Veronica Dexheimer vdexheim@kent.edu
Department of Physics
Kent State University
Kent, OH 44240
USA

Curriculum Vitae

Current Academic Position
Full Professor (starting on August of 2025)

Grants Awarded

- The Simons Foundation Pivot Fellowship "Immersing in Early Universe Cosmology"
  September 2026 – August 2027
  Awarded amount: $257,000 ($207,000 for Dexheimer's group)
- DOE award "Dense and Hot Matter Equation of State: Connecting Heavy-Ion Collisions to Neutron Stars" (Single PI)
  June 2024- May 2027
  Awarded amount: $350,000
- NSF Cyberinfrastructure for Sustained Scientific Innovation (CSSI) award "Frameworks: MUSES, Modular Unified Solver of the Equation of State" (co-PI)
  October 2021- September 2026
  Awarded amount: $4,421,367 ($440,138 for Dexheimer's group)
- NSF Focus Research Hub award "Nuclear Physics from Multi-Messenger Mergers (NP3M)" (senior investigator)
  August 2021- July 2026
  Awarded amount: $3,250,000 ($~160,000 for Dexheimer's group)
- NSF CAREER award "Dense Phases in Neutron Stars" (Single PI)
  July 2018- June 2024
  Awarded amount: $425,000 plus additional $124,998

Other Awards

- Fulbright Scholar Award 2022/2023
- Kent State University President's Faculty Excellence Award 2023-2024

Education

- 2006 – 2009
  Ph.D. Physics
  Advisers: Stefan Schramm and Horst Stoecker
  Dissertation: Chiral Symmetry Restoration and Deconfinement in Neutron Stars
  FIAS, Johann Wolfgang Goethe University – Frankfurt am Main, Germany
  Scholarship: Buchmann Foundation
- 2003 – 2006
  M.S. Physics

Advisers: Bardo Bodmann and Cesar Vasconcellos
Thesis: Nuclear Matter Compressibility in Neutron Stars
Universidade Federal do Rio Grande do Sul – Porto Alegre, Brazil
Scholarship: Coordenação de Aperfeicoamento de Pessoal de Nível Superior (CAPES)

- 1999 – 2003
  B.S. Physics
  Universidade Federal do Rio Grande do Sul – Porto Alegre, Brazil

Teaching Experience and Appointments

- 2025 – present
  Full Professor
  Kent State University – Kent OH, USA
- 2020 – 2025
  Tenured Associate Professor
  Kent State University – Kent OH, USA
- 2015 – 2020
  Tenure-Track Assistant Professor
  Kent State University – Kent OH, USA
- 2013 – 2015
  Non-Tenure-Track Assistant Professor
  Kent State University – Kent OH, USA
- 2012
  Researcher
  Universidade Federal de Santa Catarina - Florianopolis, Brazil
- 2010 – 2012
  Visiting Professor
  Gettysburg College – Gettysburg PA, USA
- 2009 – 2010
  Adjunct Professor
  Gettysburg College – Gettysburg PA, USA
- 2004
  Docent internship
  Universidade Federal do Rio Grande do Sul – Porto Alegre, Brazil

Classes Taught

- 2025
  PHY 44802/ 54802 (Undergraduate/Graduate) Astrophysics – fall
  PHY 21430 Frontiers in Astronomy (online) - spring
- 2024
  PHY-76303 (Graduate) Applications of Quantum Chromodynamics – spring
  PHY 21430 Frontiers in Astronomy (online) - fall
- 2023
  PHY 44802/ 54802 (Undergraduate/Graduate) Astrophysics – fall

- 2022
  PHY 65301 (Graduate) Statistical Mechanics - spring
- 2021
  PHY 13002 General College Physics II – spring
  PHY 44802/54802 (Undergraduate/Graduate) Astrophysics – fall
- 2020
  PHY 44802/54802 (Undergraduate/Graduate) Astrophysics – spring
- 2019
  PHY 13002 General College Physics II – spring
  PHY 13002 General College Physics II – fall
- 2018
  PHY 13002 General College Physics II – fall
  PHY 44802/54802 (Undergraduate/Graduate) Astrophysics – spring
- 2017
  PHY 13002 General College Physics II – fall
  PHY 13002 General College Physics II – spring
  PHY 13012 College Physics II – spring
- 2016
  PHY 44802/54802 (Undergraduate/Graduate) Astrophysics – spring
  PHY 13002 General College Physics II – spring
  PHY 13012 College Physics II – spring
- 2015
  PHY 65301 (Graduate) Statistical Mechanics - fall
  PHY 13002 General College Physics II – spring
  PHY 13012 College Physics II– spring (2 sections)
- 2014
  PHY 13002 General College Physics II – spring and fall
  PHY 13012 College Physics II – spring and fall
  PHY 21430 Frontiers in Astronomy (online) - fall
  PHY 44802/54802 (Undergraduate/Graduate) Astrophysics – spring
- 2013
  PHY 13002 General College Physics II – spring and fall
  PHY 13012 College Physics II – spring and fall
  PHY 21430 Frontiers in Astronomy (online) – spring and fall
- 2012
  PHY 103 Elementary Physics I –fall
  PHY 103 lab Elementary Physics I Laboratory –fall
- 2011
  PHY 103 Elementary Physics I – fall (2 sections)
  PHY 103 lab Elementary Physics I Laboratory – fall
  PHY 109 lab Introductory Physics I Laboratory – fall
  PHY 104 Elementary Physics II – spring
  PHY 104 lab Elementary Physics II Laboratory – spring
  PHY 110 lab Introductory Physics II Laboratory – spring

- 2010
  PHY 103 Elementary Physics I – fall (2 sections)
  MATH 105 Calculus with Precalculus I – fall
  PHY 104 lab Elementary Physics II Laboratory – spring
  PHY 110 lab Introductory Physics II Laboratory – spring
- 2009
  PHY 103 lab Elementary Physics I Laboratory – fall

Service

- Director, Kent State University Center for Nuclear Research, 2021-present
- Associate Director, Kent State University Center for Nuclear Research, 2015-2019
- Member of the Undergraduate Program Committee at Kent State University 2014-2016, 2019-2022
- Member of the Graduate Program Admissions Committee at Kent State University 2025-present
- Member of the Candidacy Exam Committee at Kent State University 2013-2014, 2016-2018 (chair 2017-2018)
- Kent State University Faculty Advisory Committee 2017-2018, 2019-2020, 2021-2022, 2023-2025
- Kent State University College Advisory Committee 2021-2022
- Kent State University Non-tenure Track Faculty Search Committee 2017-2018
- Kent State University Tenure Track Faculty Search Committee 2022-2023, 2023-2024 (chair)
- Kent State University Physics Department Colloquium organizer 2016-2017, 2020, 2021
- Kent State University Center for Nuclear Research Seminar organizer 2017-2019
- Kent State University Undergraduate advisor 2020-2021
- Kent State University Faculty Advisory Council to Research and Economic Development 2025-present
- Journal Referee: Astrophys. J, Physical Review C, Astronomische Nachrichten, Annals of Physics, International Journal of Modern Physics E, Canadian Journal of Physics, The European Physical Journal D, Nuclear Science and Techniques, General Relativity and Gravitation, International Journal of Modern Physics D, Monthly Notices of the Royal Astronomical Society, Universe, International Journal of Modern Physics E, Physical Review D, Monthly Notices of the Royal Astronomical Society, The European Physical Journal A, Symmetry, Physics Letters B, Indian Journal of Physics, Phys. Rev. Let., The European Physical Journal C, Nuclear Physics A
- Reviewer for NASA, the Natural Sciences and Engineering Research Council of Canada (NSERC), the Netherlands Organization for Scientific Research (NWO), the National Science Foundation (NSF), the Department of Energy (DOE), Fulbright
- Guest coeditor for the special issue “Properties and Dynamics of Neutron Stars and Proto-Neutron Stars” of the journal Universe
- Member of the CompStar\NewCompStar\PHAROS Collaboration, FRIB Alliance, CompOSE Team, and MUSES and NP3M collaborations

- Development of a program to introduce high school students to astrophysics research
- Development of innovative curricular materials for undergraduate introductory physics courses
- Co-organizer, Ohio Regional Section - Spring Meeting of the American Physical Society, Kent State University, Kent OH, March 2014
- Organizer of the Virtual FRIB Theory Alliance Summer School: Dense matter in Astrophysics, Michigan State University, East Lansing MI, June 2020
- Co-organizer of the Virtual Workshop From heavy-ion collisions to neutron stars, August 2020
- Co-organizer of the symposium Advances in Nuclear Matter Dynamics: A Tribute to Declan Keane, Kent State University, Kent OH, December 2023
- Member of APS DNP Mentoring Committee 2023-2024 and Dissertation Award Committee 2024-2025
- Member of the International Advisory Committee of the International Conference on QCD in Extreme Conditions (XQCD) and of the International Steering Committee of the Compact Stars in the QCD Phase Diagram (CSQCD) international workshop

