2018.12.005](https://doi.org/10.1016/j.nima.2018.12.005)
- 107** **Iliadis, C.**, Downen, L. N., José, J., Nittler, L. R., & Starrfield, S. (2018). On presolar stardust grains from CO classical novae. *The Astrophysical Journal*, *855*(2), 76. [doi:10.3847/1538-4357/aaabb6](https://doi.org/10.3847/1538-4357/aaabb6)
- 106** Tillett, A., Benninger, L., Dermigny, J., & **Iliadis, C.** (2018). Measurements of thorium and uranium daughters in radioenvironmental samples using $\gamma\gamma$ -coincidence spectrometry. *Applied Radiation and Isotopes*, *141*, 24–32. [doi:10.1016/j.apradiso.2018.08.013](https://doi.org/10.1016/j.apradiso.2018.08.013)
- 105** Prantzos, N., Charbonnel, C., & **Iliadis, C.** (2017). Revisiting nucleosynthesis in globular clusters. The case of NGC 2808 and the role of He and K. *Astronomy & Astrophysics*, *608*, A28.
[doi:10.1051/0004-6361/201731528](https://doi.org/10.1051/0004-6361/201731528)
- 104** Gómez Iñesta, A., **Iliadis, C.**, & Coc, A. (2017). Bayesian estimation of thermonuclear reaction rates for deuterium + deuterium reactions. *The Astrophysical Journal*, *849*(2), 134.
[doi:10.3847/1538-4357/aa9025](https://doi.org/10.3847/1538-4357/aa9025)
- 103** Dermigny, J. R., & **Iliadis, C.** (2017). Sensitivity to thermonuclear reaction rates in modeling the abundance anomalies of NGC 2419. *The Astrophysical Journal*, *848*(1), 14.
[doi:10.3847/1538-4357/aa8ad0](https://doi.org/10.3847/1538-4357/aa8ad0)
- 102** Tillett, A., Dermigny, J., Emamian, M., Rossi Tonin, Y., Bucay, I., Smith, R., ... **Iliadis, C.** (2017). A low-background $\gamma\gamma$ -coincidence spectrometer for radioisotope studies. *Nuclear Instruments and Methods A*, *871*, 66–71. [doi:10.1016/j.nima.2017.07.057](https://doi.org/10.1016/j.nima.2017.07.057)
- 101** Kelly, K. J., Champagne, A. E., Downen, L. N., Dermigny, J. R., Hunt, S., **Iliadis, C.**, & Cooper, A. L. (2017). New measurements of low-energy resonances in the $^{22}\text{Ne}(p, \gamma)^{23}\text{Na}$ reaction. *Physical Review C*, *95*, 015806. [doi:10.1103/PhysRevC.95.015806](https://doi.org/10.1103/PhysRevC.95.015806)
- 100** Arcones, A., Bardayan, D. W., Beers, T. C., Bernstein, L. A., Blackmon, J. C., Messer, B., ... Zingale, M. (2017). White paper on nuclear astrophysics and low energy nuclear physics Part 1: Nuclear astrophysics. *Progress in Particle and Nuclear Physics*, *94*, 1–67. **[Invited review]**. [doi:10.1016/j.pnpnp.2016.12.003](https://doi.org/10.1016/j.pnpnp.2016.12.003)
- 99** **Iliadis, C.**, Anderson, K. S., Coc, A., Timmes, F. X., & Starrfield, S. (2016). Bayesian estimation of thermonuclear reaction rates. *The Astrophysical Journal*, *831*(1), 107.
[doi:10.3847/0004-637x/831/1/107](https://doi.org/10.3847/0004-637x/831/1/107)
- 98** Daigle, S., Kelly, K. J., Champagne, A. E., Buckner, M. Q., **Iliadis, C.**, & Howard, C. (2016). Measurement of the $E_r^{\text{c.m.}} = 259$ keV resonance in the $^{14}\text{N}(p, \gamma)^{15}\text{O}$ reaction. *Physical Review C*, *94*, 025803.
[doi:10.1103/PhysRevC.94.025803](https://doi.org/10.1103/PhysRevC.94.025803)
- 97** Dermigny, J., **Iliadis, C.**, Buckner, M., & Kelly, K. (2016). Gamma-ray spectroscopy using a binned likelihood approach. *Nuclear Instruments and Methods A*, *830*, 427–437.
[doi:10.1016/j.nima.2016.06.017](https://doi.org/10.1016/j.nima.2016.06.017)
- 96** Fields, C. E., Farmer, R., Petermann, I., **Iliadis, C.**, & Timmes, F. X. (2016). Properties of carbon–oxygen white dwarfs from Monte Carlo stellar models. *The Astrophysical Journal*, *823*(1), 46.
[doi:10.3847/0004-637x/823/1/46](https://doi.org/10.3847/0004-637x/823/1/46)
- 95** Starrfield, S., **Iliadis, C.**, & Hix, W. R. (2016). The thermonuclear runaway and the classical nova outburst. *Publications of the Astronomical Society of the Pacific*, *128*(963), 051001. **[Invited review]**.
[doi:10.1088/1538-3873/128/963/051001](https://doi.org/10.1088/1538-3873/128/963/051001)

- 94 Hunt, S., **Iliadis, C.**, & Longland, R. (2016). Characterization of a ^{10}B -doped liquid scintillator as a capture-gated neutron spectrometer. *Nuclear Instruments and Methods A*, 811, 108–114. [doi:10.1016/j.nima.2015.12.001](https://doi.org/10.1016/j.nima.2015.12.001)
- 93 **Iliadis, C.**, Karakas, A. I., Prantzos, N., Lattanzio, J. C., & Doherty, C. L. (2016). On potassium and other abundance anomalies of red giants in NGC 2419. *The Astrophysical Journal*, 818(1), 98. [doi:10.3847/0004-637x/818/1/98](https://doi.org/10.3847/0004-637x/818/1/98)
- 92 Coc, A., Petitjean, P., Uzan, J.-P., Vangioni, E., Descouvemont, P., **Iliadis, C.**, & Longland, R. (2015). New reaction rates for improved primordial D/H calculation and the cosmic evolution of deuterium. *Physical Review D*, 92, 123526. [doi:10.1103/PhysRevD.92.123526](https://doi.org/10.1103/PhysRevD.92.123526)
- 91 **Iliadis, C.**, Longland, R., Coc, A., Timmes, F. X., & Champagne, A. E. (2015). Statistical methods for thermonuclear reaction rates and nucleosynthesis simulations. *Journal of Physics G: Nuclear and Particle Physics*, 42(3), 034007. **[Invited review]**. [doi:10.1088/0954-3899/42/3/034007](https://doi.org/10.1088/0954-3899/42/3/034007)
- 90 Buckner, M. Q., **Iliadis, C.**, Kelly, K. J., Downen, L. N., Champagne, A. E., Cesaratto, J. M., ... Longland, R. (2015). High-intensity-beam study of $^{17}\text{O}(p, \gamma)^{18}\text{F}$ and thermonuclear reaction rates for $^{17}\text{O} + p$. *Physical Review C*, 91, 015812. [doi:10.1103/PhysRevC.91.015812](https://doi.org/10.1103/PhysRevC.91.015812)
- 89 Mohr, P., Longland, R., & **Iliadis, C.** (2014a). Thermonuclear reaction rate of $^{18}\text{Ne}(\alpha, p)^{21}\text{Na}$ from Monte Carlo calculations. *Physical Review C*, 90, 065806. [doi:10.1103/PhysRevC.90.065806](https://doi.org/10.1103/PhysRevC.90.065806)
- 88 Champagne, A. E., **Iliadis, C.**, & Longland, R. (2014). Nuclear astrophysics in the laboratory and in the universe. *AIP Advances*, 4(4), 041006. [doi:10.1063/1.4864794](https://doi.org/10.1063/1.4864794)
- 87 Howard, C., Ferm, M., Cesaratto, J., Daigle, S., & **Iliadis, C.** (2014). Radioisotope studies of the Farmville meteorite using $\gamma\gamma$ -coincidence spectrometry. *Applied Radiation and Isotopes*, 94, 23–29. [doi:10.1016/j.apradiso.2014.07.001](https://doi.org/10.1016/j.apradiso.2014.07.001)
- 86 Cesaratto, J. M., Champagne, A. E., Buckner, M. Q., Clegg, T. B., Daigle, S., Howard, C., ... Oginni, B. M. (2013). Measurement of the $E_r^{c.m.} = 138$ keV resonance in the $^{23}\text{Na}(p, \gamma)^{24}\text{Mg}$ reaction and the abundance of sodium in AGB stars. *Physical Review C*, 88, 065806. [doi:10.1103/PhysRevC.88.065806](https://doi.org/10.1103/PhysRevC.88.065806)
- 85 Kelly, K. J., **Iliadis, C.**, Downen, L., José, J., & Champagne, A. (2013). Nuclear mixing meters for classical novae. *The Astrophysical Journal*, 777(2), 130. [doi:10.1088/0004-637x/777/2/130](https://doi.org/10.1088/0004-637x/777/2/130)
- 84 Raut, R., Tonchev, A. P., Rusev, G., Tornow, W., **Iliadis, C.**, Lugaro, M., ... Tsoneva, N. (2013). Cross-section measurements of the $^{86}\text{Kr}(\gamma, n)$ reaction to probe the s -process branching at ^{85}Kr . *Physical Review Letters*, 111, 112501. [doi:10.1103/PhysRevLett.111.112501](https://doi.org/10.1103/PhysRevLett.111.112501)
- 83 Pogrebnyak, I., Howard, C., **Iliadis, C.**, Longland, R., & Mitchell, G. E. (2013). Mean proton and α -particle reduced widths of the Porter-Thomas distribution and astrophysical applications. *Physical Review C*, 88, 015808. [doi:10.1103/PhysRevC.88.015808](https://doi.org/10.1103/PhysRevC.88.015808)
- 82 Howard, C., **Iliadis, C.**, & Champagne, A. E. (2013). Monte Carlo simulation of the LENA detector system. *Nuclear Instruments and Methods A*, 729, 254–259. [doi:10.1016/j.nima.2013.07.032](https://doi.org/10.1016/j.nima.2013.07.032)
- 81 Parikh, A., José, J., Sala, G., & **Iliadis, C.** (2013). Nucleosynthesis in type I x-ray bursts. *Progress in Particle and Nuclear Physics*, 69, 225–253. **[Invited review]**. [doi:10.1016/j.pnpnp.2012.11.002](https://doi.org/10.1016/j.pnpnp.2012.11.002)
- 80 Sallaska, A. L., **Iliadis, C.**, Champagne, A. E., Goriely, S., Starrfield, S., & Timmes, F. X. (2013). STARLIB: A next-generation reaction-rate library for nuclear astrophysics. *The Astrophysical Journal Supplement Series*, 207(1), 18. [doi:10.1088/0067-0049/207/1/18](https://doi.org/10.1088/0067-0049/207/1/18)
- 79 Starrfield, S., **Iliadis, C.**, Timmes, F., Hix, W., Arnett, D., Meakin, C., & Sparks, W. (2012). Theoretical studies of accretion of matter onto white dwarfs and the single degenerate scenario for supernovae of type Ia. *Bulletin of the Astronomical Society of India*, 40, 419–442. **[Invited review]**.

