FULL CURRICULUM VITAE

FRIDOLIN WEBER, PhD, PhD habil, MSci Physics

Distinguished Professor of Physics

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FULL CURRICULUM VITAE

I. PERSONAL INFORMATION

A. Name: Fridolin Weber

B. Place of Birth: Murnau, Upper Bavaria, Germany

C. Citizenship: German/US

II. EDUCATION

A. Academic Degrees

Institution	Years attended	Degree	Major fields
U Munich, Germany	1976-1982	MS	Theoretical Physics
U Munich, Germany	1983-1985	PhD	Theoretical Nuclear Physics
U Munich, Germany	1992	PhD habil	Theoretical Astro-physics

B. Title of PhD Thesis

"Nuclear Matter Studies based on Realistic Nucleon-Nucleon Interactions"

C. Title of PhD habil Thesis

"Ultra Dense Hadronic Matter and Structure and Stability of General Relativistic Compact Stars"

III. RESEARCH AREAS

A. Nuclear and Particle Physics

- Relativistic nuclear field theories at finite temperature and density
- Properties and phase diagram of strongly interacting matter
- Equation of state of ultra-dense nuclear/stellar matter
- In-medium properties of hadrons
- Superfluidity and superconductivity of baryons in dense matter

- Quark matter, quark-hadron phase transition, color superconductivity
- Physics of strange quark matter

B. Relativistic Astrophysics

- General relativity
- Equation of state of core collapsing supernovae and neutron star mergers
- Structure and stability of compact stars
- Physics of (proto) neutron stars and pulsars
- Gravitational radiation-reaction driven instabilities in compact stars
- General relativistic stellar rotation and cooling
- Ultra-strong electromagnetic stellar fields
- Constraints on the properties of superdense nuclear matter from astrophysical observations made with present and future x-ray satellite missions (e.g. HST, RXTE, Chandra, XMM Newton, GLAST, ATHENA, NICER, eROSITA) and radio telescopes (e.g Arecibo, Parkes, VLA, skA, FAST)
- Mass accreting neutron stars in low mass x-ray binaries
- Nuclear astrophysical processes on the surfaces and interiors of compact stars (pycno-nuclear reactions, unstable nuclear burning, burst and superburst phenomenology)
- Role of strange quark matter for astrophysics (existence of strange quark stars, strange dwarfs, strange MACHOS)
- Solid phases (Coulomb lattice structures) and neutrino transport
- Astrophysical signals of quark deconfinement
- Role of quark matter in the evolution of proto-neutron stars to neutron stars

IV. EMPLOYMENT HISTORY

07/01/2018-current: Appointment at UCSD to the rank of Research Scientist (Step IV) in the Center for Astrophysics and Space Sciences.

07/01/2015-06/30/2018: Appointment at UCSD to the rank of Research Scientist (Step III) in the Center for Astrophysics and Space Sciences.

02/04/2013-06/30/2015: Appointment at UCSD to the rank of Research Scientist (Step III) in the Center for Astrophysics and Space Sciences.

07/2010-08/2010: Visiting Professor at CBPF, Rio de Janeiro, Brazil.

07/2010-present: Chief Technological Officer of Security Systems Application & Research (MQ7).

08/2008-present: Associate Chair of the Department of Physics, San Diego State University, San Diego, California, USA.

08/2008-present: Professor of Physics in the Department of Physics, San Diego State University, San Diego, California, USA.

08/2005-07/2008: Tenured Associate Professor of Physics in the Department of Physics, San Diego State University, San Diego, California, USA.

08/2003-07/2005: Tenure track Assistant Professor in the Department of Physics, San Diego State University, San Diego, California, USA.

08/2000-07/2003: Visiting faculty professor in the Physics Department of the University of Notre Dame, Notre Dame, Indiana, USA.

04/1999-07/2000: Visiting staff researcher at Lawrence Berkeley National Laboratory (LBNL), Berkeley, California, USA.

04/1998-05/1998: Visiting staff researcher at Lawrence Berkeley National Laboratory.

04/1997-05/1997: Visiting staff researcher at Lawrence Berkeley National Laboratory.

08/1996-12/1996: Visiting staff researcher at Lawrence Berkeley National Laboratory.

07/1996-08/1996: Visiting professor in the Department of Nuclear Physics and High Energy Physics, University of Rio de Janeiro, Brazil.

08/1995-12/1995: Visiting staff researcher at Lawrence Berkeley National Laboratory.

08/1994-12/1994: Visiting staff researcher at Lawrence Berkeley National Laboratory.

08/1993-12/1993: Visiting staff researcher at Lawrence Berkeley National Laboratory.

01/1993-02/1998: Head of the research group Superdense Matter and Relativistic Astrophysics, University of Munich, Munich, Germany.

02/1993-02/2004: Privatdozent (Lecturer) in the Department of Physics, University of Munich.

08/1992-12/1992: Visiting staff researcher at Lawrence Berkeley National Laboratory.

09/1989-12/1991: Postdoctoral fellow at Lawrence Berkeley National Laboratory.

01/1988-08/1989: Staff position in the Department of Physics, University of Munich.

08/1985-12/1987: Fellow of German Ministry of Research and Technology (BMFT) Department of Physics of the University of Munich.

10/1982-07/1985: Scientific employee in the Physics Department of the University of Munich.

V. FELLOWSHIPS, GRANTS, AND FUNDING FOR RESEARCH

September 2020: National Science Foundation Award over $315,000 for research on "Equations of state of superdense nuclear matter for use in neutron star merger simulations." Funding period: September 2020 to August 2023.

January 2018: Joint CONICET-NSF Research Award. Funding period: January 2018 to August 2020.

August 2017: National Science Foundation Award over $270,000 for research on "Quark matter and its role on the evolution of proto-neutron stars to neutron stars." Funding period: August 2017 to July 2020.

June 2014: National Science Foundation Award over $280,000 for research on "Astrophysical Studies of Quark Deconfinement." Funding period: July 2014 to June 2018.

November 2012: Joint CONICET-NSF Research Award. Funding period: September 2012 to August 2015.

June 2009: National Science Foundation Award over $315,000 for research on "Neutron stars as probes for the structure of compressed baryonic matter." Funding period: July 2009 to June 2013.

June 2005: Cottrell College Science Award (CCSA) over $30,400 for a research project on the Cooling Behavior of Rotating Neutron Stars. Funding period: June 2005 to June 2009.

August 2005: National Science Foundation Award over $210,000 for a research project on "Neutron Stars as Probes for the Structure of Dense Nuclear Matter." Funding period: July 2005 to July 2009.

April 2002: Renewal of DOE Research Grant (together with G. Mathews and S. Frauendorf, both University of Notre Dame, Notre Dame, Indiana) on "Nuclear Properties at Extreme Density, Temperature, Spin, and Isospin." $148,000 awarded for 2002/2003.

April 2001: Co-investigator of a joint (together with G. Mathews and S. Frauendorf, both University of Notre Dame, Notre Dame, Indiana) DOE research proposal "Nuclear Properties at Extreme Density, Temperature, Spin, and Isospin." $138,000 awarded for 2001/2002.

1999-2000: Research Grant of the German Research Council (DFG).

1997-1998: Heisenberg-Landau Research Grant.

1995-1996: Heisenberg-Landau Research Grant.

1992-1999: Ten DFG travel grants.

1991: Research fellow of German Research Council (DFG).

1989-1990: Research fellow of Max-Kade Foundation, New York, USA.

1985-1987: Research fellow of German Ministry of Research and Technology (BMFT).