Graduate Students Advised

- Advisor of Ph.D student Peter Kokarchev
  Kent State University – Kent OH, USA
  2025 - present
- Advisor of Ph.D student Yuhan Wang
  Kent State University – Kent OH, USA
  2023 - present
- Co-Advisor of Ph.D student Rafael Jacobsen
  Universidade Federal de Santa Maria, Brazil
  2022 - present
- Advisor of Ph.D student Alexander Clevinger
  Kent State University – Kent OH, USA
  2020 - present
- Advisor of Ph.D student Krishna Aryal
  Kent State University – Kent OH, USA
  2019 - 2024
- Advisor of Ph.D student Jeffrey Peterson
  Kent State University – Kent OH, USA
  2016 - 2022
- Co-Advisor of Ph.D student Bruno Franzon
  FIAS, Johann Wolfgang Goethe University – Frankfurt am Main, Germany
  2014 - 2017
- Advisor of M.S. student Amal Alruwaili
  Kent State University – Kent OH, USA
  2014 - 2015
- Advisor of PhD student Jacob Roark
  Kent State University – Kent OH, USA

2013 - 2018

- Co-Advisor of Ph.D student Rosana Gomes
  Universidade Federal do Rio Grande do Sul, Brazil
  2012 - 2016

Postdocs Mentored

- Michea Kahangirwe
  Kent State University – Kent OH, USA
  2025 – present
- Joaquin Grefa
  Kent State University – Kent OH, USA
  2023 – present
- Mateus Pelicer
  Kent State University – Kent OH, USA
  2023 – 2025
- Rajesh Kumar
  Kent State University – Kent OH, USA
  2022 - 2025
- Constantinos Constantinou
  Kent State University – Kent OH, USA
  2018 - 2019

Complete Publication List

Preprints

1. Relativistic mean-field model with density- and isospin-density-dependent couplings. Gabriel Frohaug, Konstantin Maslov, Veronica Dexheimer, Joaquin Grefa, Johannes Jahan, Claudia Ratti, Tulio E. Restrepo. e-Print: 2511.15646 [nucl-th].
2. Investigating the Impact of Higher-Order Phase Transitions in Binary Neutron-Star Mergers. P. Hammond, A. Clevinger, M. Albino, V. Dexheimer, S. Bernuzzi, et al. e-Print: 2508.10698 [astro-ph.HE].
3. Recurring region for neutron-star observables. Alexander Clevinger, Zidu Lin, Milena Albino, Peter Hammond, Veronica Dexheimer, et al. e-Print: 2506.24069 [astro-ph.HE].
4. Axisymmetric Cooling of Neutron Stars with Strong Magnetic Fields. Rodrigo Negreiros, Jeffrey Peterson, Veronica Dexheimer. e-Print: 2506.09841 [astro-ph.HE].

Refereed Journal Articles

1. Finite-temperature expansion of the dense-matter equation of state. Debora Mroczek, Nanxi Yao, Katherine Zine, Jacquelyn Noronha-Hostler, Veronica Dexheimer et al. e-Print: 2404.01658 [astro-ph.HE] Accepted for publication in Phys.Rev.C .
2. An Overview of the MUSES Calculation Engine and How It Can Be Used to Describe Neutron Stars. Mateus Pelicer, Veronica Dexheimer, Joaquin Grefa. Published in: Universe 11 (2025) 7, 200.

3. Impact of magnetic field-driven anisotropies on the equation of state probed in neutron star mergers. Elias R. Most, Jeffrey Peterson, Luigi Scurto, Helena Pais, Veronica Dexheimer. Published in: Astrophys.J.Lett. 989 (2025) 2, L29.
4. Exploring the role of d* hexaquarks on quark deconfinement and hybrid stars. Marcos O. Celi, Mauro Mariani, Rajesh Kumar, Mikhail Bashkanov, Milva G., Alessandro Pastore, Ignacio F. Ranea-Sandoval, Veronica Dexheimer. Published in: Phys.Rev.D 112 (2025) 2, 023027.
5. Phase Stability in the 3-Dimensional Open-source Code for the Chiral mean-field Model. Nikolas Cruz-Camacho, Rajesh Kumar, Mateus Reinke Pelicer, Jeff Peterson, T. Andrew Manning, Roland Haas, Veronica Dexheimer, Jaquelyn Noronha-Hostler. Published in: Phys.Rev.D 111 (2025) 9, 094030.
6. Building Neutron Stars with the MUSES Calculation Engine. Mateus Reinke Pelicer, Nikolas Cruz-Camacho, Carlos Conde, David Friedenberg, Satyajit Roy, et al. Published in: Phys.Rev.D 111 (2025) 9, 094030.
7. Interacting mesons as degrees of freedom in a chiral model. Rajesh Kumar, Joaquin Grefa, Konstantin Maslov, Yuhan Wang, Arvind Kumar, Ralf Rapp, Claudia Ratti, Veronica Dexheimer. Published in: Phys.Rev.D 111 (2025) 7, 074029.
8. Astrophysics and Nuclear Physics Informed Interactions in Dense Matter: Insights from PSR J0437-4715. Tuhin Malik, V. Dexheimer, Constança Providência. Phys.Rev.D 110 (2024) 4, 4.
9. Approaching the conformal limit of quark matter with different chemical potentials. Connor Brown, Veronica Dexheimer, Rafael Bán Jacobsen, Ricardo Luciano Sonego Farias. *Symmetry* 16 (2024) 852.
10. Structure in the speed of sound: from neutron stars to heavy-ion collisions. Nanxi Yao, Agnieszka Sorensen, Veronica Dexheimer, Jacquelyn Noronha-Hostler. Phys.Rev.C 109 (2024) 6, 065803 (chosen as editor's suggestion).
11. Modern nuclear and astrophysical constraints of dense matter in a renormalized chiral approach. Rajesh Kumar, Yuhan Wang, Nikolas Cruz Camacho, Arvind Kumar, Jacquelyn Noronha-Hostler, Veronica Dexheimer. Phys.Rev.D 109 (2024) 7, 074008.
12. Theoretical and Experimental Constraints for the Equation of State of Dense and Hot Matter. MUSES Collaboration: Rajesh Kumar, Veronica Dexheimer et al. Living Rev.Rel. 27 (2024) 1, 3.
13. Effects of hyperon potentials and symmetry energy in quark deconfinement. Rajesh Kumar, Krishna Aryal, Alexander Clevinger, Veronica Dexheimer. Phys.Lett.B 849 (2024) 138475.
14. Dense Nuclear Matter Equation of State from Heavy-Ion Collisions. Agnieszka Sorensen, Kshitij Agarwal, Kyle W. Brown, Zbigniew Chajecki, Pawel Danielewicz et al. Prog.Part.Nucl.Phys. 134 (2024) 104080.
15. Temperature and Strong Magnetic Field Effects in Dense Matter. J. Peterson, P. Costa, R. Kumar, V. Dexheimer, R. Negreiros, C. Providencia. Phys.Rev.D 108 (2023) 6, 063011.
16. Probing neutron-star matter in the lab: connecting binary mergers to heavy-ion collisions. Elias R. Most, Anton Motornenko, Jan Steinheimer, Veronica Dexheimer, Matthias Hanauske, Luciano Rezzolla, and Horst Stoecker. Published in Phys.Rev.D 107 (2023) 4, 043034.

17. Magnetic-field Induced Deformation in Hybrid Stars. Ishfaq A. Rather, Asloob A. Rather, V. Dexheimer, Ilídio Lopes, A.A. Usmani, , S.K. Patra. Published in Astrophys.J. 943 (2023) 1, 52.
18. Quick Guides for Use of the CompOSE Data Base. Veronica Dexheimer, Marco Mancini, Micaela Oertel, Constança Providência, Laura Tolos, Stefan Typel. Published in Particles 5 (2022) 3, 346-360.
19. Axion effects in the stability of hybrid stars. Bruno S. Lopes, Ricardo L.S. Farias, Veronica Dexheimer, Aritra Bandyopadhyay, Rudnei O. Ramos. Published in Phys.Rev.D 106 (2022) 12, L121301.
20. Compactness in the Thermal Evolution of Twin Stars. F. Lyra, L. Moreira, R. Negreiros, R.O. Gomes, V. Dexheimer. Phys.Rev.C 107 (2023) 2, 025806.
21. Exploring the effects of Δ baryons in magnetars. K.D. Marquez, M.R. Pelicer, S. Ghosh, J. Peterson, D. Chatterjee, V. Dexheimer, D.P. Menezes. Published in Phys.Rev.C 106 (2022) 3, 035801 (chosen as editor's suggestion).
22. Horizons: nuclear astrophysics in the 2020s and beyond. H. Schatz, A.D. Becerril Reyes, A. Best, E.F. Brown, K. Chatziioannou et al. Published in J.Phys.G 49 (2022) 11, 110502.
23. Hybrid Equations of State for Neutron Stars with Hyperons and Deltas. A.Clevinger, J.Corkish, K.Aryal and V.Dexheimer. Published in Eur.Phys.J.A 58 (2022) 5, 96 (invited article for topical issue).
24. CompOSE Reference Manual. S. Typel, M. Oertel, T. Klähn, D. Chatterjee, V. Dexheimer, C. Ishizuka, M. Mancini, J. Novak, H. Pais, C. Providência, A. Raduta, M. Servillat, L. Tolos. Published in Eur.Phys.J.A 58 (2022) 11, 221.
25. Low Density Neutron Star Matter with Quantum Molecular Dynamics: The Role of Vector Interactions. Parit Mehta, Rana Nandi, R.O. Gomes, V. Dexheimer, J. Steinheimer. Published in Universe 8 (2022) 7, 380 (invited article for topical issue).
26. Finding Structure in the Speed of Sound of Supranuclear Matter from Binary Love Relations. Hung Tan, Veronica Dexheimer, Jacquelyn Noronha-Hostler, Nicolas Yunes. Published in Phys.Rev.Lett. 128 (2022) 16, 161101.
27. Extreme matter meets extreme gravity: Ultraheavy neutron stars with phase transitions. Hung Tan, Travis Dore, Veronica Dexheimer, Jacquelyn Noronha-Hostler, Nicolás Yunes. Published in Phys.Rev.D 105 (2022) 2, 023018.
28. The Effect of Charge, Isospin, and Strangeness in the QCD Phase Diagram Critical End Point. Krishna Aryal, Constantinos Constantinou, Ricardo L.S. Farias, Veronica Dexheimer. Published in Universe 7 (2021) 11, 454.
29. Effects of Magnetic Fields in Hot White Dwarfs. J. Peterson, V. Dexheimer, R. Negreiros, B.G. Castanheira. Published in Phys.Rev.D 105 (2022) 2, 023018.
30. Heavy Magnetic Neutron Stars. Ishfaq A. Rather, Usuf Rahaman, V. Dexheimer, A.A. Usmani, S.K. Patra. Published in Astrophys. J. 917 (2021) 1, 46.
31. Delta Baryons in Neutron-Star Matter under Strong Magnetic Fields. Veronica Dexheimer, Kauan D. Marquez, Débora P. Menezes. Published in Eur.Phys.J.A 57 (2021) 216 (invited article for topical issue).
32. Future physics perspectives on the equation of state from heavy ion collisions to neutron stars. Veronica Dexheimer, Jorge Noronha, Jacquelyn Noronha-Hostler, Claudia Ratti, Nicolás Yunes. Published in J.Phys.G 48 (2021) 7, 073001.