- 78** Arnold, C. W., Clegg, T. B., **Iliadis, C.**, Karwowski, H. J., Rich, G. C., Tompkins, J. R., & Howell, C. R. (2012). Cross-section measurement of ${}^9\text{Be}(\gamma, n){}^8\text{Be}$ and implications for $\alpha + \alpha + n \rightarrow {}^9\text{Be}$ in the r process. *Physical Review C*, *85*(4), 044605. [doi:10.1103/PhysRevC.85.044605](https://doi.org/10.1103/PhysRevC.85.044605)
- 77** Buckner, M. Q., **Iliadis, C.**, Cesaratto, J. M., Howard, C., Clegg, T. B., Champagne, A. E., & Daigle, S. (2012b). Thermonuclear reaction rate of ${}^{18}\text{O}(p, \gamma){}^{19}\text{F}$. *Physical Review C*, *86*(6), 065804. [doi:10.1103/PhysRevC.86.065804](https://doi.org/10.1103/PhysRevC.86.065804)
- 76** Downen, L. N., **Iliadis, C.**, José, J., & Starrfield, S. (2012). Nuclear thermometers for classical novae. *The Astrophysical Journal*, *762*(2), 105. [doi:10.1088/0004-637X/762/2/105](https://doi.org/10.1088/0004-637X/762/2/105)
- 75** Longland, R., **Iliadis, C.**, & Karakas, A. I. (2012). Reaction rates for the s-process neutron source ${}^{22}\text{Ne} + \alpha$. *Physical Review C*, *86*(1). See also Publisher's Note in Phys. Rev. C *86*, 019903(E) (2012). [doi:10.1103/PhysRevC.85.065809](https://doi.org/10.1103/PhysRevC.85.065809)
- 74** Mohr, P., & **Iliadis, C.** (2012). Recommended cross-section of the ${}^{16}\text{O}(p, \gamma){}^{17}\text{F}$ reaction below 2.5 MeV: A potential tool for quantitative analysis and depth profiling of oxygen. *Nuclear Instruments and Methods A*, *688*, 62–65. [doi:10.1016/j.nima.2012.05.084](https://doi.org/10.1016/j.nima.2012.05.084)
- 73** José, J., & **Iliadis, C.** (2011). Nuclear astrophysics: The unfinished quest for the origin of the elements. *Reports on Progress in Physics*, *74*(9), 096901. **[Invited review]**. [doi:10.1088/0034-4885/74/9/096901](https://doi.org/10.1088/0034-4885/74/9/096901)
- 72** **Iliadis, C.**, Champagne, A., Chieffi, A., & Limongi, M. (2011). The effects of thermonuclear reaction rate variations on ${}^{26}\text{Al}$ production in massive stars: A sensitivity study. *The Astrophysical Journal Supplement Series*, *193*(1), 16. [doi:10.1088/0067-0049/193/1/16](https://doi.org/10.1088/0067-0049/193/1/16)
- 71** Oginni, B. M., **Iliadis, C.**, & Champagne, A. E. (2011). Theoretical evaluation of the reaction rates for ${}^{26}\text{Al}(n, p){}^{26}\text{Mg}$ and ${}^{26}\text{Al}(n, \alpha){}^{23}\text{Na}$. *Physical Review C*, *83*(2). [doi:10.1103/PhysRevC.83.025802](https://doi.org/10.1103/PhysRevC.83.025802)
- 70** José, J., Moreno, F., Parikh, A., & **Iliadis, C.** (2010). Hydrodynamic models of type I x-ray bursts: Metallicity effects. *The Astrophysical Journal Supplement Series*, *189*(1), 204–239. [doi:10.1088/0067-0049/189/1/204](https://doi.org/10.1088/0067-0049/189/1/204)
- 69** Longland, R., **Iliadis, C.**, Cesaratto, J. M., Champagne, A. E., Daigle, S., Newton, J. R., & Fitzgerald, R. (2010). Resonance strength in ${}^{22}\text{Ne}(p, \gamma){}^{23}\text{Na}$ from depth profiling in aluminum. *Physical Review C*, *81*, 055804. [doi:10.1103/PhysRevC.81.055804](https://doi.org/10.1103/PhysRevC.81.055804)
- 68** Newton, J. R., **Iliadis, C.**, Champagne, A. E., Cesaratto, J. M., Daigle, S., & Longland, R. (2010). Measurement of ${}^{17}\text{O}(p, \gamma){}^{18}\text{F}$ between the narrow resonances at $E_r^{\text{lab}} = 193$ and 519 keV. *Physical Review C*, *81*, 045801. [doi:10.1103/PhysRevC.81.045801](https://doi.org/10.1103/PhysRevC.81.045801)
- 67** Carson, S., **Iliadis, C.**, Cesaratto, J., Champagne, A., Downen, L., Ivanovic, M., ... Tonchev, A. P. (2010). Ratio of germanium detector peak efficiencies at photon energies of 4.4 and 11.7 MeV: Experiment versus simulation. *Nuclear Instruments and Methods A*, *618*(1), 190–198. [doi:10.1016/j.nima.2010.02.128](https://doi.org/10.1016/j.nima.2010.02.128)
- 66** DeBoer, R. J., Wiescher, M., Görres, J., Longland, R., **Iliadis, C.**, Rusev, G., & Tonchev, A. P. (2010). Photoexcitation of astrophysically important states in ${}^{26}\text{Mg}$. II. Ground-state-transition partial widths. *Physical Review C*, *82*(2), 025802. [doi:10.1103/PhysRevC.82.025802](https://doi.org/10.1103/PhysRevC.82.025802)
- 65** **Iliadis, C.**, Longland, R., Champagne, A. E., & Coc, A. (2010a). Charged-particle thermonuclear reaction rates: III. Nuclear physics input. *Nuclear Physics A*, *841*(1-4), 251–322. [doi:10.1016/j.nuclphysa.2010.04.010](https://doi.org/10.1016/j.nuclphysa.2010.04.010)
- 64** **Iliadis, C.**, Longland, R., Champagne, A. E., & Coc, A. (2010b). Charged-particle thermonuclear reaction rates: IV. Comparison to previous work. *Nuclear Physics A*, *841*(1-4), 323–388. [doi:10.1016/j.nuclphysa.2010.04.012](https://doi.org/10.1016/j.nuclphysa.2010.04.012)

- 63** **Iliadis, C.**, Longland, R., Champagne, A. E., Coc, A., & Fitzgerald, R. (2010). Charged-particle thermonuclear reaction rates: II. Tables and graphs of reaction rates and probability density functions. *Nuclear Physics A*, *841*(1-4), 31–250. [doi:10.1016/j.nuclphysa.2010.04.009](https://doi.org/10.1016/j.nuclphysa.2010.04.009)
- 62** Longland, R., **Iliadis, C.**, Champagne, A. E., Newton, J. R., Ugalde, C., Coc, A., & Fitzgerald, R. (2010). Charged-particle thermonuclear reaction rates: I. Monte Carlo method and statistical distributions. *Nuclear Physics A*, *841*(1-4), 1–30. [doi:10.1016/j.nuclphysa.2010.04.008](https://doi.org/10.1016/j.nuclphysa.2010.04.008)
- 61** Longland, R., **Iliadis, C.**, Rusev, G., Tonchev, A. P., deBoer, R. J., Görres, J., & Wiescher, M. (2009). Photoexcitation of astrophysically important states in ^{26}Mg . *Physical Review C*, *80*, 055803. [doi:10.1103/PhysRevC.80.055803](https://doi.org/10.1103/PhysRevC.80.055803)
- 60** Parikh, A., José, J., **Iliadis, C.**, Moreno, F., & Rauscher, T. (2009). Impact of uncertainties in reaction Q values on nucleosynthesis in type I x-ray bursts. *Physical Review C*, *79*, 045802. [doi:10.1103/PhysRevC.79.045802](https://doi.org/10.1103/PhysRevC.79.045802)
- 59** Starrfield, S., **Iliadis, C.**, Hix, W. R., Timmes, F. X., & Sparks, W. M. (2009). The effects of the *pep* nuclear reaction and other improvements in the nuclear reaction rate library on simulations of the classical nova outburst. *The Astrophysical Journal*, *692*(2), 1532–1542. [doi:10.1088/0004-637x/692/2/1532](https://doi.org/10.1088/0004-637x/692/2/1532)
- 58** Parikh, A., José, J., Moreno, F., & **Iliadis, C.** (2008a). The effects of variations in nuclear processes on type I x-ray burst nucleosynthesis. *The Astrophysical Journal Supplement Series*, *178*(1), 110–136. [doi:10.1086/589879](https://doi.org/10.1086/589879)
- 57** Newton, J. R., Longland, R., & **Iliadis, C.** (2008). Matching of experimental and statistical-model thermonuclear reaction rates at high temperatures. *Physical Review C*, *78*, 025805. [doi:10.1103/PhysRevC.78.025805](https://doi.org/10.1103/PhysRevC.78.025805)
- 56** **Iliadis, C.**, Angulo, C., Descouvemont, P., Lugaro, M., & Mohr, P. (2008). New reaction rate for $^{16}\text{O}(p, \gamma)^{17}\text{F}$ and its influence on the oxygen isotopic ratios in massive AGB stars. *Physical Review C*, *77*, 045802. [doi:10.1103/PhysRevC.77.045802](https://doi.org/10.1103/PhysRevC.77.045802)
- 55** van Raai, M. A., Lugaro, M., Karakas, A. I., & **Iliadis, C.** (2008). Reaction rate uncertainties and ^{26}Al in AGB silicon carbide stardust. *Astronomy & Astrophysics*, *478*(2), 521–526. [doi:10.1051/0004-6361:20078307](https://doi.org/10.1051/0004-6361:20078307)
- 54** Parikh, A., José, J., Moreno, F., & **Iliadis, C.** (2008b). The sensitivity of nucleosynthesis in type I x-ray bursts to thermonuclear reaction-rate variations. *New Astronomy Reviews*, *52*(7), 409–411. Astronomy with Radioactivities. VI. [doi:10.1016/j.newar.2008.05.004](https://doi.org/10.1016/j.newar.2008.05.004)
- 53** Ugalde, C., Champagne, A. E., Daigle, S., **Iliadis, C.**, Longland, R., Newton, J. R., ... Wrede, C. (2007). Experimental evidence for a natural parity state in ^{26}Mg and its impact on the production of neutrons for the *s* process. *Physical Review C*, *76*, 025802. [doi:10.1103/PhysRevC.76.025802](https://doi.org/10.1103/PhysRevC.76.025802)
- 52** Newton, J. R., **Iliadis, C.**, Champagne, A. E., Longland, R., & Ugalde, C. (2007). Remeasurement of the 193 keV resonance in $^{17}\text{O}(p, \alpha)^{14}\text{N}$. *Physical Review C*, *75*, 055808. [doi:10.1103/PhysRevC.75.055808](https://doi.org/10.1103/PhysRevC.75.055808)
- 51** Newton, J. R., **Iliadis, C.**, Champagne, A. E., Coc, A., Parpottas, Y., & Ugalde, C. (2007). Gamow peak in thermonuclear reactions at high temperatures. *Physical Review C*, *75*, 045801. [doi:10.1103/PhysRevC.75.045801](https://doi.org/10.1103/PhysRevC.75.045801)
- 50** Champagne, A. E., & **Iliadis, C.** (2007). First results from LENA. *Modern Physics Letters A*, *22*(04), 243–257. [doi:10.1142/S0217732307022724](https://doi.org/10.1142/S0217732307022724)
- 49** Izzard, R. G., Lugaro, M., Karakas, A. I., **Iliadis, C.**, & van Raai, M. (2007). Reaction rate uncertainties and the operation of the NeNa and MgAl chains during HBB in intermediate-mass AGB stars. *Astronomy & Astrophysics*, *466*(2), 641–648. [doi:10.1051/0004-6361:20066903](https://doi.org/10.1051/0004-6361:20066903)