VI. TEACHING AND ACADEMIC APPOINTMENTS

1. Other Academic Appointments

2008-present: Associate Chair of the Department of Physics at SDSU
2005-present: Graduate Advisor for the Physics Program at SDSU
2005-present: Graduate Advisor for the Radiological Health Physics Program at SDSU
2005-present: Executive Member of the Computational Science Research Center (CSRC) at San Diego State University
2003-present: Associate member of the Joint Institute for Nuclear Astrophysics (JINA)

2. Courses taught at San Diego State University

2009 to present: PHYS 317 (Computational Physics) taught every spring
2008 to present: PHYS 570 (Relativity) taught every fall
2008 (spring): PHYS 317 (Computational Physics), PHYS 610 (Quantum Mechanics)
2007 (fall): PHYS 354 (Modern Physics), PHYS 570 (Relativity)
2007 (spring): PHYS 317 (Computational Physics)
2006 (fall): PHYS 570 (Relativity), PHYS 410 (Quantum Mechanics I)
2006 (spring): PHYS 360 (Thermal Physics), PHYS 317 (Computational Physics)
2005 (fall): PHYS 570 (Relativity)
2005 (spring): PHYS 360 (Thermal Physics)
2004 (fall): PHYS 354 (Modern Physics)
2004 (spring): PHYS 195 (Concepts of Physics)
2003 (fall): PHYS 354 (Modern Physics)

3. Courses taught at the University of Notre Dame, Indiana

2003 (spring): PHYS 609 (Nuclear Physics, gradate course)
2002 (fall): PHYS 333 (Scientific Programming, undergraduate course)
2002 (spring): PHYS 131 (Physics for Scientists and Engineers, undergraduate course)
2001 (fall): PHYS 605 (Astrophysics and Cosmology, graduate course)
2001 (spring): PHYS 131 (Physics for Scientists and Engineers, undergraduate course)
2000 (fall): PHYS 605 (Astrophysics, graduate course)

4. Courses taught at Ludwig-Maximilian University of Munich, Germany

1998: "Introductory Nuclear Physics" (300 level)
1998: "Special and General Relativity" (400 level)
1997: "Quark Matter in Physics and Astrophysics" (500 level)
1997: "Introduction into Relativistic Field Theory" (600 level)
1996: "Numerical Methods in Relativistic Astrophysics" (300 level)
1996: "Introduction into Astrophysics" (300 level)
1995: "Physics of Compact Stars" (400 level)
1994: "Structure and Stability of Rapidly Rotating Compact Stars" (600 level)
1993: "Quantum Mechanics" (400 level)
1992: "Classical Mechanics" (300 level)
1988-1989: Teaching assistant in the Department of Theoretical Physics, University of Munich (directing review sessions in quantum mechanics, thermodynamics, statistical physics)
1983-1986: Teaching assistant in the Department of Experimental Physics, University of Munich (directing review sessions on classical mechanics, optics, electro-dynamics, thermodynamics, statistical physics)

5. Courses presented at International Physics and Graduate Schools[1]

2016: "Quarks in Astrophysics," invited 5 x 3-hour lectures, presented at the Max-Planck Institute for Extraterrestrial Physics, Garching, Germany, July 25 – 29, 2016.

2014: "Physics of Neutron Stars," invited 5 x 2-hours lectures to be presented at the international physics school on Frontiers in Nuclear and Hadronic Physics, Galileo Galilei Institute for Theoretical Physics, Florence, Italy, 24 February – 6 March, 2014.

2013: "The Physics of Compact Stars," 5 x 4-hour lectures, Max-Planck Institute for Extraterrestrial Physics, Garching, Germany, July 1-5, 2013.

2012: "Numerical Modeling in Astrophysics, 10 x 4-hour course," Max-Planck Institute for Extraterrestrial Physics, Garching, Germany, June 18-29, 2012.

2010: "General Relativity and Compact Stars", 8 (2-hours each) invited lecture presented at the International School on Advanced Topics in Theoretical Physics, July 19-30, 2010, CBPF, Rio de Janeiro, Brazil.

2006: "Pulsars as an Astrophysical Laboratory for Nuclear and Particle Physics", invited talk, International School of Nuclear Physics 28th course, Erice, Sicily, 16-24 September 2006.

2005: "Strangeness in Astrophysics", invited talk, 2nd Int. Workshop of Astrophysics and Relativistic Astrophysics, IWARA 2005, October 2-6, 2005, Natal, Rio Grande do Norte, Brazil.

[1] Listed in section XXIII too.

2002: "Nuclear and High-Energy Astrophysics", three invited 1+1/2 hour lectures, International Hadron Physics School 2002, Rio Grande do Sul, Brazil, April 14-19, 2002, organized by Cesar A. Z. Vasconcellos and Victoria E. Herscovitz.

1999: "Physics of Neutron Stars", invited 1-hour lecture, XXIII School of Theoretical Physics, Ustron, Poland, September 15-22, 1999, organized by the Institute of Physics, University of Silesia, Katowice, Poland.

1996: "Dense Stellar Matter and Structure of Neutron Stars", invited 10-hours course, III Mario Schonberg Graduate School, Joao Pessoa, Brazil, July 22-August 2, 1996, organized by S. Duarte, P. Christiano, C. Bonato, and A. L. de Brito.

1995: "Structure of Neutron Stars", invited 3-hours course, International Summer School for Students on Development in Nuclear Theory and Particle Physics, Dubna, Joint Institute for Nuclear Research, Russia, August 24-September 8, 1995, organized by V. Burov, S. Ivanova, and G. Röpke.

1995: "Physics of Compact Stars", three invited 1-hour lectures presented at Lanzhou University, Lanzhou, P.R. China, August 19, 1995.

1993: "Limiting Rotational Periods of Fast Pulsars and Properties of Strange Stars", invited 1-hour plenary lecture, presented at the NATO Advanced Study Institute Hot and Dense Nuclear Matter, Bodrum, Turkey, September 26-October 9, 1993, organized by W. Greiner.

1993: "Equation of State of Neutron Star Matter", invited 1-hour plenary lecture, presented at the NATO Advanced Study Institute Hot and Dense Nuclear Matter, Bodrum,Turkey, September 26-October 9, 1993, organized by W. Greiner.

1991: Invited 10-hours course on "Relativistic Astrophysics", July 1-12, 1991, Beijing Normal University, Beijing, China.

1991: "Hadronic Matter and Rotating Relativistic Neutron Stars", invited 10-hours course, held at the International Summer School on Nuclear Astrophysics, June 17-27, 1991, Tianjin, China, organized by D. H. Feng, G. Z. He, and X. Q. Li.

VII. MASTER'S THESES DIRECTED

Year	Student & Title of Thesis	Role	Institution
2023-present	Ian Wagaman	Supervisor	SDSU
2023-present	Takashi Katayama	Supervisor	SDSU
2021-present	Frank Corral	Supervisor	SDSU
2020-2022	Noah Egger: "f(R) Theories of Relativistic Gravity"	Supervisor	SDSU
2020-2022	Eric Bratton: "Pulsar glitches and stellar twin stars"	Supervisor	SDSU

Year	Student & Title of Thesis	Role	Institution
2020-2021	Lin Zikun: "Gravitational radiation-reaction driven instabilities in rotating neutron stars"	Supervisor	SDSU
2019-2022	Aksel Alp: Field theoretical studies of dense matter	Supervisor	SDSU
2018-2020	Ezra Hart: "Nuclear matter studies with the relativistic ladder approximation."	Supervisor	SDSU
2017-2018	Kirk Tolfa: "Nuclear matter calculations with the Relativistic Hartree-Fock method."	Supervisor	SDSU
2017-2018	Jaime Bogarin: "Equation of state calculations for 3-flavor quark matter using the PNJL model."	Supervisor	SDSU
2016-2017	Olexiy V. Dvornikow: "Quantum Kinetics and the Zero Ansatz: Sterile Neutrino Dark Matter in the Early Universe."	Co-Supervisor	SDSU UCSD
2018-2019	Joe Hellmers: "Nuclear fusion reactions in white dwarfs."	Supervisor	SDSU
2016-2017	Rebekah Hermsmeier: "Stability of quark stars against radial oscillations."	Supervisor	SDSU
2015-2016	Richard Mellinger: "Signals of quark matter in neutron stars."	Supervisor	SDSU
2013-2014	Adrien Atallah: "Proto-neutronstar matter."	Supervisor	SDSU
2012-2013	Joseph Fedrow: "Inflation and the early Universe"	Co-Supervisor	SDSU UCSD
2010-2012	Susie Kotowski: "Properties of massive neutron stars."	Supervisor	SDSU
2010-2012	Whitney Ryan: "Pycnonuclear reactions in the crusts of neutron stars."	Supervisor	SDSU
2009-2012	Oliver Hamil: "Variational study of the maximum densities of massive neutron stars."	Supervisor	SDSU
2008-2010	Omair Zubairi: "The cosmological constant and compact stars."	Supervisor	SDSU
2010-2011	Eric McKenny: "Spin-up evolution of neutron stars in X-ray binaries."	Supervisor	SDSU
2007-2008	Barbara Golf: "Pycno-nuclear reactions in compact stars."	Supervisor	SDSU
2005-2006	Alexander Ho: "Properties of relativistic compact stars."	Supervisor	SDSU
2006-2007	Philip Rosenfield: "Density dependent relativistic Brueckner-Hartree-Fock calculations and neutron star properties."	Supervisor	SDSU
2006-2007	Ivan Hrovada: "Influence of hadronic phase transitions on the cooling behavior of rotating relativistic compact stars."	Supervisor	SDSU
1997-1998	Bernhard Hermann: "Mixed phases of hadronic and quark matter inside of neutron stars."	Supervisor	U Munich
1996-1997	Alexander Schaefer: "Properties of hot proto-neutron star matter."	Supervisor	U Munich