33. GW190814 as a massive rapidly-rotating neutron star with exotic degrees of freedom. V. Dexheimer, R.O. Gomes, T. Klähn, S. Han, M. Salinas. Published in Phys.Rev.C 103 (2021) 2, 025808.
34. Equation of state of hot dense hyperonic matter in the Quark–Meson-Coupling (QMC-A) model. J.R. Stone, V. Dexheimer, P.A.M. Guichon, A.W. Thomas, S. Typel. Published in Mon.Not.Roy.Astron.Soc. 502 (2021) 3, 3476-3490.
35. High-Energy Phase Diagrams with Charge and Isospin Axes under Heavy-Ion Collision and Stellar Conditions. K. Aryal, C. Constantinou, R.L.S. Farias, V. Dexheimer. Published in Phys.Rev.D 102 (2020) 7, 076016.
36. On the Deconfinement Phase Transition in Neutron-Star Mergers. Elias R. Most, L. Jens Papenfort, Veronica Dexheimer, Matthias Hanauske, Horst Stöcker, Luciano Rezzolla. Published in: Eur.Phys.J.A 56 (2020) 2, 59 (invited article for topical issue).
37. Limiting magnetic field for minimal deformation of a magnetised neutron star. R.O. Gomes, Helena Pais, V. Dexheimer, Constança Providência, S. Schramm. Published in Astron.Astrophys. 627 (2019) A6.
38. Hyperons and quarks in proto-neutron stars. J. Roark, X. Du, C. Constantinou, V. Dexheimer, A.W. Steiner, J.R. Stone. Published in Mon.Not.Roy.Astron.Soc. 486 (2019) no.4, 5441-5447.
39. Can magnetic fields stabilize or destabilize twin stars? R.O. Gomes, V. Dexheimer, S. Han, S. Schramm. Published in Mon.Not.Roy.Astron.Soc. 485 (2019) no.4, 4873-4877.
40. What do we learn about vector interactions from GW170817? Veronica Dexheimer, Rosana de Oliveira Gomes, Stefan Schramm, Helena Pais. Published in J.Phys. G46 (2019) no.3, 034002 (invited article for topical issue).
41. Phase Transitions in Neutron Stars. V. Dexheimer, L.T.T. Soethe, J. Roark, R.O. Gomes, S.O. Kepler, S. Schramm. Published in Int.J.Mod.Phys. E27, No. 11, 1830008 (2018) (invited review).
42. Signatures of quark-hadron phase transitions in general-relativistic neutron-star mergers. Elias R. Most, L. Jens Papenfort, Veronica Dexheimer, Matthias Hanauske, Stefan Schramm, Horst Stöcker, Luciano Rezzolla. Published in Phys.Rev.Lett. 122 (2019) no.6, 061101 (chosen as editors' suggestion).
43. Deconfinement phase transition in proto-neutron-star matter. J. Roark, V. Dexheimer. Published in Phys.Rev. C98 (2018) no.5, 055805.
44. Cooling of Small and Massive Hyperonic Stars. Rodrigo Negreiros, Laura Tolos, Mario Centelles, Angels Ramos, Veronica Dexheimer. Published in Astrophys.J. 863 (2018) no.1, 104.
45. Many Aspects of Magnetic Fields in Neutron Stars. Rodrigo Negreiros, Cristian Bernal, Veronica Dexheimer, Orlenys Troconis. Published in Universe 4 (2018) no.3, 43.
46. Anisotropy in the equation of state of strongly magnetized quark matter within the NJL Model. Sidney S. Avancini, Veronica Dexheimer, Ricardo L. S. Farias, Varese S. Timoteo. Published in Phys.Rev. C97 (2018) no.3, 035207.
47. Many-body forces in magnetic neutron stars. R.O. Gomes, B. Franzon, V. Dexheimer, S. Schramm. Published in Astrophys.J. 850 (2017) no.1, 20.

48. Tabulated Neutron Star Equations of State Modeled within the Chiral Mean Field Model. V. Dexheimer. Published in Publications of the Astronomical Society of Australia 34 (2017) (invited article for topical issue).
49. The application of the Quark-Hadron Chiral Parity-Doublet Model to neutron star matter. A. Mukherjee, S. Schramm, J. Steinheimer, V. Dexheimer. Published in Astron.Astrophys. 608 (2017) A110.
50. What is the magnetic field distribution for the equation of state of magnetized neutron stars? V. Dexheimer, B. Franzon, R.O. Gomes, R.L.S. Farias, S.S. Avancini, S. Schramm. Published in Phys.Lett. B773 (2017) 487-491.
51. Internal composition of proto-neutron stars under strong magnetic fields. B. Franzon, V. Dexheimer, S. Schramm. Published in Phys.Rev. D94 (2016) no.4, 044018.
52. Modelling Hybrid Stars in Quark-Hadron Approaches. S. Schramm, V. Dexheimer, R. Negreiros. Published in Eur.Phys.J. A52 (2016) no.1, 14 (invited article for topical issue).
53. A self-consistent study of magnetic field effects on hybrid stars. B. Franzon, V. Dexheimer, S. Schramm. Published in Mon.Not.Roy.Astron.Soc. 456 (2016) no.3, 2937-2945.
54. Reconciling Nuclear and Astrophysical Constraints. V. Dexheimer, R. Negreiros, S. Schramm. Published in Phys.Rev. C92 (2015) 1, 012801.
55. Many-body forces in the equation of state of hyperonic matter. R.O. Gomes, V. Dexheimer, S. Schramm, C.A.Z. Vasconcellos. Published in Astrophys.J. 808 (2015) 1, 8.
56. Role of strangeness in hybrid stars and possible observables. V. Dexheimer, R. Negreiros, S. Schramm. Published in Phys. Rev. C91 (2015) 5, 055808.
57. On the possibility of rho-meson condensation in neutron stars. R. Mallick, S. Schramm, V. Dexheimer, A. Bhattacharyya. Published in Mon.Not.Roy.Astron.Soc. 449 (2015) 1347.
58. EMMI Rapid Reaction Task Force Meeting on 'Quark Matter in Compact Star'. M. Buballa, V. Dexheimer, A. Drago, E. Fraga, P. Haensel, I. Mishustin, G. Pagliara, J. Schaffner-Bielich, S. Schramm, A. Sedrakian and F. Weber. Published in J.Phys. G41 (2014) 12, 123001.
59. The influence of strong magnetic fields on proto-quark stars. V. Dexheimer, D.P. Menezes, M. Strickland. Published in J. Phys. G 41(2014) 015203.
60. Stability windows for proto-quark stars. V. Dexheimer, J.R. Torres, D.P. Menezes. Published in Eur. Phys. J. C (2013) 73: 2569.
61. Non-congruence of the nuclear liquid-gas and deconfinement phase transitions. M. Hempel, V. Dexheimer, S. Schramm, I. Iosilevskiy. Published in Phys. Rev. C88 (2013) 014906.
62. Hybrid Stars in an SU(3) Parity Doublet Model. V. Dexheimer, J. Steinheimer, R. Negreiros, S. Schramm. Published in Phys. Rev. C87 (2013) 015804.
63. Bulk Properties of a Fermi Gas in a Magnetic Field. M. Strickland, V. Dexheimer, D.P. Menezes. Published in Phys. Rev. D 86: 125032, 2012.
64. Hybrid Stars in a Strong Magnetic Field. V. Dexheimer, R. Negreiros, S. Schramm. Published in Eur.Phys.J. A48: 189, 2012.
65. Quark core impact on hybrid star cooling. Rodrigo Negreiros, V.A. Dexheimer, S. Schramm. Published in Phys.Rev. C85: 035805, 2012.