- 48 Lugaro, M., Karakas, A. I., Nittler, L. R., O'D. Alexander, C. M., Hoppe, P., **Iliadis, C.**, & Lattanzio, J. C. (2007). On the asymptotic giant branch star origin of peculiar spinel grain OC2. *Astronomy & Astrophysics*, 461(2), 657–664. doi:10.1051/0004-6361:20065768
- 47 Prantzos, N., Charbonnel, C., & **Iliadis, C.** (2007). Light nuclei in galactic globular clusters: Constraints on the self-enrichment scenario from nucleosynthesis. *Astronomy & Astrophysics*, 470(1), 179–190. doi:10.1051/0004-6361:20077205
- 46 José, J., Hernanz, M., & **Iliadis, C.** (2006). Nucleosynthesis in classical novae. *Nuclear Physics A*, 777, 550–578. [Invited review]. doi:10.1016/j.nuclphysa.2005.02.121
- 45 Longland, R., **Iliadis, C.**, Champagne, A. E., Fox, C., & Newton, J. R. (2006). Nuclear astrophysics studies at the LENA facility: The γ -ray detection system. *Nuclear Instruments and Methods A*, 566(2), 452–464. doi:10.1016/j.nima.2006.07.006
- 44 Fox, C., **Iliadis, C.**, Champagne, A. E., Fitzgerald, R. P., Longland, R., Newton, J., ... Runkle, R. (2005). Thermonuclear reaction rate of $^{17}\text{O}(p, \gamma)^{18}\text{F}$. *Physical Review C*, 71, 055801. doi:10.1103/PhysRevC.71.055801
- 43 Runkle, R. C., Champagne, A. E., Angulo, C., Fox, C., **Iliadis, C.**, Longland, R., & Pollanen, J. (2005). Direct measurement of the $^{14}\text{N}(p, \gamma)^{15}\text{O}$ S factor. *Physical Review Letters*, 94, 082503. doi:10.1103/PhysRevLett.94.082503
- 42 Hale, S. E., Champagne, A. E., **Iliadis, C.**, Hansper, V. Y., Powell, D. C., & Blackmon, J. C. (2004). Investigation of the $^{23}\text{Na}(p, \gamma)^{24}\text{Mg}$ and $^{23}\text{Na}(p, \alpha)^{20}\text{Ne}$ reactions via ($^3\text{He}, d$) spectroscopy. *Physical Review C*, 70, 045802. doi:10.1103/PhysRevC.70.045802
- 41 Rowland, C., **Iliadis, C.**, Champagne, A. E., Fox, C., José, J., & Runkle, R. (2004). Does a NeNa cycle exist in explosive hydrogen burning? *The Astrophysical Journal Letters*, 615(1), L37–L40. doi:10.1086/425964
- 40 Fox, C., **Iliadis, C.**, Champagne, A. E., Coc, A., José, J., Longland, R., ... Runkle, R. (2004). Explosive hydrogen burning of ^{17}O in classical novae. *Physical Review Letters*, 93, 081102. doi:10.1103/PhysRevLett.93.081102
- 39 **Iliadis, C.**, & Wiescher, M. (2004). Spectroscopic factors from direct proton capture. *Physical Review C*, 69, 064305. doi:10.1103/PhysRevC.69.064305
- 38 **Iliadis, C.**, Champagne, A., Jose, J., Starrfield, S., & Tupper, P. (2003). Element synthesis in novae. *Revista Mexicana de Física*, 49(Supl. 4), 45–49.
- 37 Bardayan, D. W., Batchelder, J. C., Blackmon, J. C., Champagne, A. E., Davinson, T., Fitzgerald, R., ... Woods, P. J. (2002a). Strength of the $^{18}\text{F}(p, \alpha)^{15}\text{O}$ resonance at $E_{c.m.} = 330$ keV. *Physical Review Letters*, 89, 262501. doi:10.1103/PhysRevLett.89.262501
- 36 Chow, J. C., King, J. D., Bateman, N. P. T., Boyd, R. N., Buchmann, L., D'Auria, J. M., ... Shotter, A. (2002). β -delayed particle decay of ^{17}Ne into $p + \alpha + ^{12}\text{C}$ through the isobaric analog state in ^{17}F . *Physical Review C*, 66, 064316. doi:10.1103/PhysRevC.66.064316
- 35 Bertone, P. F., Champagne, A. E., Boswell, M., **Iliadis, C.**, Hale, S. E., Hansper, V. Y., & Powell, D. C. (2002). $^{14}\text{N}(^3\text{He}, d)^{15}\text{O}$ As a probe of direct capture in the $^{14}\text{N}(p, \gamma)^{15}\text{O}$ reaction. *Physical Review C*, 66, 055804. doi:10.1103/PhysRevC.66.055804
- 34 **Iliadis, C.**, Champagne, A., Jose, J., Starrfield, S., & Tupper, P. (2002). The effects of thermonuclear reaction-rate variations on nova nucleosynthesis: A sensitivity study. *The Astrophysical Journal Supplement Series*, 142(1), 105–137. doi:10.1086/341400
- 33 Runkle, R. C., Champagne, A. E., Fox, C., **Iliadis, C.**, Pollanen, J., Stephan, A., & Westerfeldt, C. (2002). Search for a resonance in the $^{14}\text{N}(p, \gamma)^{15}\text{O}$ reaction at $E_p = 127$ keV. *Physical Review C*, 66, 022801. doi:10.1103/PhysRevC.66.022801

- 32** Rowland, C., **Iliadis, C.**, Champagne, A. E., & Mosher, J. (2002). Measurement of the $E_R = 338$ keV resonance strength for $^{23}\text{Na}(p, \alpha)^{20}\text{Ne}$. *Physical Review C*, *65*, 064609. [doi:10.1103/PhysRevC.65.064609](https://doi.org/10.1103/PhysRevC.65.064609)
- 31** Bardayan, D. W., Blackmon, J. C., Champagne, A. E., Dummer, A. K., Davinson, T., Greife, U., ... Woods, P. J. (2002). Astrophysically important ^{26}Si states studied with the $^{28}\text{Si}(p, t)^{26}\text{Si}$ reaction. *Physical Review C*, *65*, 032801. [doi:10.1103/PhysRevC.65.032801](https://doi.org/10.1103/PhysRevC.65.032801)
- 30** Morton, A. C., Chow, J. C., King, J. D., Boyd, R. N., Bateman, N. P. T., Buchmann, L., ... Shotton, A. (2002). Beta-delayed particle decay of ^{17}Ne . *Nuclear Physics A*, *706*(1), 15–47. [doi:10.1016/S0375-9474\(02\)00862-X](https://doi.org/10.1016/S0375-9474(02)00862-X)
- 29** Rowland, C., **Iliadis, C.**, Champagne, A. E., Dummer, A. K., Fitzgerald, R., Harley, E. C. T., ... Runkle, R. (2002). Studies of weak capture- γ -ray resonances via coincidence techniques. *Nuclear Instruments and Methods A*, *480*(2), 610–625. [doi:10.1016/S0168-9002\(01\)01231-1](https://doi.org/10.1016/S0168-9002(01)01231-1)
- 28** Hale, S. E., Champagne, A. E., **Iliadis, C.**, Hansper, V. Y., Powell, D. C., & Blackmon, J. C. (2001). Investigation of the $^{22}\text{Ne}(p, \gamma)^{23}\text{Na}$ reaction via $(^3\text{He}, d)$ spectroscopy. *Physical Review C*, *65*, 015801. [doi:10.1103/PhysRevC.65.015801](https://doi.org/10.1103/PhysRevC.65.015801)
- 27** Bertone, P. F., Champagne, A. E., Powell, D. C., **Iliadis, C.**, Hale, S. E., & Hansper, V. Y. (2001). Lifetime of the 6793-keV state in ^{15}O . *Physical Review Letters*, *87*, 152501. [doi:10.1103/PhysRevLett.87.152501](https://doi.org/10.1103/PhysRevLett.87.152501)
- 26** **Iliadis, C.**, D'Auria, J. M., Starrfield, S., Thompson, W. J., & Wiescher, M. (2001). Proton-induced thermonuclear reaction rates for $A = 20 - 40$ nuclei. *The Astrophysical Journal Supplement Series*, *134*(1), 151–171. [doi:10.1086/320364](https://doi.org/10.1086/320364)
- 25** Bateman, N., Abe, K., Ball, G., Buchmann, L., Chow, J., D'Auria, J. M., ... Tanaka, M. H. (2001). Measurement of the $^{24}\text{Mg}(p, t)^{22}\text{Mg}$ reaction and implications for the $^{21}\text{Na}(p, \gamma)^{22}\text{Mg}$ stellar reaction rate. *Physical Review C*, *63*, 035803. [doi:10.1103/PhysRevC.63.035803](https://doi.org/10.1103/PhysRevC.63.035803)
- 24** Mosher, J., **Iliadis, C.**, Bertone, P. F., Champagne, A. E., Ross, J. G., & Stephan, A. (2001). Nuclear recoil detection with microchannel plates. *Nuclear Instruments and Methods A*, *459*(3), 532–542. [doi:10.1016/S0168-9002\(00\)01056-1](https://doi.org/10.1016/S0168-9002(00)01056-1)
- 23** Gete, E., Buchmann, L., Azuma, R. E., Anthony, D., Bateman, N., Chow, J. C., ... Morton, A. C. (2000). β -delayed particle decay of ^9C and the $A = 9, T = 1/2$ nuclear system: Experiment, data, and phenomenological analysis. *Physical Review C*, *61*, 064310. [doi:10.1103/PhysRevC.61.064310](https://doi.org/10.1103/PhysRevC.61.064310)
- 22** Hansper, V. Y., Champagne, A. E., Hale, S. E., **Iliadis, C.**, & Powell, D. C. (2000). Measurement of the $^{40}\text{Ca}(^3\text{He}, t)^{40}\text{Sc}$ reaction. *Physical Review C*, *61*, 028801. [doi:10.1103/PhysRevC.61.028801](https://doi.org/10.1103/PhysRevC.61.028801)
- 21** **Iliadis, C.**, Endt, P. M., Prantzos, N., & Thompson, W. J. (1999). Explosive hydrogen burning of ^{27}Si , ^{31}S , ^{35}Ar , and ^{39}Ca in novae and x-ray bursts. *The Astrophysical Journal*, *524*(1), 434–453. [doi:10.1086/307778](https://doi.org/10.1086/307778)
- 20** Powell, D. C., **Iliadis, C.**, Champagne, A. E., Grossmann, C. A., Hale, S. E., Hansper, V. Y., & McLean, L. K. (1999). Reaction rate of $^{24}\text{Mg}(p, \gamma)^{25}\text{Al}$. *Nuclear Physics A*, *660*(3), 349–378. [doi:10.1016/S0375-9474\(99\)00390-5](https://doi.org/10.1016/S0375-9474(99)00390-5)
- 19** Thompson, W. J., & **Iliadis, C.** (1999). Error analysis for resonant thermonuclear reaction rates. *Nuclear Physics A*, *647*(3), 259–279. [doi:10.1016/S0375-9474\(98\)00617-4](https://doi.org/10.1016/S0375-9474(98)00617-4)
- 18** Herndl, H., Fantini, M., **Iliadis, C.**, Endt, P. M., & Oberhummer, H. (1998). Thermonuclear reaction rate of $^{23}\text{Mg}(p, \gamma)^{24}\text{Al}$. *Physical Review C*, *58*, 1798–1803. [doi:10.1103/PhysRevC.58.1798](https://doi.org/10.1103/PhysRevC.58.1798)
- 17** Utku, S., Ross, J. G., Bateman, N. P. T., Bardayan, D. W., Chen, A. A., Görres, J., ... Yildiz, K. (1998). Breakout from the hot CNO cycle: The $^{18}\text{F}(p, \gamma)$ vs. $^{18}\text{F}(p, \alpha)$ branching ratio. *Physical Review C*, *57*, 2731–2739. See also Phys. Rev. C *58*, 1354 (1998) erratum. [doi:10.1103/PhysRevC.57.2731](https://doi.org/10.1103/PhysRevC.57.2731)