Year	Student & Title of Thesis	Role	Institution
1994-1995	Klaus Strobel: "Neutron star matter in the Thomas-Fermi model."	Supervisor	U Munich
1994-1995	Christoph Schaab: "Cooling of neutron and strange quark matter stars."	Supervisor	U Munich
1994-1995	Andreas Kronawitter: "Properties of stellar matter in the non-relativistic Brueckner-Hartree-Fock approximation."	Supervisor	U Munich
1993-1994	Christiane Kettner: "Structure and stability of strange dwarfs."	Supervisor	U Munich
1993-1994	Hans Huber: "Properties of relativistic nuclear matter."	Supervisor	U Munich
1989-1990	Martin Jetter: "An effective lagrangian in the relativistic Hartree-Fock approximation."	Supervisor	U Munich
1988-1989	Joern Ramschuetz: "Retardation effects in relativistic nuclear matter."	Supervisor	U Munich

VIII. DOCTORAL DISSERTATIONS DIRECTED

Year	Student & Title of Thesis	Role	Institution
2019-present	Delaney Farrell: Evolution of Proto-Neutron Stars to Neutron Stars	Supervisor	SDSU
2017-2019	Mathew Portman: Development of a 2-D General Relativistic Rotation Code	Supervisor	SDSU
2012-2016	Edson Otoniel da Silva: "White dwarfs as candidates for magnetars."	Co-Supervisor	SDSU/U of Sao Paulo
2014-2020	German Malfatti: "Phase transitions in core collapse supernovae and proto-neutron stars."	Co-Supervisor	SDSU/ University of La Plata
2013-2017	William Spinella: "A systematic investigation of exotic matter in neutron stars."	Supervisor	SDSU
2010-2012	Xuesen Na: "Signatures of quark matter in neutron stars."	Co-Supervisor	SDSU/Peking University
2010-2014	Omair Zubairi: "An investigation of deformation of the stellar structure of neutron stars."	Supervisor	SDSU
2005-2009	Rodrigo Negreiros: "Constraints on the nuclear equation of state from compact star pheno-menology."	Supervisor	SDSU
2008	Brian Niebergal, "Quark novae."	Co-Supervisor	SDSU/U Calgary
2006/2007	Morten Stejner, "Quark deconfinement in rotating neutron stars."	Co-Supervisor	SDSU/ U Aarhus
2004	Andreu Torres, "Rotational instabilities in rotating neutron stars."	Co-Supervisor	U. Barcelona, Spain

Year	Student & Title of Thesis	Role	Institution
1996-2000	Klaus Strobel: "Properties of non-rotating and rotating proto-neutron stars."	Co-Supervisor	U. Munich Germany
1997-2001	Thomas Strobel: "Neutrinos in dense matter."	Co-Supervisor	Heisenberg Inst. Munich
1995-1999	Hans Huber: "Relativistic Investigations of symmetric and asymmetric nuclear matter at finite temperature."	Supervisor	U. Munich
1995-1998	Christoph Schaab: "Structure and thermal evolution of neutron stars and strange stars."	Supervisor	U. Munich
1993-1997	Sami Haddad: "Semi-classical studies of atomic nuclei."	Co-Supervisor	U. Munich
1989-1993	Joern Ramschuetz: "Model lagrangians for strongly interacting systems."	Co-Supervisor	U. Munich

IX. POST-DOCTORAL ADVISOR

Years at SDSU	Researcher	Home Institution
2020 (4 months)	Ignacio Ranea-Sandoval	U. Nacional de La Plata, La Plata, Argentina
2019 (2 months)	Ignacio Ranea-Sandoval	U. Nacional de La Plata, La Plata, Argentina
2019 (3 months)	Gustavo Contrera	U. Nacional de La Plata, La Plata, Argentina
2017 (3 months)	Gustavo Contrera	U. Nacional de La Plata, La Plata, Argentina
2016-2017 (6 months)	Milva G. Orsaria	U. Nacional de La Plata, La Plata, Argentina
2015-2016 (6 months)	Chun-Mei Pi	Hubei University, China
2013 (4 months)	Gustavo Contrera	U. Nacional de La Plata, La Plata, Argentina
2011-2012	Shu-Hua Yang	Huazhong Normal University, Wuhan, China
2011-2013	Milva Orsaria	U. Nacional de La Plata, La Plata, Argentina
2011-2012	Hilario Goncalves	DEPES, Rio de Janeiro, Brazil
2009-2010	Kazuki Mimura	Musashino University, Tokyo, Japan

X. SUMMER STUDENTS

Year	Student & Title of Research Project	Role	Institution
2023	Richard Ryan (STEM Pathway Student)	Mentor	SDSU

Year	Student & Title of Research Project	Role	Institution
2009	Benedikt Ziebarth, DAAD exchange student (RISE program)	Mentor	U Marburg
2006	Robert Monaco: "The cosmological constant and neutron star structure"	Supervisor	SDSU
2006	Eric Mc Kenny: "Numerical studies of accreting millisecond pulsars"	Supervisor	SDSU
2005	Philip Rosenfield: "Density-dependent Relativistic Brueckner-Hartree-Fock calculations"	Supervisor	SDSU
2004	Eric Mc Kenny: "Numerical studies of accreting x-ray neutron stars"	Supervisor	SDSU
2001	Brian C. O'Gorman: "Properties of white dwarfs with strange-matter cores"	Supervisor	U Notre Dame

XI. RESEARCH-BASED SENIOR THESES DIRECTED

Year	Student & Title of Thesis	Role	Institution
2023-2024	Erick Martinez	Supervisor	SDSU
2022-2023	Jacob Norton	Supervisor	SDSU
2022-2023	Luke Glass	Supervisor	SDSU
2022-2023	Vincenzo Panetta	Supervisor	SDSU
2021-2022	Jack Regalado	Supervisor	SDSU
2021-2022	Marissa Devinny	Supervisor	SDSU
2021-2022	Nathaniel Saavedra	Supervisor	SDSU
2021-2022	David Wilkins: "Quark Matter studies"	Supervisor	SDSU
2020-2021	Paola Luna: "Nucleon-Nucleon partial waves of the Hamada-Johnston Potential"	Supervisor	SDSU
2020-2021	Christian Quiroz: "Nucleon-Nucleon scattering in a dense nuclear medium"	Supervisor	SDSU
2020-2021	Mario Caine: "Properties of mass-twin neutron stars"	Supervisor	SDSU
2020-2021	Alejandro Garay: "Stellar corpses and a close look at neutron stars"	Supervisor	SDSU
2019-2021	Kara Whitaker:[3] "Modeling superdense matter: neutron stars and stellar twins"	Supervisor	SDSU
2019-2020	Austin Smith: "Nuclear reactions in the crusts of accreting neutron stars"	Co-Supervisor	SDSU/PLNU
2019-2020	Jacob Roper: "Spin-up evolution of neutron stars"	Supervisor	SDSU
2018-2019	Ian Maloney: "Proto-neutron star matter"	Supervisor	SDSU
2018-2019	Aksel Alp: "Causality in dense nuclear matter"	Supervisor	SDSU
2018-2019	Delaney Farrell: "Quark-hadron lattices in neutron stars"	Supervisor	SDSU
2017-2018	Marco Polo Gonzalez: "Properties of proto neutron star matter"	Supervisor	SDSU
2017-2018	Jon-Carlo Parsons: "Finite temperature Thomas-Fermi treatment of dense matter"	Supervisor	SDSU