66. Neutron Stars with Small Radii – the Role of Delta Resonances. T. Schurhoff, S. Schramm and V. Dexheimer. Published in Astrophys. Journ. Lett. 724: 74-77, 2010.
67. Modeling Hybrid Stars with an SU(3) non-linear sigma model. Rodrigo Picanco Negreiros, V.A. Dexheimer andS. Schramm. Published in Phys. Rev. C 82: 035803, 2010.
68. Kaon properties in (proto)neutron stars. Amruta Mishra, Arvind Kumar, Sambuddha Sanyal, V. Dexheimer and Stefan Schramm. Published in Eur. Phys. J. A 45: 169-177, 2010.
69. Hydrodynamics with a chiral hadronic equation of state including quark degrees of freedom. J. Steinheimer, V. Dexheimer, H. Petersen, M. Bleicher, S. Schramm and H. Stoecker. Published in Phys. Rev. C 81: 044913, 2010.
70. Novel Approach to Modeling Hybrid Stars. V.A. Dexheimer and S. Schramm. Published in Phys. Rev. C 81: 045201, 2010.
71. Neutron stars within the SU(2) parity doublet model. V. Dexheimer, G. Pagliara, L. Tolos, J. Schaffner-Bielich and S. Schramm. Published in Eur. Phys. J. A 38: 105-113, 2008.
72. Proto-Neutron and Neutron Stars in a Chiral SU(3) Model. V. Dexheimer and S. Schramm. Published in Astrophys. J. 683: 943–948, 2008.
73. Nuclear matter and neutron stars in a parity doublet model. V. Dexheimer, S. Schramm and D. Zschiesche. Published in Phys. Rev. C 77: 025803, 2008.
74. Density Dependent Nuclear Matter Compressibility. V.A. Dexheimer, C.A.Z. Vasconcellos and B.E.J. Bodmann. Published in Phys.Rev. C 77: 065803, 2008.

Other Documents

1. Hot QCD White Paper. M. Arslandok, S.A. Bass, A.A. Baty, I. Bautista, C. Beattie et al. (2023) e-Print: 2303.17254 [nucl-ex].
2. QCD Phase Structure and Interactions at High Baryon Density: Continuation of BES Physics Program with CBM at FAIR. D. Almaalol, M. Hippert, J. Noronha-Hostler, J. Noronha, E. Speranza, G. Basar, S. Bass, D. Cebra, V. Dexheimer et al. (2022) e-Print: 2209.05009 [nucl-ex].
3. Long Range Plan: Dense matter theory for heavy-ion collisions and neutron stars. Alessandro Lovato, Travis Dore, Robert D. Pisarski, Bjoern Schenke, Katerina Chatziioannou et al. (2022) e-Print: 2211.02224 [nucl-th].

Refereed Proceedings

1. Neutron stars and Constraints for the Equation of State of Dense Matter. Rajesh Kumar, Veronica Dexheimer, Johannes Jahan. Prepared for the 16th Conference on Quark Confinement and the Hadron Spectrum (QCHSC 2024) 19-24 August 2024, Cairns, Australia. Published in PoS QCHSC24 (2025) 008.
2. Dense-matter equation of state at zero & finite temperature. Alexander Clevinger, Veronica Dexheimer, Jeffrey Peterson. Prepared for Quark Matter 2023 3-9 September 2023, Houston TX. Published in EPJ Web Conf. 296 (2024) 14002.
3. Equations of state for dense matter and astrophysical constraints. Rafael Ban Jacobsen, Veronica Dexheimer, Ricardo Luciano Sonego Farias. Prepared for the 10th International Workshop on Astronomy and Relativistic Astrophysics (IWARA

2022) 5-9 September 2022, Antigua, Guatemala. Published in Astron.Nachr. 344 (2023) 1-2, e230038.

4. Phase Transitions under Strong Magnetic Fields in Neutron Star. Ishfaq A. Rather, Veronica Dexheimer, Ilídio Lopes. EPJ Web Conf. 290 (2023) 03004.
5. Equation of State at High-Baryon Density and Compact Stellar Objects. Veronica Dexheimer. Prepared for the 29th International Conference on Ultrarelativistic Nucleus-Nucleus Collisions (Quark Matter 2022) 4-10 April 2022, Krakow, Poland. Published in Acta Phys.Polon.Supp. 16, 1-A143 (2023) 12-14.
6. Magnetic deformation in Neutron Stars. Ishfaq A. Rather, Usuf Rahaman, V. Dexheimer, A.A. Usmani, S.K. Patra. Prepared for the 65th DAE BRNS Symposium on nuclear physics. Published in Springer Proc. Phys. 277 (2022) 478-479.
7. Strangeness in astrophysics: Theoretical developments, Veronica Dexheimer, Krishna Aryal. Prepared for the 19th International Conference on Strangeness in Quark Matter (SQM2021) 17-22 May 2021. Published in EPJ Web Conf. 259 (2022) 05001.
8. Deconfinement Phase Transition under Chemical Equilibrium. Veronica Dexheimer, Krishna Aryal, Madison Wolf, Constantinos Constantinou, Ricardo L.S. Farias. Prepared for the 9th International Workshop on Astronomy and Relativistic Astrophysics (IWARA2020) 6-12 September 2020. Published in: Astron.Nachr. 342 (2021) 1-2, 347-351.
9. 3-Dimensional QCD Phase Diagrams for Strange Matter. V. Dexheimer, K. Aryal, C. Constantinou, J. Peterson, R.L.S. Farias. Prepared for the 36th Winter Workshop on Nuclear Dynamics (WWND 2020) 1-7 March 2020. Published in J.Phys.Conf.Ser. 1602 (2020) 1, 012013.
10. Exotic matter in neutron stars and the equation of state. Stefan Schramm, Veronica Dexheimer, Jan Steinheimer, Ayon Mukherjee. Prepared for Frontier Research in Astrophysics - III (FRAPWS2018) 28 May-2 June 2018, Mondello, Palermo, Italy. Published in PoS FRAPWS2018 (2019) 048.
11. MAGIC - how MAtter's extreme phases can be revealed in Gravitational wave observations and in relativistic heavy Ion Collision experiments. Matthias Hanauske, Luke Bovard, Jan Steinheimer, Anton Motornenko, Volodymyr Vovchenko, Stefan Schramm, Veronica Dexheimer, Jens Papenfort, Elias R. Most, Horst Stöcker. Prepared for 5th Biennial Workshop on Discovery Physics at the LHC (Kruger2018) 03-07 Dec 2018, Hazyview, Mpumulanga, South Africa. Published in J. Phys. Conf. Ser. 1271 (2019) no.1, 012023.
12. Neutron-Star-Merger Equation of State. Veronica Dexheimer, Constantinos Constantinou, Elias R. Most, L. Jens Papenfort, Matthias Hanauske, Stefan Schramm, Horst Stoecker, Luciano Rezzolla. Prepared for Compact Stars in the QCD Phase Diagram VII (CSQCD VII) 1-15 Jun 2018, New York, NY, USA. Published in Universe 5 (2019) no.5, 129.
13. Detecting the Hadron-Quark Phase Transition with Gravitational Waves. Matthias Hanauske, Luke Bovard, Elias Most, Jens Papenfort, Jan Steinheimer, Anton Motornenko, Volodymyr Vovchenko, Veronica Dexheimer, Stefan Schramm, Horst Stöcker. Prepared for Compact Stars in the QCD Phase Diagram VII (CSQCD VII) 1-15 Jun 2018, New York, NY, USA. Published in Universe 5 (2019) no.6, 156.
14. The Equation of State and Cooling of Hyperonic Neutron Stars. Laura Tolos, Mario Centelles, Angels Ramos, Rodrigo Negreiros, Veronica Dexheimer. To appear in the