- 16** Chow, J. C., Morton, A. C., Azuma, R. E., Bateman, N., Boyd, R. N., Buchmann, L., ... Shotter, A. (1998). Three-particle breakup of the isobaric analog state in ^{17}F . *Physical Review C*, 57, R475–R478.
[doi:10.1103/PhysRevC.57.R475](https://doi.org/10.1103/PhysRevC.57.R475)
- 15** Powell, D. C., **Iliadis, C.**, Champagne, A. E., Hale, S. E., Hansper, V. Y., Surman, R. A., & Veal, K. D. (1998). Low-energy resonance strengths for proton capture on Mg and Al nuclei. *Nuclear Physics A*, 644(4), 263–276. [doi:10.1016/S0375-9474\(98\)00593-4](https://doi.org/10.1016/S0375-9474(98)00593-4)
- 14** **Iliadis, C.** (1997). Proton single-particle reduced widths for unbound states. *Nuclear Physics A*, 618(1), 166–175. [doi:10.1016/S0375-9474\(97\)00065-1](https://doi.org/10.1016/S0375-9474(97)00065-1)
- 13** **Iliadis, C.**, Buchmann, L., Endt, P. M., Herndl, H., & Wiescher, M. (1996). New stellar reaction rates for $^{25}\text{Mg}(p,\gamma)^{26}\text{Al}$ and $^{25}\text{Al}(p,\gamma)^{26}\text{Si}$. *Physical Review C*, 53, 475–496. [doi:10.1103/PhysRevC.53.475](https://doi.org/10.1103/PhysRevC.53.475)
- 12** **Iliadis, C.**, Azuma, R. E., Buchmann, L., Chow, J., D'Auria, J. M., Dombisky, M., ... Morton, A. C. (1996). Beta-delayed particle decay of ^{36}K . *Nuclear Physics A*, 609(2), 237–253.
[doi:10.1016/0375-9474\(96\)00297-7](https://doi.org/10.1016/0375-9474(96)00297-7)
- 11** Ross, J. G., Görres, J., **Iliadis, C.**, Vouzoukas, S., Wiescher, M., Vogelaar, R. B., ... Parker, P. D. (1995). Indirect study of low-energy resonances in $^{31}\text{P}(p,\alpha)^{28}\text{Si}$ and $^{35}\text{Cl}(p,\alpha)^{32}\text{S}$. *Physical Review C*, 52, 1681–1690. [doi:10.1103/PhysRevC.52.1681](https://doi.org/10.1103/PhysRevC.52.1681)
- 10** van Wormer, L., Görres, J., **Iliadis, C.**, Wiescher, M., & Thielemann, F. K. (1994). Reaction rates and reaction sequences in the rp -process. *The Astrophysical Journal*, 432, 326. [doi:10.1086/174572](https://doi.org/10.1086/174572)
- 9** Vouzoukas, S., Browne, C. P., Giesen, U., Görres, J., Graff, S. M., Herndl, H., ... Rollefson, A. A. (1994). Reaction rate for $^{31}\text{S}(p,\gamma)^{32}\text{Cl}$ and its influence on the SiP cycle in hot stellar hydrogen burning. *Physical Review C*, 50, 1185–1193. [doi:10.1103/PhysRevC.50.1185](https://doi.org/10.1103/PhysRevC.50.1185)
- 8** **Iliadis, C.**, Görres, J., Ross, J. G., Scheller, K. W., Wiescher, M., Azuma, R. E., ... Evans, H. C. (1994). Explosive hydrogen burning of ^{35}Cl . *Nuclear Physics A*, 571(1), 132–158.
[doi:10.1016/0375-9474\(94\)90345-X](https://doi.org/10.1016/0375-9474(94)90345-X)
- 7** **Iliadis, C.**, Höhne, J., Käppeler, F., Meissner, J., Trautvetter, H. P., & Wiescher, M. (1993). Measurement of the resonance at $E_R = 1422$ keV in $^{36}\text{Ar}(p,\gamma)^{37}\text{K}$. *Physical Review C*, 48, R1479–R1483.
[doi:10.1103/PhysRevC.48.R1479](https://doi.org/10.1103/PhysRevC.48.R1479)
- 6** Giesen, U., Browne, C. P., Görres, J., Graff, S., **Iliadis, C.**, Trautvetter, H. P., ... King, J. D. (1993). The astrophysical implications of low-energy resonances in $^{22}\text{Ne} + \alpha$. *Nuclear Physics A*, 561(1), 95–111.
[doi:10.1016/0375-9474\(93\)90167-V](https://doi.org/10.1016/0375-9474(93)90167-V)
- 5** **Iliadis, C.**, Görres, J., Ross, J. G., Scheller, K. W., Wiescher, M., Grama, C., ... Evans, H. C. (1993). Explosive hydrogen burning of ^{31}P . *Nuclear Physics A*, 559(1), 83–99.
[doi:10.1016/0375-9474\(93\)90181-V](https://doi.org/10.1016/0375-9474(93)90181-V)
- 4** **Iliadis, C.**, Giesen, U., Görres, J., Wiescher, M., Graff, S. M., Azuma, R. E., & Barnes, C. A. (1992). Direct proton capture on ^{32}S . *Nuclear Physics A*, 539(1), 97–111. [doi:10.1016/0375-9474\(92\)90237-E](https://doi.org/10.1016/0375-9474(92)90237-E)
- 3** Wiescher, M., Görres, J., **Iliadis, C.**, & Van Wormer, L. (1992). Reaction cycles and flow impedance in the rp -process. *Revista Mexicana de Fisica*, 38(Supl. 2), 215–221.
- 2** **Iliadis, C.**, Giesen, U., Görres, J., Graff, S., Wiescher, M., Azuma, R. E., ... Wang, T. R. (1991). The reaction branching $^{31}\text{P}(p,\gamma)/^{31}\text{P}(p,\alpha)$ in the rp -process. *Nuclear Physics A*, 533(1), 153–169.
[doi:10.1016/0375-9474\(91\)90824-P](https://doi.org/10.1016/0375-9474(91)90824-P)
- 1** **Iliadis, C.**, Schange, T., Rolfs, C., Schröder, U., Somorjai, E., Trautvetter, H. P., ... Paulus, G. (1990). Low-energy resonances in $^{25}\text{Mg}(p,\gamma)^{26}\text{Al}$, $^{26}\text{Mg}(p,\gamma)^{27}\text{Al}$ and $^{27}\text{Al}(p,\gamma)^{28}\text{Si}$. *Nuclear Physics A*, 512(3), 509–530. [doi:10.1016/0375-9474\(90\)90084-Y](https://doi.org/10.1016/0375-9474(90)90084-Y)

Conference Proceedings

- 59** Starrfield, S., Bose, M., **Iliadis, C.**, Hix, W. R., Woodward, C. E., & Wagner, R. M. (2020a). Carbon-oxygen and oxygen-neon classical novae are Galactic ${}^7\text{Li}$ producers. In *Memorie della Societa Astronomica Italiana* (Vol. 91, pp. 175–179). Retrieved from <https://articles.adsabs.harvard.edu/pdf/2020MmSAI...91..175S>
- 58** Starrfield, S., Bose, M., **Iliadis, C.**, Hix, W. R., Woodward, C. E., & Wagner, R. M. (2019). Hydrodynamic simulations of classical novae: CO and ONe white dwarfs are supernova Ia progenitors. In *Proceedings of Science*. PoS(GOLDEN 2019)030, Palermo, Italy: Proceedings of the Workshop on “The Golden Age of Cataclysmic Variables and Related Objects V”. Retrieved from <https://pos.sissa.it/368/030/pdf>
- 57** **Iliadis, C.**, Champagne, A., Clegg, T., Cooper, A., Dermigny, J., Downen, L., ... Little, D. (2019). Direct charged-particle measurements using stable beams above ground. In A. Formicola, M. Junker, L. Gialanella, & G. Imbriani (Eds.), *Proceedings of the 15th International Symposium on Nuclei in the Cosmos – NIC XV* (Vol. 219, pp. 225–230). Assergi, Italy: Springer International Publishing.
- 56** Starrfield, S., Bose, M., **Iliadis, C.**, Hix, W. R., Wagner, R. M., Woodward, C. E., ... Hernanz, M. (2017). Circumstellar environment around type Ia supernovae of different subtypes. In *Proceedings of Science*. PoS(GOLDEN 2017)066, Palermo, Italy: Proceedings of the Workshop on “The Golden Age of Cataclysmic Variables and Related Objects IV”. Retrieved from <https://pos.sissa.it/315/066/pdf>
- 55** Starrfield, S., Bose, M., **Iliadis, C.**, Hix, W. R., José, J., & Hernanz, M. (2017). Accretion onto carbon-oxygen white dwarfs as a possible mechanism for growth to the Chandrasekhar limit. In *American Astronomical Society, HEAD Meeting* (Vol. 16, p. 110.08).
- 54** Lugaro, M., Campbell, S. W., D’Orazi, V., Karakas, A. I., Garcia-Hernandez, D. A., Stancliffe, R. J., ... Rauscher, T. (2016). Current hot questions on the s process in AGB stars. In *Journal of Physics: Conference Series* (Vol. 665, p. 012021). Proceedings of the International Conference on Nuclear Physics in Astrophysics VI – NPA6 (Lisbon, Portugal, May 19–24, 2013). [doi:10.1088/1742-6596/665/1/012021](https://doi.org/10.1088/1742-6596/665/1/012021)
- 53** **Iliadis, C.**, & Champagne, A. E. (2015). Review and experiments on nuclear astrophysics. In *Proceedings of Science*. PoS(GSSI 14)009. [doi:10.22323/1.229.0009](https://doi.org/10.22323/1.229.0009)
- 52** Mohr, P., Longland, R., & **Iliadis, C.** (2014b). Rate and uncertainty of the ${}^{18}\text{Ne}(\alpha, p){}^{21}\text{Na}$ reaction from the Monte-Carlo simulation. In *Proceedings of Science*. PoS(NIC-XIII)036, Debrecen, Hungary: Proceedings of the International Symposium on Nuclei in the Cosmos – NIC XIII.
- 51** Starrfield, S., Timmes, F. X., **Iliadis, C.**, Hix, W. R., Arnett, W. D., Meakin, C., & Sparks, W. M. (2012). Hydrodynamic studies of the evolution of recurrent, symbiotic and dwarf novae: The white dwarfs are growing in mass. In *Baltic Astronomy* (Vol. 21, pp. 76–87). [doi:10.1515/astro-2017-0361](https://doi.org/10.1515/astro-2017-0361)
- 50** **Iliadis, C.** (2012). Nuclear fusion in stars: Origin of the elements. In S. R. Jain, P. Shukla, A. Chatterjee, & V. M. Datar (Eds.), *Proceedings of the 57th Department of Atomic Energy Symposium on Nuclear Physics* (Vol. 57, pp. 77–85). New Delhi, India. Retrieved from <https://inspirehep.net/files/9b035f5a8906e5f63656a2ba3033d420>
- 49** Raut, R., Tornow, W., Tonchev, A. P., Rusev, G., Kelley, J. H., Crowell, A. C., ... Banu, A. (2012). Photodisintegration studies at HI γ S: Addressing the few and the many. In S. R. Jain, P. Shukla, A. Chatterjee, & V. M. Datar (Eds.), *Proceedings of the 57th Department of Atomic Energy Symposium on Nuclear Physics* (Vol. 57, pp. 103–110). New Delhi, India. Retrieved from <https://inspirehep.net/files/141c0d8ccf320cef258d1584348e34b0>
- 48** Buckner, M. Q., **Iliadis, C.**, Cesaratto, J. M., Howard, C., Clegg, T. B., Champagne, A. E., & Daigle, S. (2012a). Improved thermonuclear reaction rate for ${}^{18}\text{O}(p, \gamma){}^{19}\text{F}$. In *Proceedings of Science*. PoS(NIC-XII)156, Cairns, Australia: Proceedings of the International Symposium on Nuclei in the Cosmos – NIC XII. Retrieved from <https://pos.sissa.it/146/156/pdf>

- 47 Buntain, J., Lugaro, M., **Iliadis, C.**, Raut, R., Tonchev, A., & Karakas, A. I. (2012). Krypton isotopic compositions in stardust SiC grains and AGB winds. In *Proceedings of Science*. PoS(NIC-XII)144, Cairns, Australia: Proceedings of the International Symposium on Nuclei in the Cosmos – NIC XII. Retrieved from <https://pos.sissa.it/146/144/pdf>
- 46 Longland, R., & **Iliadis, C.** (2012). Current status of the $^{22}\text{Ne} + \alpha$ *s*-process neutron source. In *Journal of Physics: Conference Series* (Vol. 337, p. 012047). [doi:10.1088/1742-6596/337/1/012047](https://doi.org/10.1088/1742-6596/337/1/012047)
- 45 Raut, R., Banu, A., **Iliadis, C.**, Kelley, J. H., Rusev, G., Schwengner, R., ... Tornow, W. (2012). Cross-section measurements of the $^{86}\text{Kr}(\gamma, n)$ reaction to probe the *s*-process branching at ^{85}Kr . In *Journal of Physics: Conference Series* (Vol. 337, p. 012048). [doi:10.1088/1742-6596/337/1/012048](https://doi.org/10.1088/1742-6596/337/1/012048)
- 44 Sallaska, A. L., & **Iliadis, C.** (2012). STARLIB: A website tutorial. In *Proceedings of Science*. PoS(NIC-XII)90, Cairns, Australia: Proceedings of the International Symposium on Nuclei in the Cosmos – NIC XII. Retrieved from <https://pos.sissa.it/146/090/pdf>
- 43 José, J., Moreno, F., Parikh, A., & **Iliadis, C.** (2011). Hydrodynamic models of type I x-ray bursts: Metallicity effects. In *Proceedings of Science*. PoS(NIC-XI)208, Heidelberg, Germany: Proceedings of the International Symposium on Nuclei in the Cosmos – NIC XI. Retrieved from <https://pos.sissa.it/100/208/pdf>
- 42 Lemut, A., Couder, M., Champagne, A. E., Collon, P., Famiano, M., Fray, F., ... Wiescher, M. (2011). The DIANA underground accelerator facility project at DUSEL laboratory. In *Proceedings of Science*. PoS(NIC-XI)126, Heidelberg, Germany: Proceedings of the International Symposium on Nuclei in the Cosmos – NIC XI. Retrieved from <https://pos.sissa.it/100/126/pdf>
- 41 Starrfield, S., Timmes, F. X., Hix, W. R., **Iliadis, C.**, Arnett, W. D., Meakin, C., & Sparks, W. M. (2011). Hydrodynamic studies of the evolution of recurrent novae to supernova Ia explosions. In *Proceedings of the IAU Symposium 281 on Binary Paths to Supernova Ia Explosions* (pp. 166–171). [doi:10.1017/S1743921312014937](https://doi.org/10.1017/S1743921312014937)
- 40 Coc, A., **Iliadis, C.**, Longland, R., Champagne, A. E., & Fitzgerald, R. (2010). Monte Carlo reaction rate evaluation for astrophysics. In H. Susa, M. Arnould, S. Gales, T. Motobayashi, C. Scheidenberger, & H. Utsunomiya (Eds.), *Proceedings of the 7th Tours Symposium on Nuclear Physics and Astrophysics* (Vol. 1238, pp. 193–198). [doi:10.1063/1.3455927](https://doi.org/10.1063/1.3455927)
- 39 **Iliadis, C.** (2010a). Introduction to nuclear astrophysics. In C. Spitaleri, C. Rolfs, & R. G. Pizzone (Eds.), *Proceedings of the 5th European Summer School on Experimental Nuclear Astrophysics (ASTRO 2009)* (Vol. 1213, pp. 3–22). [doi:10.1063/1.3362604](https://doi.org/10.1063/1.3362604)
- 38 **Iliadis, C.** (2010b). New developments in experimental thermonuclear reactions. In H. Susa, M. Arnould, S. Gales, T. Motobayashi, C. Scheidenberger, & H. Utsunomiya (Eds.), *Proceedings of the 7th Tours Symposium on Nuclear Physics and Astrophysics* (Vol. 1238, pp. 36–43). [doi:10.1063/1.3455970](https://doi.org/10.1063/1.3455970)
- 37 **Iliadis, C.** (2010c). Topics in Nuclear Astrophysics. In L. Trache, S. Stoica, & A. Smirnov (Eds.), *Proceedings of the Carpathian Summer School of Physics 2010 (Exotic Nuclei and Nuclear/Particle Astrophysics III)* (Vol. 1304, pp. 173–182). [doi:10.1063/1.3527198](https://doi.org/10.1063/1.3527198)
- 36 José, J., Casanova, J., Moreno, F., García-Berro, E., Parikh, A., & **Iliadis, C.** (2010). Hydrodynamic models of classical novae and type I x-ray bursts. In H. Susa, M. Arnould, S. Gales, T. Motobayashi, C. Scheidenberger, & H. Utsunomiya (Eds.), *Proceedings of the 7th Tours Symposium on Nuclear Physics and Astrophysics* (Vol. 1238, pp. 157–162). [doi:10.1063/1.3455920](https://doi.org/10.1063/1.3455920)
- 35 **Iliadis, C.**, & Champagne, A. E. (2008). Direct charged-particle measurements with stable beams. In *Proceedings of Science*. PoS(NIC-X)007, Mackinac Island, USA: Proceedings of the International Symposium on Nuclei in the Cosmos – NIC X. Retrieved from <https://pos.sissa.it/053/007/pdf>