Year	Student & Title of Thesis	Role	Institution
2017-2018	Andrew Freeman: "Neutrino emissivities due to Color-Flavor-Locked quark matter in the cores of neutron stars"	Supervisor	SDSU
2017-2018	Sebastian Gonzalez: "Rotational glitches of neutron stars and pulsars"	Supervisor	SDSU
2017-2018	Jesus Rodriguez: "Thermal properties of quark matter"	Supervisor	SDSU
2016-2017	Elmito Danggoec: "Thomas-Fermi calculations of asymmetric nuclear matter"	Supervisor	SDSU
2016-2017	Miguel Correa:[2] "Properties of compact twin stars"	Supervisor	SDSU
2016-2017	Alexis Romero:[3,4] "Gravitational redshift of deformed compact stars"	Supervisor	SDSU
2012	Evan Johnson: "Numerical investigations of cold quantum systems"	Supervisor	SDSU
2011-2012	Quintin Mabanta:[5] "Stability of quark stars"	Supervisor	SDSU
2013	Carolina Galindo:[3] "Limiting rotational periods of neutron stars and quark stars"	Supervisor	SDSU
2011	Eric Mc Kenny: "Spin-up evolution of neutron stars in X-ray binaries"	Supervisor	SDSU
2007-2008	Melinda Toth: "Neutron star properties computed with non-linear lagrangians"	Supervisor	SDSU
2006-2007	Joe Hellmers: "Neutron star heating driven by pycnonuclear reactions"	Supervisor	SDSU
2006-2007	Oliver Hamil: "Upper mass limit of neutron stars"	Supervisor	SDSU
2006-2007	Omair Zubairi: "Non-standard compact star solutions"	Supervisor	SDSU
2006-2007	Paker Burrola: "Hyperon populations in neutron star matter"	Supervisor	SDSU
2005-2006	Matthew Meixner: "Equation of state of isospin asymmetric nuclear matter"	Supervisor	SDSU
2003-2004	Chris Maasch: "Phase transitions in the cores of neutron stars"	Supervisor	SDSU

XII. RESEARCH COMPETITIONS AND AWARDS WON BY MY STUDENTS

1. PhD student Delaney Farrell presented a talk on "Constraining the Neutron Star Equation of State with Machine Learning" at San Diego State's ACSESS 2021 event, March 26, 2021. She won the "Computational Science and Engineering Award for Members of the Society of Women Engineers/Scientists." This award is given to the top scoring female.

[2] Scholar in National Institutes of Health (NIH) Initiative to Maximize Student Development (IMSD).
[3] Minority Access to Research Careers (MARC) scholar.
[4] Sally Casanova Pre-Doctoral Scholar during the 2015-16 academic year.
[5] Science, Technology, Engineering, and Mathematics (STEM) scholar.

2. PhD student William Spinella won Hewlett Packard Award in honor of his outstanding performance and dedication to his research projects, April 21, 2017.

3. UG student Miguel Correa, has been admitted to the SDSU Initiative for Maximizing Student Development (IMSD) Program beginning Summer 2016.

4. UG Miguel Correa won a fellowship and has been admitted to the 2016 REU program of the University of Notre Dame.

5. PhD student Omair Zubairi was selected as one of the 2015 SDSU Student Standouts.

6. PhD student Omair Zubairi won 2nd place (Qualcomm Award) at the SDSU Computational Science Research Center's 11th Annual ACSESS poster session for his poster entitled "Non-Spherical Stellar Models of Compact Stars," March 28, 2014.

7. MS student Omair Zubairi won a Director's award at SDSU's ACSESS 2010 for his poster presentation on "Einstein's Cosmological Constant and Compact Stars," March 26, 2010.

8. PhD student Rodrigo Negreiros won an award at SDSU's ACSESS 2009 for his poster presentation on "The Properties of General Relativistic Stars," March 27, 2009.

9. PhD student Rodrigo Negreiros won second place for his talk on "The Puzzling Thermal Behavior of Soft Gamma-Ray Repeaters and Anomalous X-Ray Pulsars" at the 23rd Annual CSU Student Research Symposium, which was held May 1 and 2, 2009, at California State University, Los Angeles.

10. PhD student Rodrigo P. Negreiros won a President's Award at the 2009 SDSU Student Re-search Symposium, February 27-28, for his talk on "The Puzzling Thermal Behavior of Soft Gamma-Ray Repeaters and Anomalous X-Ray Pulsars."

11. PhD student Rodrigo Negreiros won first place for his talk on "Structure and Thermal Evolution of Neutron Stars" at the Twenty-Second Annual California State University Student Research Competition, which was held May 2 and 3, 2008, at California State University, East Bay.

12. PhD student Rodrigo P. Negreiros won a President's Award at the 2008 SDSU Student Re-search Symposium for his talk on "Structure and Thermal Evolution of Neutron Stars."

13. UG student Omair Zubairi won the second price at SDSU's Undergraduate Research Symposium, April 20, 2007.

14. UG student Philip Rosenfield was selected by SDSU's Student Research Competition committee to compete in the 21st Annual California State University Student Research Competition at CSU Dominguez Hills, Carson, California, May 4-5, 2007.

15. PhD student Rodrigo P. Negreiros was selected by SDSU's Student Research Competition committee to compete in the 21st Annual California State University Student Research Competition at CSU Dominguez Hills, Carson, California, May 4-5, 2007.

16. PhD student Rodrigo P. Negreiros received 2nd Prize in the Charles Kittel Award for Best Theoretical Research for his presentation on "Charged Strange Stars" at the Fall 2006 Meeting of the California Section of the American Physical Society.

XIII. SERVICES FOR SAN DIEGO STATE UNIVERSITY, UCSD, AND THE LOCAL COMMUNITY

1. Einstein in the 21st century: The year 2005 has been declared the International World Year of Physics by the United Nations. This was a worldwide celebration of physics and its importance in our everyday lives, which aimed to raise the worldwide awareness of physics and physical science. The year 2005 was chosen since it marks the 100th anniversary of Albert Einstein's miraculous year in which he published three most important papers describing ideas that have since influenced all of modern physics.

The US physics community's efforts for 2005 was led by the American Physical Society, the American Association of Physics Teachers, and the American Institute of Physics. These organizations expected physics departments to plan local events in their communities. On behalf of the Department of Physics at SDSU, I gave a public lecture at SDSU entitled *The Life and Science of Albert Einstein.* This lecture, which was open to the public, was intended to make science accessible to a general audience and to convey the excitement of breathtaking new discoveries in the physical sciences. The event, registered with the World Year of Physics 2005 Online Event Finder, was also intended to increase the profile of SDSU, build relationships within our community, and, perhaps most importantly, fascinate students for physics and inspire the next generation of scientists. Around 300 people attended my lecture.

2. Team Scientist for 2009-2010 Cyerbridge Institute: My ties to high school education in the San Diego area have been strengthened by my participation in the Cyberbridge Institute, a program supported by an NSF ITEST (Innovative Technology Experience for Students and Teachers) grant to UCSD (Philip Bourne, PI). The Institute brought together teachers from several schools of the Sweetwater school district with a mostly hispanic student population. The teachers worked with an SDSU science faculty member to develop project-oriented learning plans. I was selected by one group of teachers to assist

them on projects titled *Inside Albert Einstein's Universe.* The goal was to have student-led projects ready for demonstration at the second San Diego Science Festival, which was held in April 2010, and moreover to encourage students in these projects to pursue college degree programs and careers in the sciences. The students, teachers, and I succeeded in building a simple but functioning cloud chamber which was capable of detecting certain elementary particles (muons) hitting the Earth.