proceedings of the 15th Marcel Grossmann Meeting on Recent Developments in Theoretical and Experimental General Relativity, Astrophysics, and Relativistic Field Theories (MG15) 01-07 Jul 2018, Rome, Italy. e-Print: arXiv:1903.03525 [astro-ph.HE].
15. Modeling Hybrid Stars and Hot Matter. Schramm, J. Steinheimer, V. Dexheimer, A. Mukherjee. Prepared for the 27th International Conference on Ultrarelativistic Nucleus-Nucleus Collisions (Quark Matter 2018) 14-19 May 2018, Venice, Italy. Published in Nucl.Phys. A982 (2019) 887-890.
16. Modeling magnetic neutron stars: a short overview. R.O. Gomes, S. Schramm, V. Dexheimer. To appear in the proceedings of the 14th Hadron Physics 18-23 Mar 2018, Florianopolis SC, Brazil. e-Print: arXiv:1805.00341 [astro-ph.HE].
17. Models of hyperstars and hybrid stars. S. Schramm, V. Dexheimer, R. Mallick, R. Negreiros. Prepared for 14th Marcel Grossmann Meeting on Recent Developments in Theoretical and Experimental General Relativity, Astrophysics, and Relativistic Field Theories 12-18 Jul 2015, Rome, Italy. Published in The Fourteenth Marcel Grossmann Meeting, World Scientific (2017) 3399-3403.
18. Dense and hot matter in compact stars and heavy-ion collisions. Stefan Schramm, Veronica Dexheimer, Ayon Mukherjee, Jan Steinheimer. Contribution to 17th International Conference on Strangeness in Quark Matter (SQM 2017) 10-15 July 2017. Published in EPJ Web Conf. 171 (2018) 08002.
19. Phase Transitions in Dense and Hot Matter. Veronica Dexheimer. Prepared for 11th International Workshop on Critical Point and Onset of Deconfinement 07-11 Aug 2017, Stony Brook, NY, USA. Published in PoS CPOD2017 (2018) 033.
20. Magnetic field distribution in strongly magnetized neutron stars. V. Dexheimer, B. Franzon, R.O. Gomes, R.L.S. Farias, S.S. Avancini, S. Schramm. Prepared for 4th Caribbean Symposium on Cosmology, Gravitation, Nuclear and Astroparticle Physics May 7-13, 2017, Havana, Cuba. Published in Astron.Nachr. 338 (2017) no.9-10, 1052-1055.
21. Exotic Matter in Compact Stars. Stefan Schramm, Veronica Dexheimer, Ritam Mallik, Rodrigo Negreiros. Prepared for 7th International Conference on Physics and Astrophysics of Quark Gluon Plasma 02-06 Feb 201, Kolkata, West Bengal, India. Published in PoS ICPAQGP2015 (2017) 009.
22. Magnetic field & neutron stars: A comprehensive study. Ritam Mallik, Stefan Schramm, Veronica Dexheimer, Abhijit Bhattacharyya. Prepared for 7th International Conference on Physics and Astrophysics of Quark Gluon Plasma 02-06 Feb 2015, Kolkata, West Bengal, India. Published in PoS ICPAQGP2015 (2017) 066.
23. Phase transitions in dense matter. V. Dexheimer, M. Hempel, I. Iosilevskiy, S. Schramm. Prepared for 26th Quark Matter 06-11 Feb 2017, Chicago, IL. Published in Nucl.Phys. A967 (2017) 780-783.
24. Highly magnetized neutron stars in a many-body forces formalism. R.O. Gomes, C.A.Z. Vasconcellos, B. Franzon, S. Schramm, V. Dexheimer. Prepared for 7th International Workshop on Astronomy and Relativistic Astrophysics 09-13 Oct 2016, Gramado, Brazil. Published in Int.J.Mod.Phys.Conf.Ser. 45 (2017) 1760033.
25. The population of highly magnetized neutron stars. R.O. Gomes, V. Dexheimer, B. Franzon, S. Schramm. Prepared for Compact Stars in the QCD phase diagram V 23-27 May 2016, L' Aquila, Italy. Published in J.Phys.Conf.Ser. 861 (2017) no.1, 012016.

26. A self-consistent study of magnetic field effects on hybrid stars. V. Dexheimer, B. Franzon, S. Schramm. Prepared for Compact Stars in the QCD phase diagram V 23-27 May 2016, L' Aquila, Italy. Published in J.Phys.Conf.Ser. 861 (2017) no.1, 012012.
27. Neutron Stars—Possibilities and Limits for Exotic Phases. S. Schramm, V. Dexheimer, R. Mallick. Prepared for International Symposium on New Horizons in Fundamental Physics: From Neutrons Nuclei via Superheavy Elements and Supercritical Fields to Neutron Stars and Cosmic Rays 23-29 Nov 2015, Makutsi, South Africa. Published in New Horizons in Fundamental Physics - FIAS Interdisciplinary Science Serie, Springer (2017) 297-306.
28. Effects of strong magnetic fields on hybrid stars. B. Franzon, V. Dexheimer, S. Schramm. Prepared for The Modern Physics of Compact Stars and Relativistic Gravity 30 Sep - 03 Oct 2015, Yerevan, Armenia. Published in PoS MPCS2015 (2016) 018.
29. Models of quark-hadron matter and compact stars. S. Schramm, V. Dexheimer, R. Negreiros, J. Steinheimer. Prepared for 11th Conference on Quark Confinement and the Hadron Spectrum 08-12 Sep 2014, St. Petersburg, Russia. Published in AIP Conf.Proc. 1701 (2016) 080011.
30. Noncongruence of phase transitions in strongly interacting matter. M. Hempel, V. Dexheimer, S. Schramm, I. Iosilevskiy. Prepared for 14th Marcel Grossmann Meeting July 12-18 2015, Rome, Italy. Published in The Fourteenth Marcel Grossmann Meeting, World Scientific (2017) 3407-3413.
31. Many-body forces, isospin asymmetry and dense hyperonic matter. R.O. Gomes, V. Dexheimer, S. Schramm, C.A.Z. Vascconcellos. To appear in the proceedings of Compact Stars in the QCD Phase Diagram IV September 26-30 2014, Prerow, Germany. E-Print: arXiv:1504.02788.
32. Exotic Phases in Magnetars. S. Schramm, A. Bhattacharyya, V. Dexheimer, R. Mallick. To appear in the proceedings of Compact Stars in the QCD Phase Diagram IV September 26-30 2014, Prerow, Germany. E-Print: arXiv:1504.00451.
33. The role of magnetic fields in hyperon stars. R. O. Gomes, V. Dexheimer, C. A. Z. Vasconcellos. Prepared for 7th European Summer School on Experimental Nuclear Astrophysics September 15-27 2013, Santa Tecla, Sicily, Italy. Published in AIP Conf.Proc. 1595 (2014) 242.
34. Effects of strong magnetic fields on the population of hyperon stars. R. O. Gomes, V. Dexheimer, C. A. Z. Vasconcellos. Prepared for 2nd Caribbean Symposium on Cosmology, Gravitation, Nuclear and Astroparticle Physics 4-6 May 2013, Havana, Cuba and 3rd International Symposium on Strong Electromagnetic Fields and Neutron Stars 7-10 May 2013, Varadero, Cuba. Published in Astron.Nachr. 335 (2014) 666.
35. Protoquark stars: stability windows and magnetic field effects. D.P. Menezes, V. Dexheimer, J.R. Torres. Prepared for 25th International Nuclear Physics Conference 2-7 Jun 2013, Firenze, Italy. Published in EPJ Web Conf. 66 (2014) 07020.
36. Effective Field Theory for Neutron Stars with Genuine Many-body Forces. C.A.Z. Vasconcellos, R.O. Gomes, V. Dexheimer, R.P. Negreiros, J. Horvath, D. Hadjimichef. Prepared for 2nd Caribbean Symposium on Cosmoly, Gravitation, Nuclear and Astroparticle Physics 4-6 May 2013, Havana, Cuba and 3rd International

Symposium on Strong Electromagnetic Fields and Neutron Stars 7-10 May 2013, Varadero, Cuba. Published in Astron.Nachr. 335 (2014) 763.

37. Compact Stars – How Exotic Can They Be? S. Schramm, V. Dexheimer, R. Negreiros, J. Steinheimer, T. Schuerhoff. Prepared for Nuclear Physics: Present and Future May 2013, Boppard, Germany. Published in Nuclear Physics: Present and Future, Springer (2015) 235-243.
38. Stability windows at finite temperature. J.R. Torres, D.P. Menezes, V. Dexheimer. To appear in the proceedings of Compact Stars in the QCD Phase Diagram III 12-15 Dec 2012, Guaruja, SP, Brazil. e-Print: arXiv:1308.2079 [nucl-th].
39. Hyperon Stars in Strong Magnetic Fields. R.O. Gomes, V. Dexheimer, C.A.Z. Vasconcellos. To appear in the proceedings of Compact Stars in the QCD Phase Diagram III 12-15 Dec 2012, Guaruja, SP, Brazil. e-Print: arXiv:1307.7450 [nucl-th].
40. Modeling Hybrid Stars in Quark-Hadron Approaches. S. Schramm, V. Dexheimer, R. Negreiros, T. Schuerhoff, J. Steinheimer. To appear in the proceedings of Compact Stars in the QCD Phase Diagram III 12-15 Dec 2012, Guaruja, SP, Brazil. e-Print: arXiv:1306.0989 [astro-ph.SR].
41. Deconfinement to Quark Matter in Magnetars. V. Dexheimer, R. Negreiros, S. Schramm. Prepared for Extreme QCD 21-23 Aug 2012, Washington DC, USA. Published in J. Phys. Conf. Ser. 432 (2013) 012005.
42. Modeling Hybrid Stars. V. Dexheimer, S. Schramm, J. Stone. Prepared for XII International Symposium on Nuclei in the Cosmos (NIC 2012) 5-10 Aug 2012, Cairns, Australia. Published in PoS NICXII (2012) 101.
43. Deconfinement to Quark Matter in Neutron Stars – The Influence of Strong Magnetic Fields. V. Dexheimer, R. Negreiros, S. Schramm, M. Hempel. Prepared for XII Hadron Physics April, 22-27, 2012, Bento Goncalves, Brazil. Published in AIP Conf.Proc. 1520 (2013) 264-269.
44. Nuclear matter and neutron stars in a quark-hadron model. S. Schramm, R.P. Negreiros, T. Schurhoff, V. Dexheimer. Prepared for 2nd International Symposium on Strong Electromagnetic Fields and Neutron Stars 5-7 May 2011, Varadero, Cuba. Published in Int.J.Mod.Phys. E20: 125-132, 2011.
45. Structure and Cooling of Neutron and Hybrid Stars. S. Schramm, V. Dexheimer, R. Negreiros, T. Schurhoff, J. Steinheimer. Prepared for Exciting Physics Symposium 2011, Makutsi, South Africa. Published in Exciting Interdisciplinary Physics, FIAS Interdisciplinary Science Series (2013) 323.
46. Properties and Stability of Hybrid Stars. S. Schramm, R. Negreiros, J. Steinheimer, T. Schurhoff, V. Dexheimer. Prepared for Strangeness in Quark Matter 18-24 Sep 2011, Cracow, Poland. Published in Acta Phys.Polon. B43: 749-758, 2012.
47. Dense Matter and Neutron Stars in Parity Doublet Models. S. Schramm, V. Dexheimer, R. Negreiros, J. Steinheimer. To appear in the proceedings of STARS2011, Havana, Cuba, 1 – 4 May 2011. e-Print: arXiv:1110.0609 [nucl-th].
48. Nuclear matter, nuclei, and neutron stars in hadron and quark-hadron models. S. Schramm, V. Dexheimer, R. Negreiros, T. Schurhoff. Prepared for Advances in Nuclear Physics in Our Time 28 Nov-2 Dec 2010, Goa, India. Published in Exploring Fundamental Issues in Nuclear Physics: Nuclear Clusters - Superheavy, Superneutronic, Superstrange, of Anti-Matter, World Scientific (2012) 142-151.
49. Phase structure of strongly interacting matter and simulations of heavy-ion collisions using a quark-hadron model. S. Schramm J. Steinheimer, V. Dexheimer, H. Stocker.