- 34** Parpottas, Y., **Iliadis, C.**, & Tsertos, H. (2008). Two experimental approaches in nuclear astrophysics using neutrons. In P. Demetriou, R. Julin, & S. V. Harissopulos (Eds.), *Proceedings of the 2nd International Conference on Frontiers in Nuclear Structure, Astrophysics and Reactions* (Vol. 1012, pp. 160–164).
doi:10.1063/1.2939286
- 33** Starrfield, S., **Iliadis, C.**, Hix, W. R., Timmes, F. X., & Sparks, W. M. (2007). The effects of changes in reaction rates on simulations of nova explosions. In M. Arnould, M. Lewitowicz, H. Emling, H. Akimune, M. Ohta, H. Utsunomiya, ... T. Yamagata (Eds.), *Proceedings of the 6th Tours Symposium on Nuclear Physics* (Vol. 891, pp. 364–372). doi:10.1063/1.2713538
- 32** Izzard, R. G., Lugaro, M., **Iliadis, C.**, & Karakas, A. (2006). Reaction rate uncertainties: NeNa and MgAl in AGB stars. In *Proceedings of Science. PoS(NIC-IX)038*, Geneva, Switzerland: Proceedings of the International Symposium on Nuclei in the Cosmos – NIC IX. Retrieved from
https://inspirehep.net/files/1b6f4b9ddb31b6a06d367ee06bc09379
- 31** Lugaro, M., Karakas, A. I., Nittler, L. R., Alexander, C. M. O., Hoppe, P., **Iliadis, C.**, & Lattanzio, J. C. (2006). Isotopic composition of presolar spinel grain OC2: Constraining intermediate-mass asymptotic giant branch models. In *Proceedings of Science. PoS(NIC-IX)020*. doi:10.22323/1.028.0020
- 30** **Iliadis, C.**, Champagne, A. E., & José, J. (2005). Explosive hydrogen burning of ^{23}Na in classical novae. In *Journal of Physics G: Nuclear and Particle Physics* (Vol. 31, S1785–S1789). Proceedings of the International Conference on the interface between NUClear STructure, Astrophysics and Reactions - NUSTAR (University of Surrey, Guildford, UK, January 5–8, 2005). doi:10.1088/0954-3899/31/10/073
- 29** **Iliadis, C.**, & Champagne, A. E. (2005). Nuclear astrophysics: Direct measurements with stable beams. In *Nuclear Physics* (Vol. 758, pp. 73–79). Proceedings of the 8th International Symposium on Nuclei in the Cosmos – NIC VIII (Vancouver, British Columbia, Canada, July 19–23, 2004).
doi:10.1016/j.nuclphysa.2005.05.019
- 28** Blackmon, J. C., Bardayan, D. W., Brune, C. R., Carstoiu, F., Champagne, A. E., Crespo, R., ... Yu, C. H. (2004). The $^{17}\text{F}(p, \gamma)^{18}\text{Ne}$ direct capture cross section. In *Nuclear Physics A* (Vol. 746, pp. 365–369). Proceedings of the 6th International Conference on Radioactive Nuclear Beams – RNB6 (Argonne, USA, September 22–26, 2003). doi:10.1016/j.nuclphysa.2004.09.054
- 27** Bardayan, D. W., Batchelder, J. C., Blackmon, J. C., Champagne, A. E., Davison, T., Fitzgerald, R., ... Woods, P. J. (2003). Measurement of the $^{18}\text{F}(p, \alpha)^{15}\text{O}$ cross section at nova energies. In *Nuclear Physics A* (Vol. 718, pp. 590–592). Proceedings of the 7th International Symposium on Nuclei in the Cosmos – NIC VII (Fuji-Yoshida, Japan, July 8–12, 2002). doi:10.1016/S0375-9474(03)00873-X
- 26** Bardayan, D. W., Blackmon, J. C., Champagne, A. E., Dummer, A. K., Davinson, T., Greife, U., ... Woods, P. J. (2003). Study of ^{26}Si states important for ^{26}Al nucleosynthesis in novae. In *Nuclear Physics A* (Vol. 718, pp. 505–507). Proceedings of the 7th International Symposium on Nuclei in the Cosmos – NIC VII (Fuji-Yoshida, Japan, July 8–12, 2002). doi:10.1016/S0375-9474(03)00825-X
- 25** Blackmon, J. C., Bardayan, D. W., Brune, C. R., Champagne, A. E., Crespo, R., Davinson, T., ... Yu, C. H. (2003). The $^{17}\text{F}(p, \gamma)^{18}\text{Ne}$ direct capture cross section. In *Nuclear Physics A* (Vol. 718, pp. 587–589). Proceedings of the 7th International Symposium on Nuclei in the Cosmos – NIC VII (Fuji-Yoshida, Japan, July 8–12, 2002). doi:10.1016/S0375-9474(03)00872-8
- 24** Bardayan, D. W., Batchelder, J. C., Blackmon, J. C., Champagne, A. E., Davinson, T., Fitzgerald, R., ... Woods, P. J. (2002b). Study of the $^{18}\text{F}(p, \alpha)^{15}\text{O}$ reaction at energies relevant for ^{18}F nucleosynthesis in novae. In M. Hernanz & J. Jose (Eds.), *Proceedings of the International Conference on Classical Nova Explosions* (Vol. 637, pp. 425–429). doi:10.1063/1.1518241
- 23** **Iliadis, C.**, Champagne, A. E., José, J., Starrfield, S., & Tupper, P. (2002). The effects of changes in reaction rates on simulations of nova explosions. In M. Hernanz & J. Jose (Eds.), *Proceedings of the International Conference on Classical Nova Explosions* (Vol. 637, pp. 114–118). doi:10.1063/1.1518187

- 22 Starrfield, S., **Iliadis, C.**, Truran, J. W., Wiescher, M., & Sparks, W. M. (2001). Nuclear reaction rates and the nova outburst. In *Nuclear Physics A* (Vol. 688, pp. 110–117). Proceedings of the 6th International Symposium on Nuclei in the Cosmos – NIC2000 (Aarhus, Denmark, June 27 - July 1, 2000).
doi:10.1016/S0375-9474(01)00679-0
- 21 **Iliadis, C.** (2000a). Indirect experimental approaches to reactions important for stellar hydrogen burning. In S. Wender & S. Kelley (Eds.), *Proceedings of the 10th International Symposium on Capture Gamma-Ray Spectroscopy and Related Topics* (Vol. 529, pp. 434–441). doi:10.1063/1.1361405
- 20 **Iliadis, C.** (2000b). Nucleosynthesis of Mg and Al in globular cluster red giant stars. In T. Kajino, S. Kubono, K. Nomoto, & I. Tanihata (Eds.), *Proceedings of the International Symposium on the Origin of Matter and Evolution of Galaxies 2000* (pp. 69–76). doi:10.1142/9789812791276_0007
- 19 Hansper, V. Y., Champagne, A. E., **Iliadis, C.**, Hale, S. E., & Powell, D. C. (1999). Measurement of low-lying states in ^{40}Sc . In B. Rubio, M. Lozano, & W. Gelletly (Eds.), *Proceedings of the Conference on Experimental Nuclear Physics in Europe (ENPE99): Facing the Next Millennium* (Vol. 495, pp. 371–374).
doi:10.1063/1.1301823
- 18 Mosher, J., & **Iliadis, C.** (1999). Nuclear recoil detection with microchannel plates. In J. L. Duggan, B. Stippec, & I. L. Morgan (Eds.), *Proceedings of the 15th International Conference on the Application of Accelerators in Research and Industry* (Vol. 475, pp. 847–849). doi:10.1063/1.59055
- 17 Bateman, N. P. T., Chow., J. C., Morton, A. C., King, J. D., Roy, G., Davinson, T., ... Jackson, K. P. (1998). Using the β -delayed proton decay of ^{17}Ne to study the $^{12}\text{C}(\alpha, \gamma)^{16}\text{O}$ reaction rate. In N. Prantzos & S. Harissopulos (Eds.), *Proceedings of the 5th International Conference on Nuclei in the Cosmos – NIC V* (pp. 103–106). Volos, Greece: Editions Frontieres.
- 16 Champagne, A. E., Hale, S. E., Powell, D. C., **Iliadis, C.**, Hansper, V. Y., & Blackmon, J. C. (1998). Sodium and aluminum in globular clusters: Reaction studies. In N. Prantzos & S. Harissopulos (Eds.), *Proceedings of the 5th International Conference on Nuclei in the Cosmos – NIC V* (pp. 65–70). Volos, Greece: Editions Frontieres.
- 15 Hale, S. E., Champagne, A. E., Hansper, V. Y., **Iliadis, C.**, Powell, D. C., & Blackmon, J. C. (1998). Investigating $^{22}\text{Ne}(p, \gamma)^{23}\text{Na}$ and $^{23}\text{Na}(p, \gamma)^{24}\text{Mg}$ using $(^3\text{He}, d)$ spectroscopy. In N. Prantzos & S. Harissopulos (Eds.), *Proceedings of the 5th International Conference on Nuclei in the Cosmos – NIC V* (pp. 75–78). Volos, Greece: Editions Frontieres.
- 14 Hale, S. E., Powell, D. C., Champagne, A. E., **Iliadis, C.**, Blackmon, J. C., & Hansper, V. Y. (1998). Measurements of reaction rates relevant to abundances in globular clusters. In A. Mezzacappa (Ed.), *Proceedings of the 2nd Oak Ridge Symposium on Atomic and Nuclear Astrophysics* (pp. 363–368). Oak Ridge, USA: IOP Publishing.
- 13 Hansper, V. Y., Champagne, A. E., **Iliadis, C.**, Hale, S. E., & Powell, D. C. (1998). Study of the $^{40}\text{Ca}(^3\text{He}, t)^{40}\text{Sc}$ reaction at 26.0 MeV. In N. Prantzos & S. Harissopulos (Eds.), *Proceedings of the 5th International Conference on Nuclei in the Cosmos – NIC V* (pp. 431–434). Volos, Greece: Editions Frontieres.
- 12 **Iliadis, C.**, Endt, P. M., Prantzos, N., & Thompson, W. J. (1998). Explosive hydrogen burning of ^{27}Si , ^{31}S , ^{35}Ar and ^{39}Ca in novae and x-ray bursts. In N. Prantzos & S. Harissopulos (Eds.), *Proceedings of the 5th International Conference on Nuclei in the Cosmos – NIC V* (pp. 439–442). Volos, Greece: Editions Frontieres.
- 11 King, J. D., Chow., J., Morton, A., Azuma, R., Bateman, N., Boyd, R., ... Shotton, A. (1998). Information about the $^{12}\text{C}(\alpha, \gamma)^{16}\text{O}$ reaction from the β -delayed proton decay of ^{17}Ne . In M. Arnould, M. Lewitowicz, Y. T. Oganessian, M. Ohta, H. Utsonomiya, & T. Wada (Eds.), *Proceedings of the Tours Symposium on Nuclear Physics III* (Vol. 425, pp. 372–381). doi:10.1063/1.55162