3. SDSU Open House organizer for the Department of Physics (2006 to 2010).

4. Presentation of Public Lectures at annual SDSU's Open House event (2006 to 2010).

5. Served on Physics Faculty Search Committees in 2004/2005, 2006/2007 (chair), 2007/2008 (chair), 2011 (chair), 2012/2013 (chair), 2013/2014 (chair), 2015/2016 (chair), 2017/2018.

6. Serving on College of Science Reappointment-Tenure-Promotion (RTP) Committee in 2008/2009, 2009/2010 (chair), 2017/2018, 2018/2019.

7. Serving on RTP Committee at UCSD's Center for Astrophysics and Space Sciences (CASS), 2015 – present.

8. Colloquium Organizer from 2004 through 2008.

9. Judge for the annual Student Research Symposium at San Diego State University (since 2005).

10. Judge for the Computational Science Research Center's annual ACSESS event (since 2006).

11. Served on Dean's Office Review Committee (Spring 2012).

12. Served on Administrative Review Panel of the Office of the Dean of the College of Sciences (Fall 2011).

13. Member of the Physics Department Graduate Committee (since 2005).

14. Served on the Tenure and Promotion (RTP) Committee of the Department of Physic.

15. Served on Tenure and Promotion (RTP) Committee of the Department of Astronomy (2006, 2008, 2011, 2019).

16. Member of the Executive Committee of the Department of Physics (since 2003).

17. Member of the COS GE and Curriculum Quality Team Committee (2009/10).

18. Member of the PhD Admissions Committee of the Computational Science Research Center at San Diego State University.

19. Member of the steering committee of the doctoral faculty program in Computational Science at SDSU (2006-2012).

20. Member of the Vice President of Research search committee (2019/20).

XIV. EXTERNAL PHD EXAMINER AND REVIEWER FOR PROMOTION AND AWARD CASES

1. Served as external member and PhD thesis evaluator of S. Kalita, Department of Physics, Indian Institute of Science, Bangalore, India.

2. Served as external member and PhD thesis evaluator of A. Hernandez, Department of Physics, University of Calgary, Canada.

3. On request from the Brazilian Ministry of Science and Technology, I provided an evaluation letter for a Brazilian researcher, who is considered for the position of Director of Brazil's National Laboratory of Astrophysics.

4. I served as external reviewer for Tenure and Promotion cases at Mississippi State University, the University of Calgary (Canada), the University of Wroclaw (Poland), and Institute for Nuclear Research in Dubna (Russia).

5. On request from the University of Adelaide, Australia, I provided an evaluation letter for a Doctor of Philosophy Thesis.

6. On request from McMaster University, Canada, I provided a nomination letter for a staff scientist at LBNL who was considered for the 2006 McMaster University Distinguished Alumni Award for the Sciences.

7. On request from the University of Rostock, Germany, I provided an evaluation letter for a Doctor of Philosophy Thesis.

8. On request from the Institute for Theoretical Physics of the University of Wroclaw, Poland, I provided and evaluation letter about Dr. David Blaschke, who was considered for the 2009 Minister of Science and High Education Award in the category Research for Development of Science, granted by the Polish Government.

9. On request from the Nomination Committee of the University of Applied Sciences of Zittau/Goerlitz, Germany, I provided an evaluation letter in 2010 for one of the candidates considered for a professor position in the Department of Mechanical Engineering at that university.

10. Assisted South Africa's National Research Foundation (NRF) in evaluating the quality of the research outputs of one of the physics professors at the University of Kwa Zulu, Natal.

11. On request from the Armenian National Academy of Sciences, Yerevan, Armenia, I provided an evaluation letter in 2014 for two scientist to be nominated for the Victor Ambartsumian International Prize.

XV. INTERNAL THESIS EXAMINER AND MEMBER ON MISCELLANEOUS THESIS COMMITTEES

I serve frequently as thesis examiner and member on thesis committees in the Departments of Physics, Astronomy, Geophysics, and Electrical Engineering at SDSU:

1. Lauren Miller, Astronomy, 2023
2. Rohan Rahatgaonkar, Astronomy, 2023
3. Joseph Solitz, Astronomy, 2023
4. Christopher Danner, Physics, 2023 (served as committee chair)
5. Victoria Moore, Astronomy, 2023
6. Samantha Anger, Astronomy, 2023
7. Rohan Rahatgaonkar, Astronomy, 2023
8. Jacob Day, Astronomy, 2022
9. Aksel Alp, Physics, 2022 (served as committee chair)
10. Eric Bratton, Astronomy, 2022 (served as committee chair)
11. Surajit Kalita, Department of Physics, Indian Institute of Science, Bangalor, India, 2021 (served as external PhD evaluator)
12. Alexander Dimoff, Astronomy, 2021
13. Kaelee Parker, Astronomy, 2021
14. Zikun Lin, Astronomy, 2021
15. Ryan Zbikowski, Physics, 2021
16. Chrys Goodteacher, Astronomy, 2020
17. Raymond Remigio, Astronomy, 2020
18. Christian Juarez, Astronomy, 2020
19. Austin Smith, Point Loma Nazarene University, 2020
20. Joe Helmers, Physics, 2019 (served as committee chair)
21. Michael Engesser, Astronomy, 2019
22. Quentin Socia, Astronomy, 2019
23. Jaime G. Sahagun Bogarin, Physics, 2018 (served as committee chair)
24. Kirk Tolfa, Physics, 2018 (served as committee chair)
25. Melanie Kae Olaes, Astronomy, 2018
26. Michael Bareian, Astronomy, 2018
27. Ryan R. Vaught, Astronomy, 2018
28. Rebekah Hermsmeier, Physics, 2017 (served as committee chair)
29. Himkala Paudyal Khanal, Physics, 2017
30. William Spinella, PhD, CSRC/Physics, 2017 (served as committee chair)

31. Olexiy V. Dvornikov, Physics, 2017 (served as committee chair)
32. Isaac Spitzer, Astronomy, 2016
33. Richard Mellinger, Physics, 2016 (served as committee chair)
34. Harish Gautam Khandrika, Astronomy, 2016
35. Katie Badham, Physics, 2016
36. Daniel Mickelsen, Physics, 2015
37. Omair Zubairi, PhD, CSRC/Physics, 2015 (served as committee chair)
38. Micah Schuster, PhD, Physics, 2015
39. Melanie Pierce, Physics, 2015
40. Phil Patrick, Astronomy, 2014
41. Nhieu Duong, Astronomy, 2014
42. Harish Khandrika, Astronomy, 2014
43. Paul Alexander, Geology, 2014
44. Melinda Toth, Physics, 2013
45. Joseph Fedrow, Astronomy, 2013
46. Whitney Ryan, Physics, 2012 (served as committee chair)
47. Oliver Hamil, Physics, 2012 (served as committee chair)
48. Paul Alexander, Geophysics, 2012
49. Susie Kotowski, Physics, 2012 (served as committee chair)
50. Jonathan Rice, Astronomy, 2011
51. Eric McKenny, Physics, 2011 (served as committee chair)
52. David Krogsrud, Astronomy, 2011
53. Adam Coleman, Physics, 2011
54. Jonathan Rice, Astronomy, 2010
55. Meredith Rawls, Astronomy, 2010
56. Omair Zubairi, Physics, 2010, (served as committee chair)
57. Tina Gueth, Astronomy, 2009
58. James Davenport, Astronomy, 2009
59. Rodrogo Negreiros, PhD, CSRC/Physics, 2009 (served as committee chair)
60. Kazuma Hashimoto, Astronomy, 2009
61. K. Azalee Bostroem, Astronomy, 2009
62. Barbara Golf, Physics, 2008, (served as committee chair)
63. Raj Pandya, Astronomy, 2008
64. Elizabeth A. Coelho, Astronomy, 2008
65. Robert D. Reaves, Astronomy, 2007
66. Matthew Davis, Astronomy, 2007
67. Philip Rosenfield, Astronomy, 2007
68. Ivan Hromada, Physics, 2007, (served as committee chair)
69. Tamara Reimer, Astronomy, 2007
70. Josh Malowney, Physics, 2006
71. Paul Brogna, Astronomy, 2006
72. Paul Alexander, Astronomy, 2006