Prepared for International Conference on Strangeness in Quark Matter (SQM 2009) 27 Sep – 2 Oct 2009, Buzios, Brazil. Published in J.Phys.G G37: 094041, 2010.

50. Compact Stars in Hadron and a Hadron- Quark Models. S. Schramm and V. Antocheviz Dexheimer. Prepared for 4th International Workshop on Astronomy and Relativistic Astrophysics 4-8 Oct 2009, Maresias, Brazil. Published in Int. J. Mod. Phys. D 19: 1455-1462, 2010.
51. Chiral Symmetry Restoration and Deconfinement to Quark Matter in Neutron Stars. V.A. Dexheimer and S. Schramm. Prepared for Light-Cone 8-13 July 2009, Sao Jose dos Campos, Brazil. Published in Nucl. Phys. Proc. Suppl. 199: 319-324, 2010.
52. Phase Structure in hadron-quark models and its implementation in heavy-ion simulations. S. Schramm, J. Steinheimer, V. A. Dexheimer. Prepared for 18th International Conference on Particles and Nuclei 9-14 Nov 2008, Eilat, Israel. Published in Nucl. Phys. A 827: 546, 2009.
53. Neutron Stars as a Probe for Dense Matter. V. Dexheimer and S. Schramm. Prepared for International Conference on Particles And Nuclei 9-14 Nov 2008, Eilat, Israel. Published in Nucl. Phys. A 827: 579, 2009.
54. Proto-Neutron and Neutron Stars. V. Dexheimer, S. Schramm and H. Stoecker. Prepared for International Workshop on Astronomy and Relativistic Astrophysics 2007 3-6 Oct 2007, Joao Pessoa, Brazil. Published in Astronomy and Relativistic Astrophysics: New Phenomena and New States of Matter in the Universe, World Scientific (2010) 47-53.
55. Parity Doublet Model applied to Neutron Stars. V. Dexheimer, S. Schramm and Horst Stoecker. Prepared for International Symposium on Exotic States of Nuclear Matter 11-15 Jun 2007, Catania, Italy. Published in Exotic States of Nuclear Matter, World Scientific (2012) 71-76.
56. Neutron Stars in a Chiral Model with Finite Temperature. V. Dexheimer, S. Schramm and H. Stoecker. Prepared for 3rd Nuclear Physics in Astrophysics Conference and 21st International Nuclear Physics Divisional Conference of the European Physical Society 26-31 Mar 2007, Dresden, Germany. Published in J. Phys. G 35: 014060, 2008.
57. The Nuclear matter compressibility function in a parameterized coupling model. V.A. Dexheimer, C.A.Z. Vasconcellos and B.E.J. Bodmann. Prepared for International Workshop on Astronomy and Relativistic Astrophysics 2-5 Oct 2005, Natal, Brazil. Published in Int. J. Mod. Phys. D 16: 269-376, 2007.
58. The role of the nuclear incompressibility in a relativistic mean field theory for neutron stars. V.A. Dexheimer, C.A.Z. Vasconcellos, B.E.J. Bodmann and M. Dillig. Prepared for 9th Hadron Physics and 7th Relativistic Aspects of Nuclear Physics 28 Mar – 3 Apr 2004, Angra dos Reis, Brazil. Published in AIP Conf. Proc. 739: 479-481, 2005.
59. The Role of the nuclear matter compression modulus in neutron stars. V.A. Dexheimer, C.A.Z. Vasconcellos, M. Razeira and M. Dillig. Prepared for International Workshop on Astronomy and Relativistic Astrophysics 2-16 Oct 2003, Olinda, Brazil. Published in Int. J. Mod. Phys. D 13: 1519-1524, 2004.

Work presented

1. "Constraining the dense matter EOS". The Nuclear Physics and Dense Matter Equation of State Workshop, FRIB, East Lensing MI, December 2025 (invited talk).
2. “The New Phases of Matter Inside Neutron Stars”. Burrell Observatory, Berea OH, October 2025 (invited public lecture).
3. “An overview of the MUSES cyberinfrastructure and how you can use it to describe neutron stars”. Matter, Astrophysics, Gravitation, Ions, And Cosmology (MAGIC 2025), Buenos Aires, Argentina, September 2025.
4. “Neutron-star informed EoS for heavy-ion collisions”. STAR Collaboration Meeting, Kent OH, August 2025 (invited plenary talk).
5. “Using Neutron Stars to Reveal the Secrets of Dense Matter”. Seminar at UFMA, Sao Luis MA Brazil, July 2025.
6. “A Modern Description of Dense Matter”. NP3M Summer School, Bloomington IN, June 2025 (invited lecturer).
7. “MUSES for neutrons stars”. MUSES Collaboration Meeting 2025, University of Illinois at Urbana-Champaign, IL, May 2025 (invited talk).
8. “The role of neutron stars in constraining the QCD equation of state”. Beam energy scan workshop at RHIC/AGS Annual Users' Meeting, Brookhaven National Laboratory, Long Island NY, May 2025 (invited talk).
9. “A Modern Description of Dense Matter”. XXII Theoretical Nuclear Physics Summer School Jorge Andre Swieca, Niteroi RJ, Brazil, April 2025 (invited lecturer).
10. “Using Neutron Stars to Reveal the Secrets of Dense Matter”. Colloquium at UFF, Niteroi RJ Brazil, April 2025.
11. “Using Neutron Stars to Reveal the Secrets of Dense Matter”. Seminar at Stark State, North Canton OH, April 2025.
12. “An overview of the MUSES cyberinfrastructure and how you can use it to describe neutron stars”. APS Global Physics Summit, Anaheim CA, March 2025 (invited focus section talk).
13. “An overview of the MUSES cyberinfrastructure and what it can do for you”. 11th Workshop of the APS Topical Group on Hadronic Physics (GHP), Anaheim CA, March 2025.
14. “Astrophysics at Kent State”. Flash talk at Kent State University, Kent OH, February 2024.
15. “An overview of the MUSES cyberinfrastructure and what it can do for you”. Nuclear Science Seminar at FRIB, East Lensing MI, February 2025.
16. “An overview of the MUSES cyberinfrastructure and what it can do for you”. Nuclear Seminar at Ohio University, Athens OH, January 2025.
17. “Using Neutron Stars to Reveal the Secrets of Dense Matter”. Colloquium at Baylor University, Waco TX, November 2024.
18. “Using Neutron Stars to Reveal the Secrets of Dense Matter”. Colloquium at Kent State University, Kent OH, October 2024.
19. “Neutron stars and Constraints for the Equation of State of Dense Matter + MUSES”. 10th International Conference on Compact Stars in the QCD Phase diagram (CSQCD2024), YITP, Kyoto, Japan, October 2024.
20. “Neutron stars and Constraints for the Equation of State of Dense Matter”. The XVIth Quark Confinement and the Hadron Spectrum Conference, Cairns, Australia, August 2024 (invited plenary talk).