- 10** Powell, D. C., **Iliadis, C.**, Champagne, A. E., Hale, S. E., & Hansper, V. Y. (1998). The $^{24}\text{Mg} + p$ reaction and abundances in globular cluster red giants. In N. Prantzos & S. Harissopulos (Eds.), *Proceedings of the 5th International Conference on Nuclei in the Cosmos – NIC V* (pp. 71–74). Volos, Greece: Editions Frontieres.
- 9** **Iliadis, C.**, Azuma, R. E., Chow, J., King, J. D., Morton, A. C., Buchmann, L., ... Wiescher, M. (1997). Decay studies of importance to explosive hydrogen burning. In *Nuclear Physics A* (Vol. 621, pp. 211–214). Proceedings of the 4th International Symposium on Nuclei in the Cosmos – NIC IV (University of Notre Dame, Notre Dame, USA, June 20–27, 1996). doi:10.1016/S0375-9474(97)00240-6
- 8** King, J. D., Azuma, R. E., Chow, J., **Iliadis, C.**, Morton, A. C., Buchmann, L., ... Boyd, R. N. (1997). The β -delayed proton decay of ^{17}Ne and the rate of the $^{12}\text{C}(\alpha, \gamma)^{16}\text{O}$ reaction. In C. A. Bertulani, L. F. Canto, & M. S. Hussein (Eds.), *Proceedings of the 1st International Workshop on the Physics of Unstable Nuclear Beams* (p. 15). Sao Paulo, Brazil: World Scientific.
- 7** King, J. D., Azuma, R. E., **Iliadis, C.**, Morton, A. C., Buchmann, L., Dombisky, M., ... Boyd, R. N. (1997). Investigation of the $^{12}\text{C}(\alpha, \gamma)^{16}\text{O}$ reaction via the β -delayed proton decay of ^{17}Ne . In *Nuclear Physics A* (Vol. 621, pp. 169–172). Proceedings of the 4th International Symposium on Nuclei in the Cosmos – NIC IV (University of Notre Dame, Notre Dame, USA, June 20–27, 1996). doi:10.1016/S0375-9474(97)00232-7
- 6** **Iliadis, C.**, Azuma, R. E., Buchmann, L., Görres, J., & Wiescher, M. (1995). Nucleosynthesis in nova outbursts. In A. Astbury, B. A. Campbell, W. Israel, F. C. Khanna, D. Page, & J. L. Pinfold (Eds.), *Proceedings of the Lake Louise Winter Institute on Particle Physics and Cosmology* (pp. 462–467). Lake Louise, Canada: World Scientific.
- 5** Vouzoukas, S., Browne, C. P., Görres, J., Herndl, H., **Iliadis, C.**, Meissner, J., ... Aguer, P. (1995). The reaction rate for $^{31}\text{S}(p, \gamma)^{32}\text{Cl}$ and its influence on the SiP-cycle in hot stellar burning. In *Proceedings of the 3rd International Symposium on Nuclear Astrophysics* (Vol. 327, pp. 259–262). doi:10.1063/1.47409
- 4** Wiescher, M., Görres, J., **Iliadis, C.**, & Thielemann, F. K. (1994). Capture reactions in explosive hydrogen burning scenarios. In J. Kern (Ed.), *Proceedings of the 8th International Symposium on Capture Gamma-Ray Spectroscopy and Related Topics* (pp. 660–671). Fribourg, Switzerland: World Scientific.
- 3** **Iliadis, C.**, Görres, J., Van Wormer, L., Wiescher, M., & Thielemann, F. K. (1993). Nuclear reaction cycles in explosive hydrogen burning. In F. Käppeler & K. Wisshak (Eds.), *Proceedings of the 2nd International Symposium on Nuclear Astrophysics* (pp. 343–348). Karlsruhe, Germany: IOP Publishing.
- 2** **Iliadis, C.**, Görres, J., Wiescher, M., & Trautvetter, H. P. (1993). Phosphorus-sulfur and chlorine-argon cycles in the rp -process. In W. Hillebrandt (Ed.), *Proceedings of the 7th Workshop on Nuclear Astrophysics*, Ringberg Castle, Germany: Max-Planck-Institut für Astrophysik.
- 1** Wiescher, M., Görres, J., **Iliadis, C.**, Van Wormer, L., & Thielemann, F. K. (1993). Reaction rates and reaction sequences in the rp -process. In R. Neugart & A. Woehr (Eds.), *Proceedings of the 6th International Conference on Nuclei Far From Stability and the 9th International Conference on Atomic Masses and Fundamental Constants* (pp. 845–850). Bernkastel-Kues, Germany: IOP Publishing.

Other Published Work

- 3** Champagne, A. E., **Iliadis, C.**, & Longland, R. (2021). *Nuclear Astrophysics at the Triangle Universities Nuclear Laboratory*. Innovation News Network eBook. Retrieved from <https://edition.pagesuite-professional.co.uk/html5/reader/production/default.aspx?pubname=&edid=a6a5d1cc-b96c-4a46-8d6c-c23019ff8452>
- 2** Timmes, F., Fryer, C., Hungerford, A. L., Couture, A., Adams, F., Aoki, W., ... Portegies Zwart, S. (2019). *Catching Element Formation In The Act; The Case for a New MeV Gamma-Ray Mission: Radionuclide Astronomy in the 2020s*. Bulletin of the American Physical Society, Vol. 51 (3), 2. arXiv: 1902.02915 [astro-ph.HE]

- 1 José, J. (2015). *Stellar Explosions: Hydrodynamics and Nucleosynthesis*. Foreword by Christian Iliadis. Taylor & Francis (ISBN 9780367575151).

Presentations

Invited Lectures at Research Schools

- 17 *Introduction to Nuclear Astrophysics (2 hours)*. (2022, June). The 11th European Summer School on Experimental Nuclear Astrophysics, Catania, Italy.
- 16 *Introduction to Nuclear Astrophysics (2 hours)*. (2018, March). 15th Russbach School on Nuclear Astrophysics, Russbach am Pass Gschuett, Austria.
- 15 *Nuclear Physics of Stars and the Big Bang (3 hours)*. (2016, September). Ecole Internationale Joliot-Curie on the Origin of Nuclei in the Universe, Port Barcares, France.
- 14 *Nuclear Reactions and Burning Stages in Stars (2 hours)*. (2016, March). 13th Russbach School on Nuclear Astrophysics, Russbach am Pass Gschuett, Austria.
- 13 *Nuclear Astrophysics (6 hours)*. (2015, March). Monash University, Melbourne, Australia.
- 12 *Nuclear Astrophysics Experiments and Theory (3 hours)*. (2014, September). Gran Sasso Summer Institute, Laboratori Nazionali Del Gran Sasso, Assergi, Italy.
- 11 *Nuclear Physics of Stars (4 hours)*. (2013, December). Block course at the Graduiertenkolleg, Universität Würzburg, Germany.
- 10 *Nuclear Reactions and Burning Stages in Stars (2 hours)*. (2013, March). 10th Russbach School on Nuclear Astrophysics, Russbach am Pass Gschuett, Austria.
- 9 *Nuclear Physics of Stars (4 hours)*. (2012, November). School cum Workshop on Low Energy Nuclear Astrophysics (SLENA 2012), Kolkata, India.
- 8 *Introduction to Nuclear Astrophysics (4 hours)*. (2011, June). National Nuclear Physics Summer School, Chapel Hill, USA.
- 7 *Nuclear Astrophysics (2 hours)*. (2011, June). Second Azarqui School in Astronomy, Beirut, Lebanon.
- 6 *Cross Sections and Reaction Rates in Nuclear Astrophysics (5 hours)*. (2010, January). ASA/ANITA Summer School in Stellar Nucleosynthesis, Monash University, Melbourne, Australia.
- 5 *Topics in Nuclear Astrophysics (3 hours)*. (2010, June). Carpathian Summer School of Physics (Exotic Nuclei and Nuclear/Particle Astrophysics III), Sinaia, Romania.
- 4 *Introduction to Nuclear Astrophysics (2 hours)*. (2009, September). Fifth European Summer School on Experimental Nuclear Astrophysics, Santa Tecla, Italy.
- 3 *Nuclear Physics of Stars (9 hours)*. (2007, January). First SINS Summer School on Nuclear Astrophysics and Nucleosynthesis, Monash University, Melbourne, Australia.
- 2 *Experimental Techniques for Direct Measurements in Nuclear Astrophysics (5 hours)*. (2004, July). TRIUMF Summer Institute, Vancouver, Canada.
- 1 *Nuclear Physics of Stars (16 hours)*. (2003, June). Universidad Politécnic de Cataluña, Barcelona, Spain.

Invited Research Presentations

- 80 *Ashes to Dust: Meteoritic Grains from Stellar Explosions*. (2022, April). Seminar, Triangle Universities Nuclear Laboratory. Durham, NC.

- 79** *From the Big Bang to Supernovae: Unlocking the Mysteries of the Universe at FSU.* (2022, April). Research Vision Talk at Florida State University. Tallahassee, FL.
- 78** *Birds, Bees, and the Beginning of Time.* (2020, July). Advances in Physics Seminar, Triangle Universities Nuclear Laboratory. Durham, NC.
- 77** *From Stardust to Globular Clusters: Puzzles in Nuclear Astrophysics.* (2019, April). April Meeting of the American Physical Society. Denver, CO.
- 76** *Cosmic Furnaces.* (2018, July). Advances in Physics seminar, Triangle Universities Nuclear Laboratory. Durham, NC.
- 75** *Direct Charged-Particle Measurements Using Stable Beams Above Ground.* (2018, June). 15th International Symposium on Nuclei in the Cosmos. Assergi, Italy.
- 74** *Presolar Stardust Grains from Novae.* (2018, March). 15th Russbach School on Nuclear Astrophysics. Russbach am Pass Gschuett, Austria.
- 73** *Cosmic Furnaces and the Origin of the Elements.* (2017, February). Colloquium, Davidson College. Davidson, NC.
- 72** *Measurement of Radioactivity in Environmental Samples Using $\gamma\gamma$ -Coincidence Spectrometry.* (2017, April). Seminar, Triangle Universities Nuclear Laboratory. Durham, NC.
- 71** *Bayesian Astrophysical S-Factors and Reaction Rates.* (2016, April). 1st CoSMS Workshop on Thermonuclear Reaction Rates. Chapel Hill, NC.
- 70** *How to Give Effective Science Presentations.* (2015, March). Monash Centre for Astrophysics, Monash University. Melbourne, Australia.
- 69** *Origin of the Elements.* (2015, September). Colloquium, University of Guelph. Guelph, Ontario, Canada.
- 68** *Origin of the Elements.* (2015, July). Advances in Physics Seminar, Duke University. Durham, NC.
- 67** *The Future of Nuclear Astrophysics at TUNL.* (2015, November). Celebrating the 50th Anniversary of TUNL. Durham, NC.
- 66** *Forging Elements in the Laboratory.* (2014, February). Colloquium, Florida State University. Tallahassee, FL.
- 65** *Nuclear Astrophysics Experiments with High-Intensity Ion and Photon Beams.* (2014, June). Annual Meeting of the Canadian Astronomical Society. Quebec City, Canada.
- 64** *Nuclear Astrophysics Experiments With Photon Beams.* (2014, April). Workshop for Photonuclear Physics at the Intensity Frontier. Savannah, GA.
- 63** *Thermonuclear Reaction Rates for AGB Star Simulations.* (2014, July). 568. Wilhelm and Else Heraeus-Seminar on Nucleosynthesis in Asymptotic Giant Branch Stars. Bad Honnef, Germany.
- 62** *Science on the Femto-Scale: Forging Elements in the Laboratory.* (2013, November). Savannah River Scholars Program STEMinar Series, Georgia Regents University. Augusta, GA.
- 61** *Exploding Stars in the Laboratory.* (2012, July). Colloquium, Helmholtz-Zentrum Dresden-Rossendorf. Dresden, Germany.
- 60** *Nuclear Astrophysics: Underground versus Sea Level.* (2012, March). International Workshop on Nuclear Astrophysics at the Canfranc Underground Laboratory. Canfranc Estacion, Spain.
- 59** *Nuclear Fusion in Stars: Origin of the Elements.* (2012, December). Plenary talk at the 57th Department of Atomic Energy Symposium on Nuclear Physics. New Delhi, India.