73. Hai Ah Nam, Physics, 2006
74. Jessica Castora, Astronomy, 2006
75. Alexander Ho, Physics, 2006, (served as committee chair)
76. Gina De Graaf, Physics, 2005
77. Munish Sharm, Electrical Engineering, 2005
78. Nassissie Fekadu, Astronomy, 2005
79. Stephen Williams, Astronomy, 2005
80. Emil Polisensky, Astronomy, 2004
81. John B. Fitzgerald, Astronomy, 2004
82. Dennis Monday, Physics, 2004
83. Robert A. Wittenmyer, Astronomy, 2003
84. Damon Farnsworth, Astronomy, 2003

XVI. REVIEW ACTIVITIES

A. Reviewer for Scholarly Journals

1. Astronomy & Astrophysics
2. Astroparticle Physics
3. Astrophysics and Space Science
4. Chinese Journal of Physics
5. Classical and Quantum Gravity
6. Dictionary of Physics (Nature Publishing Group)
7. Entropy (Journal of Entropy and Information Studies)
8. European Physical Journal A
9. European Physical Journal C
10. European Journal of Physics
11. Europhysics Letters
12. Frontiers in Astronomy and Space Sciences
13. General Relativity and Quantum Cosmology
14. Journal of Physics G
15. Journal of Cosmology and Astroparticle Physics
16. Monthly Notices Royal Astronomical Society, UK
17. Nuclear Physics A
18. National Science Foundation, USA
19. New Journal of Physics
20. Open Nuclear & Particle Physics Journal
21. Physical Review C and D
22. Physical Review Letters
23. Physics Letters B
24. Progress in Particle and Nuclear Physics

25. Review Modern Physics
26. The Astrophysical Journal
27. World Multi-Conference on Systematics, Cybernetics and Informatics
28. Zeitschrift für Naturforschung
29. Zeitschrift für Physik

B. Proposal and Program Review Activities

1. Served on NSF panels in 2005, 2007, 2012, and 2015.
2. Served on NASA panels in 2005 and 2010.
3. Reviewer for the Fulbright program, USA.
4. Reviewer for Cottrell Research Corporation.
5. Reviewer for NASA's Interdisciplinary Exploration Science solicitation.
6. Reviewer for the Australian Research Council (ARC).
7. Reviewer for the Chilean Research Council (FONDECYT).
8. Reviewer for the U.S. Civilian Research and Development Foundation (CRDF).
9. Reviewer for the Swiss National Science Foundation.
10. Reviewer for the Third World Academy of Sciences (TWAS), Trieste, Italy.
11. Reviewer for the National Science Center, Poland.
12. Reviewer for National Research Foundation (NRF): Research and Innovation Support and Advancement (RISA), South Africa.
13. Examiner of applications for financial support submitted to the Abdus Salam International Center for Theoretical Physics, Italy.
14. Evaluation of research programs on behalf of the Italian Ministry of Education, University and Research and the Evaluation of research products (VQR 2004-2010) on behalf of ANVUR (Agenzia Nazionale di Valutazione del Sistema Universitario e della Ricerca).
15. Program reviewer for INFN, Italy.

D. Other Professional/Edtorial Activities

1. External member of Global eROSITA telescope project (2019-present).
2. Member of joint LLNL/UCSD/SDSU working group whose goal is to develop joint research projects, which involves the exchange of graduate students among these institutions.
3. Member of the Advisory Board of CSQCD VIII, 25 May – June 5, 2020, Bengaluru, India.

4. Member of the Advisory Board of Compact Stats in the QCD Phase Diagram (QSQCD VII), June 11-15, 2018, College of State Island, USA.
5. Editorial Board member of astrophysical journal "Universe," (since 2017).
6. Member of International Advisory Committee of the Fourth Caribbean Symposium on Cosmology, Gravitation, Nuclear and Astroparticle Physics – STARS2017, 3-13 May 2017, La Habana, Cuba.
7. Member of International Advisory Committee of the Fifth International Symposium on Strong Electromagnetic Fields and Neutron Stars – SMFNS2017, 3-13 May 2017, Havana, Cuba.
8. Member of International Advisory Committee of the Third Caribbean Symposium on Cosmology, Gravitation, Nuclear and Astroparticle Physics (STARS2015) and the Fourth International Symposium on Strong Electromagnetic Fields and Neutron Stars (SMFNS2015), May 10-16, 2015, Havana, Cuba.
9. Member of Advisory Board of "Strange Quark Matter 2015," Dubna, Russia.
10. Organizer of a Heraeus Workshop on "Neutron Stars and Nuclear Physics," March 23-26, 2015, Physics Center Bad Honnef, Germany.
11. Member of the Advisory Board of Compact Stats in the QCD Phase Diagram (QSQCD IV), September 26-30, 2014, Prerow, Germany.
12. Member of International Advisory Committee of the 2nd Caribbean Symposium on Cosmology, Gravitation, Nuclear and Astroparticle Physics – STARS2013, 13-15 May, 2013, La Habana, Cuba.
13. Member of International Advisory Committee of the 2nd International Symposium on Strong Electromagnetic Fields and Neutron Stars – SMFNS2013, 16-17 May, 2013, Havana, Cuba.
14. Member of the International Advisory Board of The Modern Physics of Compact Stars and Relativistic Gravity, Yerevan, Armenia, (since 2013).
15. Member of the Scientific Organizing Committee of Compact Stats in the QCD Phase Diagram (QSQCD III), December 9-12, 2012, Guaruja City, Brazil.
16. Member of International Advisory Committee of the First Caribbean Symposium on Cosmology, Gravitation, Nuclear and Astroparticle Physics – STARS2011, 1-4 May, 2011, La Habana, Cuba.
17. Member of International Advisory Committee of the Second International Symposium on Strong Electromagnetic Fields and Neutron Stars – SMFNS2011, 5-7 May, 2011, Havana, Cuba.
18. Member of International Advisory Committee of the International Workshop on Astronomy and Relativistic Astrophysics (IWARA), (since 2005).

19. Member of International Advisory Committee of "Compact Stars in the QCD Phase Diagram II" (CSQCD II), Peking University, Beijing, China, May 20-24, 2009.
20. Member of COMPSTAR, European Science Foundation.
21. Editorial Advisory Board Member to The Open Nuclear & Particle Physics Journal, (since 2008).
22. Member of the Scientific Committee of the 23rd International School of Theoretical Physics, Ustron, Poland, September 15-22, 1999.
23. Member of the steering committee of the Center for Astrophysics at the University of Notre Dame (CFA@ND), September 2000 through July 2003.
24. Coordinator of the working group "Deconfinement Signals" of the International Workshop on Physics of Neutron Star Interiors, Trento, Italy, June 18-July 8, 2000.
25. Author of Encyclopedia of Astronomy and Astrophysics, UK.
26. Consultant for the Astronomy Magazine, Waukesha, Wisconsin, USA.
27. Member of Board of Directors at LuminaQuest Technologies.
28. CTO of MarineLinque (Muon Security Scanning Solution) MQ7, San Diego.

XVII. AWARDS, WEB RECOGNITION, AND PRESS CLIPPINGS

1. "When Neutron Stars Make Gravitational Waves," SDSU News Letter, December 2022.
2. My paper "Gravitational-Wave Instabilities in Rotating Compact Stars" was featured as cover story by the Journal Cosmology, November 2022.
3. "SDSU Professor Official Member on Global eRosita Telescope Project," COS website, Sept. 4, 2019.
4. Named Distinguished Professor of Physics, San Diego State University, April 7, 2017.
5. Received a Plaque of Honor from the scientific community of the series of events known by the acronym IWARA to honor "Fridolin Weber for his brilliant scientific and academic career," October 10, 2016.
6. Winner of the best publication in Physics of Elementary Particles and Nuclei (Letters) for the cycle of works on investigation of the QCD phase diagram and the diagnostic tools for detecting a deconfinement phase transition as related to hadron structure and reactions, 2014.