21. “Future Plans for Workflows”. MUSES Collaboration Meeting 2024, University of Illinois at Urbana-Champaign, IL, May 2024 (invited talk).
22. “Neutron stars in the QCD phase diagram”. Colloquium at Texas A&M University Commerce, March 2024 (invited talk).
23. “Modular Unified Solver of the Equation of State (MUSES)”. STAR Juniors' Day, March 2024 (invited talk).
24. “Phase Transitions in Neutron Stars”. NP3M Collaboration meeting, January 2024 (invited talk).
25. “How much of the QCD phase diagram is still uncharted?”. Advances in Nuclear Matter Dynamics: A Tribute to Declan Keane, Kent State University, Kent OH, December 2023.
26. “New states of matter created in stellar collisions”. Research and Innovation Forum at Kent State University, November 2023 (invited talk).
27. “Neutron stars in the QCD phase diagram”. Colloquium at Wayne State University, September 2023 (invited talk).
28. “Finding Structure in the Speed of Sound of Dense Matter”. Seminar at Wayne State University, September 2023 (invited talk).
29. “A very informal introduction to the Walecka model”. CNR Seminar, Kent State University, OH, September 2023.
30. “Neutron stars in the QCD phase diagram”. Latin American Network on Electromagnetic Effects in Strongly Interacting Matter Online Seminar, September 2023 (invited talk).
31. “Temperature and Strong Magnetic Field Effects in Dense Matter”. Quark Matter 2023, Houston, TX, September 2023.
32. “Neutron Star Working Group Overview”. MUSES Collaboration Meeting 2023, University of Illinois at Urbana-Champaign, IL, May 2023 (invited talk).
33. “Lepton Module Overview”. MUSES Collaboration Meeting 2023, University of Illinois at Urbana-Champaign, IL, May 2023 (invited talk).
34. “Neutron stars in the QCD phase diagram”. Physics Graduate Program Seminar at UFSC, Florianopolis, Brazil, May 2023 (invited talk).
35. “Neutron Stars: natural laboratories for nuclear physics”. Women in STEM Day. Kent State University Twinsburg Academic Center, Twinsburg OH, April 2023 (invited talk).
36. “Neutron stars in the QCD phase diagram”. Nuclear Theory Seminar at University of Maryland, College Park MD, April 2023 (invited talk).
37. “Constraints on the equation of state of neutron stars”. American Physical Society (APS) April Meeting, Minneapolis MN, April 2023.
38. “Nuclear phase diagram: from heavy ions to neutron stars”. 10th Workshop of the APS Topical Group on Hadronic Physics, Minneapolis MN, April 2023 (invited talk).
39. “Finding Structure in the Speed of Sound of Dense Matter”. Matter, Astrophysics, Gravitation, Ions, And Cosmology (MAGIC 2023), Praia do Rosa SC, Brazil, March 2023 (invited talk).
40. “Exotic Matter in Neutron Stars”. Seminar at Vienna University of Technology, Austria, February 2023 (invited talk).
41. “Exotic Matter in Neutron Stars”. Colloquium at Vanderbilt University, Nashville TN, February 2023 (invited talk).

42. “Exotic Matter in Neutron Stars”. VandyGRAF Seminar at Vanderbilt University, Nashville TN, February 2023 (invited talk).
43. “Exotic matter in neutron stars”. CosmoCoffee seminar at CERN, Meyrin Switzerland, February 2023 (invited talk).
44. “Net strangeness and isospin fractions in the EOS as probed by protoneutron stars, binary neutron star mergers, and heavy-ion collisions”. INT Program on Dense Nuclear Matter Equation of State from Heavy-Ion Collisions, University of Washington, Seattle WA, December 2022 (invited online talk).
45. “Phases of Matter Inside Neutron Stars”. Café com Fisica seminar at Universidade de Coimbra, Portugal, October 2022 (invited talk).
46. “Probing exotic matter in neutron stars”. Online NPA seminar at Yale University, New Haven CT, October 2022 (invited talk).
47. “Equations of State for Dense Matter”. Modern equations of state and spectroscopy in neutron-star matter workshop, Universidad de Alcalá, Alcalá de Henares, Madrid, Spain, September 2022 (invited talk).
48. “Equations of State for Dense Matter”. 10th International Workshop on Astronomy and Relativistic Astrophysics (IWARA 2022), Antigua, Guatemala, September 2022 (invited online talk).
49. “Neutron Stars”. Public lecture at Kent Free Library, Kent OH, May 2022 (invited talk).
50. “Probing exotic matter in neutron stars”. Online seminar at Aristotle University of Thessaloniki, Greece, May 2022 (invited talk).
51. “Phase Transitions”. NP3M online seminar series, Penn State University, State College, PA, May 2022 (invited talk).
52. “Neutron Star Working Group Overview”. MUSES Collaboration Meeting 2022, University of Illinois at Urbana-Champaign, IL, May 2022 (invited talk).
53. “Experimental and Astrophysical Constraints on the EoS to inform the MUSES Code”. MUSES Collaboration Meeting 2022, University of Illinois at Urbana-Champaign, IL, May 2022 (invited talk).
54. “EoS at High-Baryon Density and Compact Stellar Objects”. Quark Matter 2022, Krakow, Poland, April 2022 (invited plenary talk).
55. “Exotic matter in neutron stars”. Online seminar at McGill University, February 2022 (invited talk).
56. “High Temperature Workgroup”. NP3M Collaboration kickoff meeting, October 2021 (online discussion).
57. “Can Deconfinement Occur in Neutron Stars?”. Fall Meeting of the Division of Nuclear Physics (DNP) of the American Physical Society (APS), October 2021 (virtual invited plenary talk)
58. “Dense matter equation of state and the QCD phase diagram”. Seventh physics & astrophysics at the extreme (PAX- VII) workshop, August 2021 (online discussion).
59. “New States of Matter inside Neutron Stars”. IX Encontro (Online) de Fisica e Astronomia da UFSC, Florianopolis, Brazil , August 2021 (invited lecturer).
60. “Extreme Matter meets Extreme Gravity: Observational Implications of Ultra-Heavy Neutron Stars with Cross-Overs and Phase Transitions”. A Virtual Tribute to Quark Confinement and the Hadron Spectrum, University of Stavanger, Norway, Aug 2021 (invited talk).

61. "Equation of state from heavy-ion collisions to neutron stars". Online talk at RBRC Seminar series, Stony Brook University, Stony Brook NY, July 2021 (invited talk).
62. “What can we learn about new exotic states of matter from neutron stars and their mergers? ”. Online Colloquium at Universidade Federal Fluminense, Rio de Janeiro, Brazil, June 2021 (invited talk).
63. “What can we learn about exotic matter from neutron stars and their mergers?”. Online S@INT seminar at INT - University of Washington, Seattle, WA, May 2021 (invited online talk).
64. “Strangeness in astrophysics: Theoretical developments”. Online Strangeness in Quark Matter Conference, May 2021 (invited plenary talk).
65. “Comparisons among neutron-star mergers and heavy-ion collisions”. 9th Workshop of the APS Topical Group on Hadronic Physics (online), April 2021 (invited talk).
66. “Dense matter: heavy-ion vs. neutron-star physics”. Nuclear Theory Group virtual seminar, Lawrence Berkeley National Laboratory, Berkeley CA, March 2021 (invited talk).
67. “Dense matter: heavy-ion vs. neutron-star physics”. INT Program on Topological Phases of Matter: From Low to High Energy, University of Washington, Seattle WA, March 2021 (invited talk).
68. “Discussion: What do we have?”, CompOSE 21, Barcelona, Spain, February. 2021 (discussion).
69. “Exotic Degrees of Freedom in Neutron Stars and Their Mergers”. XX Escola de Verao Jorje Andre Swieca de Fisica Teorica (online), Brazil, February 2021 (invited talk).
70. “Exotic Matter Produced in Neutron-Star Mergers”. Biweekly webinar on Quark matter and relativistic hydrodynamics, Tehran, Iran, January (invited talk).
71. “Exotic Matter in Neutron Stars”. 43rd Committee on Space Research (COSPAR) Scientific Assembly (online), Sydney, Australia, January 2021 (invited talk).
72. “What do needs to be done in theory and computation in order to extract the most science from the Multi-Messenger Astronomy observations that will come in the next 10+ years?”. Online Workshop on Simulations for Multi-Messenger Astronomy (S4MMA), December 2020 (discussion).
73. “Exotic Matter in Neutron Stars”. XLIII Reuniao de Trabalho sobre Fisica Nuclear no Brasil – Brazilian annual Nuclear Physics Meeting (online), December 2020 (invited talk).
74. “QCD Phase Diagrams with Charge and Isospin Axes under Heavy-Ion Collision and Stellar Conditions”. XXXII International (ONLINE) Workshop on High Energy Physics "Hot problems of Strong Interactions", Logunov Institute for High Energy Physics, Protvino, Russia, November 2020 (invited talk).
75. “The physics of Neutron Stars”. Online Meeting of the Cleveland Astronomical Society, Cleveland OH, November 2020 (invited public lecture).
76. “Deconfinement Phase Transi1on in Neutron-Star Mergers”. Video Conference - 9th International Workshop on Astronomy and Relativistic Astrophysics (IWARA 2020), Mexico City, Mexico, September 2020 (invited talk).
77. “Panel: QCD matter in equilibrium”. Virtual Workshop From heavy-ion collisions to neutron stars, August 2020 (organizer and discussion leader).