- 58** *Direct Measurements in Nuclear Astrophysics with Radioactive Ion Beams.* (2011, June). First International Conference on Advances in Radioactive Isotope Science (ARIS-2011). Leuven, Belgium.
- 57** *Monte Carlo Charged-Particle Reaction Rates: A New Frontier.* (2011, November). Workshop on Thermonuclear Reaction Rates for Astrophysics Applications (THERRAA). Athens, Greece.
- 56** *Nuclear Astrophysics at TUNL.* (2011, July). Advances in Physics Seminar, Duke University. Durham, NC.
- 55** *Recent Progress in Nuclear Astrophysics.* (2011, February). Colloquium, James Madison University. Harrisonburg, VA.
- 54** *Entfernungsmessung im Universum.* (2010, June). Johann Wolfgang Goethe-Universität. Frankfurt am Main, Germany.
- 53** *Nuclear Astrophysics at TUNL/UNC.* (2010, October). Seminar, Michigan State University. East Lansing, MI.
- 52** *Recent Measurements in Nuclear Astrophysics.* (2010, June). Johann Wolfgang Goethe-Universität. Frankfurt am Main, Germany.
- 51** *Recent Measurements of Stellar Fusion Reactions.* (2010, September). Colloquium, Clemson University. Clemson, SC.
- 50** *New Developments in Experimental Thermonuclear Reactions.* (2009, November). Plenary talk at the 7th Tours Symposium on Nuclear Physics and Astrophysics. Kobe, Japan.
- 49** *Recent Results in Nuclear Astrophysics at TUNL.* (2009, May). Seminar, Ohio University. Athens, OH.
- 48** *Direct Charged-Particle Measurements with Stable Beams.* (2008, July). 10th International Conference on Nuclei in the Cosmos. Mackinac Island, MI.
- 47** *Monte Carlo Reaction Rates.* (2008, April). Workshop on R-Matrix and Nuclear Reactions in Stellar Hydrogen and Helium Burning. Santa Fe, NM.
- 46** *Nuclear Astrophysics Data Needs for Charged-Particle Reactions.* (2006, June). Workshop on Data Needs in Nuclear Astrophysics. Basel, Switzerland.
- 45** *Radiative Capture Reactions.* (2006, May). Joint Institute for Nuclear Astrophysics (JINA) Workshop on Low Energy Nuclear Astrophysics at the NSCL. East Lansing, MI.
- 44** *Radioactive Ion Beam Measurements for Nuclear Astrophysics.* (2006, July). TRIUMF Users' Group Meeting. Vancouver, Canada.
- 43** *Direct Measurements in Nuclear Astrophysics.* (2005, July). Seminar, CSNSM, Université Paris-Sud. Orsay, France.
- 42** *Experimental Aspects of Classical Nova Nucleosynthesis.* (2005, May). Joint Institute for Nuclear Astrophysics (JINA) workshop on Classical Novae and Type Ia Supernovae. Santa Barbara, CA.
- 41** *Explosive Hydrogen Burning of ^{23}Na .* (2005, January). International Conference on the Interface Between Nuclear Structure, Astrophysics and Reactions (NUSTAR '05). Guildford, United Kingdom.
- 40** *Nuclear Reactions in Stars.* (2005, April). Colloquium, Arizona State University. Tempe, AZ.
- 39** *A Simple Potential Model for Radiative Capture Reactions.* (2004, February). Seminar, University of Notre Dame. Notre Dame, IN.
- 38** *Nuclear Astrophysics: Direct Measurements with Stable Beams.* (2004, July). 8th International Conference on Nuclei in the Cosmos. Vancouver, Canada.

- 37** *Reaction Rates for Novae and Impact on Nucleosynthesis.* (2004, May). ECT* (European Centre for Theoretical Studies in Nuclear Physics and Related Areas) workshop on Advances and Challenges in Nuclear Astrophysics. Trento, Italy.
- 36** *Background at Sea Level and Underground Laboratories.* (2003, October). Workshop on an Underground Accelerator for Nuclear Astrophysics. Tucson, AZ.
- 35** *Element Synthesis in Novae.* (2003, January). XXVI Symposium on Nuclear Physics. Taxco, Mexico.
- 34** *Thermonuclear Reactions.* (2003, March). Colloquium, McMaster University. Hamilton, Canada.
- 33** *Background Reduction Techniques.* (2002, October). Seminar, TUNL. Durham, NC.
- 32** *Background Reduction Techniques at Sea Level and Underground Laboratories.* (2002, September). International Workshop on Neutrinos and Subterranean Science. Washington, DC.
- 31** *New Quests in Nuclear Astrophysics.* (2002, March). Colloquium, University of North Carolina. Wilmington, NC.
- 30** *Studies of Thermonuclear Reactions in Stars.* (2002, November). Colloquium, Wake Forest University. Winston-Salem, NC.
- 29** *The Effects of Thermonuclear Reaction Rate Variations on Nova Nucleosynthesis.* (2002, May). International Conference on Classical Nova Explosions. Sitges, Spain.
- 28** *Gamma-ray coincidence Techniques for Nuclear Astrophysics Experiments.* (2001, April). Seminar, University of Surrey. Guildford, United Kingdom.
- 27** *Nuclear Astrophysics with Radioactive Ion Beams.* (2001, May). International Symposium on Nuclear Astrophysics, GSI. Darmstadt, Germany.
- 26** *Explosive Hydrogen Burning Nucleosynthesis.* (2000, June). Seminar, Centre de Recherches du Cyclotron. Louvain la Neuve, Belgium.
- 25** *Nucleosynthesis in Novae.* (2000, March). Session "New Nuclear Science with New Techniques for the Next Millenium," at the 219th National Meeting of the American Chemical Society. San Francisco, CA.
- 24** *Nucleosynthesis of Mg and Al in Globular Cluster Red Giant Stars.* (2000, June). Joint astrophysics and nuclear theory seminar, Universite Libre de Bruxelles. Brussels, Belgium.
- 23** *Nucleosynthesis of Mg and Al in Globular Cluster Red Giant Stars.* (2000, January). International Symposium on the Origin of Matter and Evolution of Galaxies 2000. Tanashi, Japan.
- 22** *Reaction Rate Uncertainties and Coincidence Techniques in Nuclear Astrophysics.* (2000, November). Town Meeting on Nuclear Structure and Astrophysics. Oakland, CA.
- 21** *Reaction Rates for Nova Nucleosynthesis.* (2000, August). Session "Nucleosynthesis 2000" at the 220th National Meeting of the American Chemical Society. Washington, DC.
- 20** *Wasserstoffbrennen bei tiefen und hohen Sterntemperaturen.* (2000, June). Seminar, Johannes Gutenberg-Universität Mainz. Mainz, Germany.
- 19** *Explosive Hydrogen Burning in Stars.* (1999, May). Seminar, Yale University. New Haven, CT.
- 18** *Indirect Experimental Approaches to Reactions Important for Stellar Hydrogen Burning.* (1999, September). 10th International Symposium on Capture Gamma-Ray Spectroscopy and Related Topics. Santa Fe, NM.
- 17** *Nucleosynthesis at Low and High Stellar Temperatures.* (1999, June). Session "Nuclear Astrophysics," at the 54th Annual Congress of the Canadian Association of Physicists. Fredericton, Canada.








- 16 *Element Production in Hydrogen Burning Scenarios*. (1998, April). Session “Cosmic Cooking: The Origin of the Elements” at the American Physical Society meeting. Columbus, OH.
- 15 *Explosive Hydrogen Burning of ^{27}Si , ^{31}S , ^{35}Ar and ^{39}Ca in novae and x-ray bursts*. (1998, July). 5th International Conference on Nuclei in the Cosmos. Volos, Greece.
- 14 *Nuclear Recoil Detection with Microchannel Plates*. (1998, November). 15th International Conference on the Application of Accelerators in Research and Industry. Denton, TX.
- 13 *Measurements of Reaction Rates Relevant to Abundances in Globular Clusters*. (1997, December). 2nd Oak Ridge Symposium on Atomic and Nuclear Astrophysics. Oak Ridge, TN.
- 12 *Decay Studies of Importance to Explosive Hydrogen Burning*. (1996, June). 4th International Conference on Nuclei in the Cosmos. Notre Dame, IN.
- 11 *Nuclear Burning in Hot Stellar Objects*. (1996, March). Seminar, University of British Columbia. Vancouver, Canada.
- 10 *Nuclear Burning in Hot Stellar Objects*. (1996, February). Colloquium, University of North Carolina. Chapel Hill, NC.
- 9 *Nuclear Decay Studies of Importance to Stellar Hydrogen and Helium Burning*. (1996, February). Seminar, TUNL. Durham, NC.
- 8 *Explosive Hydrogen Burning Nucleosynthesis*. (1995, August). Colloquium, TRIUMF. Vancouver, Canada.
- 7 *Nuclear Reaction and Decay Studies of Importance to Explosive Hydrogen Burning in Stars*. (1995, June). Seminar, Texas A&M University. College Station, TX.
- 6 *Nuclear Reactions of Importance to Astrophysics*. (1994, May). Seminar, TRIUMF. Vancouver, Canada.
- 5 *Nucleosynthesis in Nova Outbursts*. (1994, February). Lake Louise Winter Institute on Particle Physics and Cosmology. Lake Louise, Canada.
- 4 *Phosphorus-Sulfur and Chlorine-Argon Cycles in the rp -Process*. (1993, March). 7th Workshop on Nuclear Astrophysics. Ringberg Castle, Germany.
- 3 *Reaction Cycles in Explosive Hydrogen Burning*. (1993, May). Seminar, TRIUMF. Vancouver, Canada.
- 2 *Reaction Cycles in Explosive Hydrogen Burning*. (1993, May). Seminar, University of Washington. Seattle, WA.
- 1 *Nuclear Reaction Cycles in Explosive Hydrogen Burning*. (1992, July). 2nd International Symposium on Nuclear Astrophysics. Karlsruhe, Germany.

Public Lectures

- 12 Origin of the Elements. (2022, March). Governors Club, Chapel Hill, NC.
- 11 We are All Made of Stardust. Cosmic Furnaces and the Origin of Life’s Elements. (2020, November). via Zoom. Carolina Meadows, Chapel Hill, NC.
- 10 We are All Made of Stardust. Cosmic Furnaces and the Origin of Life’s Elements. (2020, February). UNC Retired Faculty Association, Chapel Hill, NC.
- 9 Birds, Bees, and Zombies: Genetic Algorithms for Astrophysical Applications. (2019, September). Society of Physics (SPS) students, Chapel Hill, NC.
- 8 We are All Made of Stardust. Cosmic Furnaces and the Origin of Life’s Elements. (2018, November). CoSMS Public Colloquium, Chapel Hill, NC.







- 7 We are All Made of Stardust. Cosmic Furnaces and the Origin of Life's Elements. (2018, November). Cedars of Chapel Hill, Chapel Hill, NC.
- 6 We are All Made of Stardust. Cosmic Furnaces and the Origin of Life's Elements. (2018, April). Astronomy on Tap in the Triangle, Fullsteam Brewery, Durham, NC.
- 5 The Great American Eclipse of 2017. (2017, August). "Eclipse on a Warship" event, Patriots Point, Charleston, SC.
- 4 The Great American Eclipse of 2017. (2017, August). Governors Club, Chapel Hill, NC.
- 3 Cosmic Furnaces and the Origin of the Elements. (2016, September). "Spotlight on Scholars" Program, Chapel Hill, NC.
- 2 Cosmic Furnaces and the Origin of the Elements. (2015, February). Monash Centre for Astrophysics (MoCA). Monash University, Melbourne, Australia.
- 1 Nuclear Fusion in Stars: Origin of the Elements. (2012, May). North Carolina Museum of Natural Sciences, Raleigh, NC.