7. My paper on *Emmi rapid reaction task force meeting on quark matter in compact stars* has been selected by the editors of Journal of Physics G: Nuclear and Particle Physics for inclusion in the exclusive "Highlights of 2014" collection. Papers are chosen on the basis of referee endorsement, novelty, scientific impact and broadness of appeal.

8. SDSU News, *Quirky Quarks in Neutron Stars*, April 2014.

9. Invited comment on *Space oddity – When neutron stars melt, what's left behind is truly strange*, by A. Ananthaswamy, New Scientist 42, 7 December 2013.

10. Certificate of Appreciation for outstanding contributions to the College of Sciences, the SDSU IMSD Program, and furthering the advancement of students in the field of Behavioral Science, San Diego State University, 2013.

11. Outstanding Faculty Award, San Diego State University, 2013.

12. Outstanding publication award from Physics of Elementary Particles and Atomic Nuclei Letters for paper titled *Exploring Hybrid-Star Matter at NICA and FAIR* by T. Klaehn, D. Blaschke, and F. Weber, 2012.

13. Outstanding Faculty Award, San Diego State University, 2012.

14. Outstanding Mentor Award of a Minority Student, 2012.

15. SDSU News, *Cool Neutron Stars*, June 2012.

16. Interviewed and featured in an online-video by NTD Television on the emission of gravitation radiation from compact stars, March 2012.

17. Received a Nuclear Physics A Most Cited Article 2006-2010 award for the paper on *The Cooling of Compact Stars* (NPA 777 (2006) 497-530), June 2011.

18. Invited comment on *Neutron star has superfluid core,* published in PhysicWorld, Institute of Physics, March 2, 2011.

19. Invited comment on *A stellar superfluid*, APS's Viewpoint, Physics 4 (2011) 14.

20. Invited comment on S*uperfluidity in Neutron Stars,* published in *Superfluid state for Galaxy's youngest neutron star?,* Nature, nature.news.2011.64 (2011).

21. My research on neutron stars was featured in *Perspectives of Nuclear Physics in Europe,* NuPECC Long Range Plan 2010, European Science Foundation, p. 138.

22. World Scientific put one of my research-based illustrations of the structure of neutron and quark stars on the front page of *Astronomy and Relativistic Astrophysics: New Phenomena and New States of Matter in the Universe*, Ed. C. A.

Zen Vasconcellos, B. E. J. Bodmann, H. Stoecker, M. J. Reboucas, V. B. Bezorra, and W. Greiner, Word Scientific, 2010.

23. President's *Top 25* award from SDSU president Stephen L. Weber in recognition of my outstanding contributions to the enhancement of the San Diego State University, 2010.

24. Outstanding Faculty Award, San Diego State University, 2009.

25. Invited comment on *Astronomers look to quark stars for a 5th dimension*, New Scientist, 23 June 2007.

26. Invited comment on *Was the brightest supernova the birth of a quark star?,* New Scientists, 20 August 2007.

27. Article titled “Интеграл" сумел заинтриговать астрофизиков, Максим Борисов, featuring my research in a Russian newspaper, 22 February 2007.

28. Invited comment on *Fastest spinning star may have exotic heart,* David Shiga, New Scientist, 20 February 2007.

29. Invited comment on *Fastest Spinning Star Seen in Cosmos*, Larry O'Hanlon, Discovery News, 21 February 2007.

30. My topical review on *Strange Quark Matter and Compact Stars*, (F. Weber, Progress in Particle and Nuclear Physics 54 (2005) 193-288) was the second highest cited article of the journal and has contributed to the increase of the journal's impact factor, as pointed out in an email of Mr. Rose Olthof to Dr. A. Faessler, Editor of Progress in Particle and Nuclear Physics. (Progress in Particle and Nuclear Physics ranked according to the Institute of Science Publications in Particle Physics and Nuclear Physics among the top five of all journals in the field. In 2007, the journal ranked number 2 in the category Nuclear Physics, as opposed to number 4 in 2006.)

31. On 17 March 2005, my research received public recognition in a radio broadcast on KPBS, called San Diego Science, presented by Dr. Tom Scott, Vice-President for Research at San Diego State University. The audience of this broadcast is typically around 20,000.

32. *The quirks of quarks*, South Bend Tribune, article featuring me research on Tribune's front page, 1 May 2002.

33. My research on the possible existence of quark matter in compact stars was selected by the Director of LBNL as one of the physics highlights at LBNL in 1998, and featured in the Laboratory's Annual Research Highlights of 1999.

34. *Dizzying Childhood for Strange Stars*, Science Magazine, Academic Press, 22 October 1998.

35. My paper *Signal of quark deconfinement in the timing structure of pulsar spin-down* (Phys. Rev. Lett. 79 (1997) 1603) was selected as one of the physics highlights in 1997 by the American Institute of Physics, and was featured in Physics News in 1997, edited by P. F. Schewe and B. P. Stein, Public Information Division, American Institute of Physics (page 2).

36. My research paper titled *Signal of quark deconfinement in the timing structure of pulsar spin-down* (Phys. Rev. Lett. 79 (1997) 1603) was highlighted in the Physics Today issue of October 1997 (page 9).

37. *Quark Matter in Neutron Stars*, article featuring my research, Physics Update, Physics Today, October 1997, page 9.

38. *Back to the Big Bang*, article featuring my research, New Scientist, 20 September 1997, p. 15, by Robert Matthews.

39. *Quark Stars*, article featuring my research, American Institute of Physics Bulletin of Physics News, Number 333, August 26, 1997, by Phillip F. Schewe and B. Stein.

40. *Quark Star Search*, article featuring my research, American Association for the Advancement of Science, 5 September 1997.

41. *Strange Brew may lurk in Pulsating Stars*, article featuring my research, New Scientist, 12 October 1996, p. 16, by J. Gribbin.

42. *Strange Stars the Size of Planets*, article featuring my research, New Scientist, 27 May 1995, p. 19, by M. Chown.

43. *Quark Matters: Birth of a Strange Dwarf*, article featuring my research, Science News, 13 May 1995, by I. Peterson.

44. *Vreemde signales*, article featuring my research, Wetenschap & Techniek, Intermediair Weekblad, 21 October 1994, p. 29, by A. Jaspers.

XVIII. REFERENCES

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XIX. LIST OF PUBLICATIONS[6]

A. Papers in Refereed Journals

1. F. Weber, M. K. Weigel, and J. Winter, "Nuclear Matter Calculations within the Quasi-Hartree-Fock Theory", Nuovo Cimento 36 (1983) 284.

2. F. Weber and M. K. Weigel, "Ground-state Properties of Nuclear Matter using the Approximations of the Green's Function Theory", Phys. Rev. C32 (1985) 2141.

3. F. Weber and M. K. Weigel, "Relativistic Nuclear and Neutron Matter at Finite Temperatures", Z. Phys. A330 (1988) 249.

4. F. Weber and M. K. Weigel, "Equation of State of Dense Baryonic Matter", J. Phys. G15 (1989) 765.

5. F. Weber and M. K. Weigel, "Neutron Star Properties and the Relativistic Nuclear Equation of Many-Baryon Matter", Nucl. Phys. A493 (1989) 549.

6. F. Weber and M. K. Weigel, "Relativistic Many-Baryon Matter and Neutron Stars", Nucl. Phys. A495 (1989) 363c.

7. F. Weber and M. K. Weigel, "Deviations from the Single-Particle Propagation in Relativistic Many-Baryon Systems", Europhys. Lett. 12 (1990) 603.

8. **J. Götz**, **J. Ramschütz**, F. Weber, and M. K. Weigel, "The Influence of Retardation in the Nuclear Relativistic Hartree-Fock Theory", Phys. Lett. B226 (1989) 213.