78. “Introduction to modeling the core of neutron stars”. Virtual FRIB-Theory Alliance Summer School: Dense matter in Astrophysics, Michigan State University, East Lansing MI, June 2020 (organizer and lecturer).
79. “Exotic Matter Produced in Neutron-Star Mergers”. Imam Abdulrahman Alfaisal University/Kuwait University Virtual High-Energy Physics Colloquium, May 2020 (invited talk).
80. “Exotic Matter Produced in Neutron-Star Mergers”. Online Theoretical Physics Colloquium at Arizona State University, Mesa AZ, May 2020 (invited talk).
81. "Deconfinement Phase Transition in Neutron-Star Mergers ". 36th edition of the Winter Workshop on Nuclear Dynamics, Puerto Vallarta, Mexico, March 2020 (invited talk).
82. "Exotic Matter Produced in Neutron-Star Mergers". Nanjing University, Nanjing, China, December 2019 (invited talk).
83. "Exotic Matter Produced in Neutron-Star Mergers". Guangxi Normal University, Guilin, China, January 2020 (invited talk).
84. “Signatures of Quark-Hadron Phase Transitions in General-Relativistic Neutron-Star Mergers”. Quark Matter 2019, Wuhan, China, November 2019.
85. "Exotic Matter in Neutron-Star Mergers". California State University Long Beach CA, October 2019 (invited talk).
86. “Signatures of Quark-Hadron Phase Transitions in General-Relativistic Neutron-Star Mergers”. XLIX International Symposium on Multiparticle Dynamics (ISMD2019), Santa Fe NM, September 2019 (invited talk).
87. “Neutron Stars”. Kent State University Twinsburg, OH, May 2019 (keynote speaker at Women in STEM Day).
88. “What can we learn about neutron star cores from gravitational waves?” PHAROS Conference 2019: the multi-messenger physics and astrophysics of neutron stars, Girona, Spain, April 2019.
89. “Dense Matter and Compact Stars”. XIX Theoretical Nuclear Physics Summer School Jorge Andre Swieca, Campos do Jordao, Brazil, February 2019 (invited lecturer).
90. “Neutron Stars: A Laboratory for Exotic Matter”. Akron Physics Club, Akron OH, January 2019 (invited public lecture).
91. “Gravitational Waves from Neutron Star Mergers”. Kent State University, OH, December 2018 (invited talk).
92. “Neutron Stars: A Laboratory for Exotic Matter”. Burrell Observatory, Berea OH, November 2018 (invited public lecture).
93. “Equation of state effects on NS mergers”. Neutron stars: the equation of state, superconductivity/superfluidity and transport coefficients (PHAROS meeting), Coimbra, Portugal, September 2018.
94. “Equation of state effects on NS mergers”. Compact Stars in the QCD phase diagram VII, New York NY, June 2018.
95. “Equation of state effects on NS mergers”. Astro-Solids, Dense Matter, and Gravitational Waves, INT, Seattle WA, April 2018 (invited talk).
96. “Realistic Equation of State for Neutron Star Mergers”. Fire and ice: Hot QCD meets cold and dense matter, Saariselkä, Finland, April 2018 (invited talk).
97. "Phase Transitions in Dense Matter". Rutgers University, New Brunswick, NJ, February 2018 (invited talk).

98. "Phase Transitions in Dense Matter". Ohio University, Athens OH, January 2018 (invited talk).
99. "Phase Transitions in Dense Matter". National Superconducting Cyclotron Laboratory, East Lansing MI, December 2017 (invited talk).
100. “Phase Transitions in Dense Matter”. Critical Point and Onset of Deconfinement 2017, Stony Brook NY, August 2017 (invited plenary talk).
101. “Phase Transitions in Dense Matter”. Los Alamos National Laboratory, NM, June 2017 (invited talk).
102. “The Magnetic Field Profile in Strongly Magnetized Neutron Stars”. 4th Caribbean Symposium on Cosmology, Gravitation, Nuclear and Astroparticle Physics / 5th International Symposium on Strong Electromagnetic Fields and Neutron Stars, Havana and Varadero, Cuba, May 2017.
103. “Phase Transitions in Dense Matter”. Kent State University, OH, April 2017.
104. “Phase Transitions in Dense Matter”. Wooster College, OH, April 2017 (invited talk).
105. “The Magnetic Field Profile in Strongly Magnetized Neutron Stars”. Annual NewCompStar Conference 2017, Warsaw, Poland, March 2017.
106. “Phase Transitions in Dense Matter”. Quark Matter 2017, Chicago IL, February 2017.
107. “Effect of the Magnetic Field on the Dense Matter EoS”. NewCompStar School 2016 - Neutron stars: gravitational physics theory and observations, Coimbra, Portugal, September 2016 (invited lecturer).
108. “Deconfinement phase transition in hot and dense matter”. Laboratory and astronomical observations of dense matter, INT, Seattle WA, July 2016 (invited talk).
109. “A Self-consistent Study of Magnetic Field Effects on Hybrid Stars”. Compact Stars in the QCD phase diagram V, L’Aquila, Italy, May 2016.
110. “Phase Transitions in Dense Matter”. Oak Ridge National Laboratory, TN, May 2016 (invited talk).
111. “Phase Transitions in Dense Matter”. Washington University in St. Louis, MO, March 2016 (invited talk).
112. “Signatures for strangeness in compact stars”. Beijing, China, June 2015 (invited talk).
113. “Signatures for strangeness in compact stars”. sQGP and extreme QCD, KITPC, Beijing, China, June 2015 (invited talk).
114. “The Role of Strangeness in Neutron Stars”. Indiana University, Bloomington IN, November 2014 (invited talk).
115. “Neutron Star Equation of State”. NASA Goddard Space Flight Center, Greenbelt MD, USA, June 2014 (invited talk).
116. “Equation of State for Hybrid Compact Stars”. The Structure and Signals of Neutron Stars, from Birth to Death, Florence, Italy, March 2014.
117. “Equation of State for Hybrid Compact Star”. XXVII Texas Symposium of Relativistic Astrophysics, Dallas TX, USA, December 2013.
118. “The Physics of Compact Stars”. Kent State University, Kent OH, December 2013.
119. “Massive Stars within Self-Consistent Approaches”. EMMI Rapid Reaction Task Force: Quark Matter in Compact Stars, Frankfurt am Main, Germany, October 2013 (invited speaker).

120. “The Influence of Strong Magnetic Fields on Neutron Stars and Proto-Neutron Stars”. Spring 2013 Meeting of the APS Ohio Section, Athens OH, USA March 2013.
121. “Magnetic Field Effects on the EOS at Finite Temperature”. NEOS 2012, Frankfurt am Main, Germany, November 2012.
122. “Deconfinement to Quark Matter in Neutron Stars – The influence of Magnetic Fields”. XQCD 2012, Washington DC, USA, August 2012.
123. “Deconfinement to Quark Matter in Neutron Stars – The influence of Magnetic Fields”. ITA, Sao Jose dos Campos, Brazil, May 2012 (invited talk).
124. “Deconfinement to Quark Matter in Neutron Stars – The influence of Magnetic Fields”. USP, Sao Paulo, Brazil, May 2012 (invited talk).
125. “Deconfinement to Quark Matter in Neutron Stars – The influence of Magnetic Fields”. XII Hadron Physics, Bento Gonçalves, Brazil, April 2012.
126. “Neutron Stars – A Laboratory in Space”. UFSC, Florianopolis, Brazil, April 2012 (invited talk).
127. “Deconfinement to Quark Matter in Magnetars”. FIAS – Johann Wolfgang Goethe University, Frankfurt am Main, Germany, July 2011.
128. “Deconfinement to Quark Matter in Magnetars”. CompStar 2011: Gravitational Waves and Electromagnetic Radiation from Compact Stars, Catania, Italy, May 2011.
129. “Modeling Hybrid Stars”. EMMI workshop: Neutron Matter in Astrophysics: From Neutron Stars to the r-Process, GSI, Darmstadt, Germany, July 2010.
130. “Quark Stars”. 30th Annual Central Pennsylvania Consortium Astronomers Meeting, Gettysburg PA, April 2010.
131. “Quark Stars”. Dickinson College, Carlisle PA, March 2010 (invited talk).
132. “A Novel Approach to Model Hybrid Stars”. Light-Cone 2009: Relativistic Hadronic and Particle Physics, Sao Jose dos Campos, Brazil, Jul 2009.
133. “Chiral Symmetry Restoration and Deconfinement in Neutron Stars”. Institut fuer Theoretische Physik, Frankfurt am Main, Germany, May 2009 (invited talk).
134. “The Physics of Neutron Stars”. Gettysburg College, Gettysburg PA, USA, Apr 2009 (invited talk).
135. “Neutron Stars as a Probe for Dense Matter”. CompStar 2009: The crust of Compact Stars and Beyond, Coimbra, Portugal, Feb 2009.
136. “Neutron Stars as a Probe for Dense Matter”. International Conference on Particles and Nuclei (PANIC08), Eilat, Israel, Nov 2008.
137. “Chiral Symmetry Restoration in Neutron Stars”. Frankfurt Institute for Advanced Studies, Frankfurt am Main, Germany, June 2008 (invited talk).
138. “Proto-Neutron and Neutron Stars”. CompStar 2008: The Complex Physics of Compact Stars, Ladek Zdroj, Poland, Feb 2008.
139. “Neutron Star Cooling”. Institut fuer Theoretische Physik, Frankfurt am Main, Germany, Dec 2007 (invited talk).
140. “Proto-Neutron and Neutron Stars”. International Workshop on Astronomy and Relativistic Astrophysics, Joao Pessoa, Brazil, Oct 2007.
141. “Neutron Stars in a Chiral Model with Finite Temperature”. International Nuclear Physics Divisional Conference of the European Physical Society, Dresden, Germany, Mar 2007.
142. “Neutron and Proto-Neutron Stars”. Frankfurt Institute for Advanced Studies, Frankfurt am Main, Germany, Feb 2007 (invited talk).

143. “Determination of the Maximum Mass of Neutron Stars Through the Compression Modulus Using a New Model”. International Workshop on Astronomy and Relativistic Astrophysics, Natal, Brazil, Oct 2005.