In the Media


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| 2020, June 1 |  "Class of stellar explosions found to be galactic producers of lithium," Science Daily News, https://www.sciencedaily.com/releases/2020/06/200601144823.htm |
| 2020, May 29 |  "Lithium Comes From Exploding Stars," NASA Press Release, https://www.nasa.gov/feature/lithium-comes-from-exploding-stars |
| 2020, June 3 |  "Lithium Mystery Solved: It's Exploding Stars, Not the Big Bang or Cosmic Rays," Forbes Magazine, Editor's Pick, https://www.forbes.com/sites/startswithabang/2020/06/03/lithium-mystery-solved-its-exploding-stars-not-the-big-bang-or-cosmic-rays/#55659f204118 |
| 2017, July 17 |  "Where and How to See the Total Eclipse this Summer in the U.S.," The New York Times, https://www.nytimes.com/2017/07/10/travel/where-to-see-the-total-eclipse-astronomy.html?smprod=nytcore-ipad&smid=nytcore-ipad-share&r=0 |
| 2017, July 20 |  "Turn Around Bright Eyes: A Total Eclipse on the Harbor," ABC4 News, http://abcnews4.com/news/local/turn-around-bright-eyes-a-total-eclipse-on-theharbor |
| 2014 |  "2014 Teaching Award Winners," A System of Higher Learning, https://www.northcarolina.edu/board-governors-awards/teaching-awards-2014 |
| 2013, March 15 |  "Astrophysiker auf der Piste," Salzburger Nachrichten, http://www.pressdisplay.com/pressdisplay/viewer.aspx |

Teaching Activities













Postdoctoral Fellow Supervision

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|-------------|--|
| 2017 – 2020 |  Rafael deSouza. Now: Associate Professor, Shanghai Astronomical Observatory. |
| 2010 – 2013 |  Chris Howard. Now: Senior Radiation Physicist at Nordion.
 Anne Sallaska. Now: Senior Data Scientist at Uplevel. |
| 2010 |  Babatunde Oginni. Now: Scientist at Mirion Technologies, Inc. |
| 2005 – 2008 |  Claudio Ugalde. Now: Faculty at University of Illinois at Chicago. |
| 2003 – 2005 |  Dale Visser. Now: Research Staff Member, Institute for Defense Analyses. |











Teaching Activities (continued)

2002 – 2005  Chris Fox. Now: Instructor in Radiation Oncology, Tulane University.

Graduate Student Supervision

- current  Lauren Ward, *Project title: “Presolar nova stardust grains”*.
 Michelle Lee, *Project title: “Type Ia supernova nucleosynthesis”*.
 David Gribble, *Project title: “Nuclear astrophysics experiments at HI γ S”*.
- PhD 2020  Lori Downen, *Thesis title: “Measurement of the $^{29}\text{Si}(p, \gamma)^{30}\text{P}$ reaction important for presolar grains of nova paternity”*. Now: Senior Associate Global Academic Program Manager at SAS.
- PhD 2019  Sean Hunt, *Thesis title: “Helium Burning of ^{22}Ne : Targets, Detectors, and Initial Measurements”*. Now: Corvid Technologies LLC.
- PhD 2018  John Dermigny, *Thesis title: “Measurement of the $^{30}\text{Si}(p, \gamma)^{31}\text{P}$ nuclear reaction important for abundance anomalies in globular clusters”*. Now: Research Associate at Pacific Northwest National Laboratory.
- PhD 2014  Matthew Buckner, *Thesis title: “Hydrogen burning of the rare oxygen isotopes”*. Now: Permanent staff at Lawrence Livermore National Laboratory.
- PhD 2010  Richard Longland, *Thesis title: “Investigation of the s-process neutron source $^{22}\text{Ne} + \alpha$ ”*. Now: Associate Professor at North Carolina State University.
 Joe Newton, *Thesis title: “Hydrogen burning of ^{17}O ”*. Now: Director of Nuclear Science at Augusta University.
- PhD 2003  Carrie Fitzgerald, *Thesis title: “Hydrogen burning of ^{23}Na in globular cluster red giant stars”*. Now: Associate Professor, Montgomery College.
- MS 2000  Jennifer Mosher, *Thesis title: “Nuclear recoil detection using microchannel plate detectors”*. Now: Physics Teacher at Moorestown Friends School.
- PhD 1999  Denise Powell, *Thesis title: “Determination of the $^{24}\text{Mg}(p, \gamma)^{25}\text{Al}$ reaction for low stellar temperatures”*. Now: Application Engineer at Cadence Design Systems.

Undergraduate Student Supervision [past 6 years]

- 2021, Fall  Halona Dantes, *Bayesian analysis of the $^{16}\text{O}(p, \gamma)^{17}\text{F}$ reaction rate*.
- 2020, Spring  Cade Rodgers, *Advanced statistical methods for spectral analysis.*, Research published in peer reviewed paper.
- 2019, Fall  Caroline Smith, *Uranium/Thorium detection in local stream sediments*.
- 2019, Summer  Tan Hong Kiat, *MCMC analysis of $^7\text{Be}(n, p)^7\text{Li}$* . Research published in peer reviewed paper. [Exchange student from University of Singapore]
- 2019, Spring  Danner Morrison, *Environmental radioactivity*.
- 2018, Summer  Yeoh Jun Kai, *Nucleosynthesis simulation visualizations*. [Exchange student from University of Singapore]
- 2017, Fall  Andrew Tillett, *Environmental radioactivity*. Research published in two peer-reviewed papers.
- 2016, Fall  Michael Darken, *Coincidence gating in radiation detection*. Research published in peer-reviewed paper.
- 2016, Summer  Alvaro Gomez, *Bayesian fitting of astrophysical S-factor*. Research published in peer-reviewed paper. [Exchange student from University of Barcelona, Spain]
 Alvaro Ortega, *Computation of angular correlation coefficients*. Research published in peer-reviewed paper. [Exchange student from University of Barcelona, Spain]

Teaching Activities (continued)

- 2016, Spring 📖 Corey Dearing, *Commissioning of pair spectrometer*. Research published in peer-reviewed paper.
- 📖 Kevin Anderson, *First Bayesian analysis of nuclear reaction cross sections*. Research published in peer-reviewed paper.
- 📖 Yuri Tonin, *Computer simulations of radiation detectors*. Research published in peer-reviewed paper.
- 2015, Spring 📖 Eric Machado, *Ion accelerator upgrades at TUNL*. [Senior Honor's Thesis]
- 2015, Summer 📖 Michaela Orbon, *Electronics for coincidence detection of radiation*. Research published in peer-reviewed paper.
- 2015, Spring 📖 Brenden Longfellow, *Construction of meteorite counting station*.

Courses [past 6 years]

- 2021, Fall 📖 *Research & Study Assignment*
- 2020, Fall 📖 *Nuclear Astrophysics (PHYS 862)* [graduate-level class] 12 students
- 2019, Fall 📖 *Advanced Quantum Mechanics (PHYS 521)* 28 students
- 2018, Fall 📖 *Advanced Quantum Mechanics (PHYS 521)* 28 students
- 2017, Fall 📖 *From the Matrix to Mission Impossible: Physics in Film (PHYS 054)* [First-Year Seminar] 20 students
- 2016, Fall 📖 *Nuclear Astrophysics (PHYS 862)* [graduate-level class] 10 students
- 2016, Spring 📖 *From the Matrix to Mission Impossible: Physics in Film (PHYS 054)* [First-Year Seminar] 29 students
- 2015, Fall 📖 *Advanced Quantum Mechanics (PHYS 521)* 28 students
- 2015, Spring 📖 *Research & Study Assignment*
- 2014, Fall 📖 *Advanced Quantum Mechanics (PHYS 521)* 22 students
- 2014, Spring 📖 *From the Matrix to Mission Impossible: Physics in Film (PHYS 054)* [First-Year Seminar] 24 students

Sponsored Research Grants

Extramural

- 2021 – 2024 📖 *Studies of Nuclear Processes*. Total amount: **\$5,031,162**. [5 PIs.] Department of Energy, Office of Nuclear Science.
- 2018 – 2021 📖 *Studies of Nuclear Processes*. Total amount: **\$5,031,162**. [5 PIs.] Department of Energy, Office of Nuclear Science.
- 2015 – 2018 📖 *Studies of Nuclear Processes*. Total amount: **\$4,649,312**. [5 PIs.] Department of Energy, Office of Nuclear Science.
- 📖 *Assessing the Effects of New Reaction Rates*. Total amount: **\$245,541**. [PI.] National Aeronautics and Space Administration.
- 2012 – 2015 📖 *Studies of Nuclear Processes*. Total amount: **\$3,740,000**. [6 PIs.] Department of Energy, Office of Nuclear Science.
- 2010 – 2013 📖 *Stellar Models with Monte Carlo Reaction Rates*. Total amount: **\$266,161**. [PI.] National Science Foundation.
- 2009 – 2012 📖 *Dakota Ion Accelerator for Nuclear Astrophysics*. Total amount: **\$226,277**. [PI.] National Science Foundation.

Sponsored Research Grants (continued)

- 2006 – 2009 ■ *Studies of Nuclear Processes*. Total amount: **\$3,337,100**. [6 PIs.] Department of Energy, Office of Nuclear Science.
- 2003 – 2006 ■ *Studies of Nuclear Processes*. Total amount: **\$1,798,000**. [5 PIs.] Department of Energy, Office of Nuclear Science.
- 2000 – 2003 ■ *Studies of Nuclear Processes*. Total amount: **\$1,770,000**. [5 PIs.] Department of Energy, Office of Nuclear Science.
- 1999 – 2000 ■ *Gamma-Spectrometer for LENA*. Total amount: **\$60,000**. [2 PIs.] Department of Energy, Office of Nuclear Science.
- 1997 – 2000 ■ *Studies of Nuclear Processes*. Total amount: **\$1,680,000**. [5 PIs.] Department of Energy, Office of Nuclear Science.
- 1997 – 1998 ■ *Low-Energy Nuclear Astrophysics Laboratory*. Total amount: **\$65,000**. [2 PIs.] Department of Energy, Office of Nuclear Science.

University

- 2022 – 2025 ■ *Research in Nuclear Astrophysics*. Total amount: **\$300,000**. UNC retention funds.
- 2022 ■ *Research in Nuclear Astrophysics*. Total amount: **\$64,000**. W. N. Reynolds Research Leave.
- 2013 – 2015 ■ *Measurement of Radioactivity in North Carolina Meteorites*. Total amount: **\$2,500**. UNC University Research Council.
- 2012 ■ *Research in Nuclear Astrophysics*. Total amount: **\$64,000**. W. N. Reynolds Research Leave.
- 2007 – 2009 ■ *Nuclear Reactions and Evolution of AGB Stars*. Total amount: **\$3,000**. UNC University Research Council.
- 2005 – 2007 ■ *Thermonuclear Reactions in Stars*. Total amount: **\$2,500**. UNC University Research Council.
- 2002 – 2004 ■ *Experiments in Nuclear Astrophysics*. Total amount: **\$4,000**. UNC University Research Council.
- 1997 – 1999 ■ *Experiments in Nuclear Astrophysics*. Total amount: **\$4,000**. UNC University Research Council.
- 1997 ■ *Stellar Network Calculations*. Total amount: **\$5,000**. Junior Faculty Development Award.

Professional Service [past 6 years]

- University ■ Dean's Advisory Committee (2019 – 2021); Chapel Hill Analytical and Nanofabrication Laboratory (CHANL) Advisory Board (2018 – 2021); UNC Energy Frontier Research Center (EFRC) Advisory Board (2016 – 2021); External Program Review of Department of Chemistry at UNC-CH (2019); Science Study Abroad Working Group (2014 – 2016).
- Department ■ Department Chair (2016 – 2021); Bilpuch Chair Search committee (2015 – 2016); Faculty Salary Committee (2015 – 2016); Staff Awards Committee (2014 – 2016); Advisor for Undergraduate Physics majors (2013 – 2016); K12 Outreach Committee (2012 – 2016); TUNL Director Search Committee (2016).
- Other University ■ Panel member, candidate selection for permanent faculty position at Barcelona Technical University, Barcelona, Spain (2017).

Professional Service [past 6 years] (continued)

- Meetings ■ Scientific Advisory Committee, Russbach School on Nuclear Astrophysics, Russbach, Austria (2013 – present); Scientific Organizing Committee, International Conference on Lithium in the Universe: To Be or not to Be, Rome, Italy (2019); International Program Committee, 15th International Symposium on Nuclei in the Cosmos, Gran Sasso, Italy (2017 – 2018); Organizer, 1st CoSMS Workshop on Thermonuclear Reaction Rates, Chapel Hill, NC, USA (2016); Scientific Advisory Committee, 2nd Workshop at Canfranc Underground Laboratory, Canfranc, Spain (2016).
- Grant Panels ■ U.S. Department of Energy (DOE); National Science Foundation (NSF); National Sciences and Engineering Research Council of Canada.
- Laboratory Reviews ■ Committee member, review of Institute of Nuclear and Particle Physics (INPP) of the National Center for Scientific Research, NCSR Demokritos, Athens, Greece (June 2022).
- Journal Review ■ Astronomy and Astrophysics; Atomic Data and Nuclear Data Tables; European Physics Journal A; Monthly Notices of the Royal Astronomical Society; Nature; New Astronomy Reviews; Nuclear Instruments and Methods A; Physical Review C; Physical Review Letters; Physics Letters B; Publications of the Astronomical Society of Australia; Reviews of Modern Physics; The Astrophysical Journal; The Astrophysical Journal Letters; The Astrophysical Journal Supplement.