9. **J. Ramschütz**, F. Weber, and M. K. Weigel, "Parametrization of the Model Parameters in the Relativistic Hartree and Hartree-Fock Theory", J. Phys. G16 (1990) 987.

10. F. Weber and M. K. Weigel, "Baryon Composition and Macroscopic Properties of Neutron Stars", Nucl. Phys. A505 (1989) 779.

11. F. Weber, N. K. Glendenning, and M. K. Weigel, "Structure and Stability of Rotating Neutron Stars", Astrophys. J. 373 (1991) 579.

12. **M. Jetter**, F. Weber, and M. K. Weigel, "Determination of the Effective Lagrangian in the Relativistic Hartree-Fock Theory", Europhys. Lett. 14 (1991) 633.

13. F. Weber and M. K. Weigel, "Some Aspects of the Relativistic Many-BodyTheory of Baryonic Systems", Nucl. Phys. A519 (1990) 303c.

14. F. Weber and N. K. Glendenning, "Limiting Angular Velocity of Realistic Relativistic Neutron Star Models", Z. Phys. A339 (1991) 211.

[6] Authors in boldface are (were) students of mine.

15. M. K. Weigel, **S. Haddad**, and F. Weber, "Semiclassical Expansions of the Nuclear Relativistic Hartree-Fock Theory", J. Phys. G17 (1991) 619.

16. F. Weber and N. K. Glendenning, "Applicability of the improved Hartle Method for the Construction of General Relativistic Rotating Neutron Star Models", Astrophys. J. 390 (1992) 541.

17. F. Weber and N. K. Glendenning, "Exact versus Approximate Solution of Einstein's Equations for Rotating Neutron Stars", Phys. Lett. B265 (1991) 1.

18. N. K. Glendenning, F. Weber, and S. A. Moszkowski, "Neutron Stars in the Derivative Coupling Model", Phys. Rev. C45 (1992) 844.

19. N. K. Glendenning and F. Weber, "Nuclear Solid Crust on Rotating Strange Stars", Astrophys. J. 400 (1992) 647.

20. N. K. Glendenning and F. Weber, "Impact of Frame Dragging on the Kepler Frequency of Neutron Stars", Phys. Rev. D50 (1994) 3836.

21. **H. Huber**, F. Weber, and M. K. Weigel, "Relativistic Investigations of Symmetric and Asymmetric Nuclear Matter", Phys. Lett. B317 (1993) 485.

22. **H. Huber**, F. Weber, and M. K. Weigel, "Neutron Star Properties and the Relativistic Equation of State of Asymmetric Nuclear Matter", Phys. Rev. C50 (1994) R1287.

23. **Ch. Kettner**, F. Weber, M. K. Weigel, and N. K. Glendenning, "Structure and Stability of Strange and Charm Stars at Finite Temperatures", Phys. Rev. D51 (1995) 1440.

24. N. K. Glendenning, **Ch. Kettner**, and F. Weber, "Possible New Class of Dense White Dwarfs", Phys. Rev. Lett. 74 (1995) 3519.

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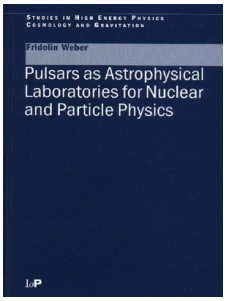
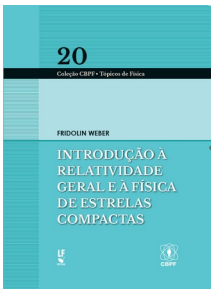
B. Refereed Books



168. F. Weber, "Pulsars as Astrophysical Laboratories for Nuclear and Particle Physics," 682 pages, Studies in High Energy Physics, Cosmology and Gravitation, Institute of Physics Publishing Corporation, Bristol, Great Britain, 1999. The book ranked among the Top-10 Books at IoP Publishing for over half a year. The book has become an internationally recognized and most valuable reference for researchers and graduate students working in the overlapping fields of nuclear, particle and astrophysics. Published reviews of the book in the physics literature indicate the book is exceptional in its comprehensiveness and depth in a subject at the cutting edge of current physics research. I am currently working on the second edition of my book, whose completion is eagerly awaited by the publisher (now CRC Press, Taylor & Francis Group). The new edition will ensure that it remains a high-quality, valuable resource for researchers and students at academic institutions from around the globe**.**

169. F. Weber, "Introduction into General Relativity and Compact Stars," 154 pages, Centro Brasileiro de Pesquisas Físicas, São Paulo, 2015, ISBN 978-85-7861-332-7.
The book serves as a most valuable reference for researchers and graduate students in Brazil working in the overlapping area of nuclear, particle and astrophysics.



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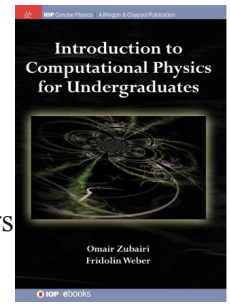

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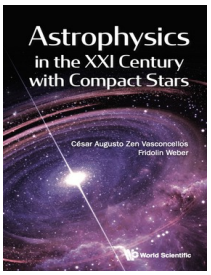

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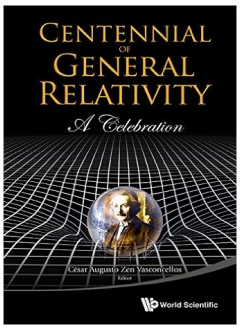

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XX. POSTER PRESENTATIONS

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4. “Phase Transitions in Dense Stellar Matter”, III. La Rabida International Summer School (Nuclear Astrophysics), June 16-July 2, 1988, La Rabida, Huelva, Spain.

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7. “Theory of the Nuclear Equation of State and Application to Neutron Stars”, International Nuclear Physics Conference, August 20-26, 1989, Sao Paulo, Brasil.

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21. "Equation of State for Neutron Star Matter," **M. Meixner** (presenter) and F. Weber, presented at the ACSESS Outreach Event & Computational Science Curriculum Development Forum, Thursday, March 2nd, 2006, San Diego State University, San Diego, California.

22. "Properties of Asymmetric Relativistic Nuclear Matter", **M. Meixner** (presenter) and F. Weber, Undergraduate Research Symposium (URS), Friday, 21 April 2006, Aztech Center, San Diego State University, San Diego, California, USA.

23. "Composition of Ultra-dense Neutron Star Matter", **P. Burrola** and **R. Negreiros** (presenters), and F. Weber, presented at the ACSESS Outreach Event & Computational Science Curriculum Development Forum, Thursday, March 7th, 2007, San Diego State University, San Diego, California.

24. "Hyperons and Neutron Star Matter", **P. Burrola** and **R. Negreiros** (presenters), and F. Weber, poster presented at URS 2007, Aztech Center, SDSU, April 20th, 2007.

25. "The Cosmological Constant and Compact Stars," **O. Zubairi** (presenter) and F. Weber, poster presented at URS 2007, Aztech Center, SDSU, April 20th, 2007.

26. "Ultra-High Electric Fields and Compact Stars," **R. Negreiros** (presenter) and F. Weber, Nuclear Astrophysics – Beyond the First 50 Years, California Institute of Technology, Pasadena, CA, July 23-27, 2007.

27. "Composition of Ultra-dense Neutron Star Matter", **R. Negreiros** (presenter) and F. Weber, presented at the ACSESS Outreach Event & Computational Science Curriculum Development Forum, Monday, March 3rd, 2008, San Diego State University, San Diego, California.

28. "Variational Studies of the Equation of State of Neutron Star Matter", **Oliver Hamil** (presenter) and F. Weber, presented at the ACSESS Outreach Event & Computational Science Curriculum Development Forum, Monday, March 3rd, 2008, San Diego State University, San Diego, California.

29. "Properties of General Relativistic Stars", **Rodrigo Negreiros** (presenter) and F. Weber, presented at the ACSESS Outreach Event & Computational Science Curriculum Development Forum, Monday, March 27th, 2009, San Diego State University, San Diego, California.

30. "The Cosmological Constant and Compact Stars", **Omair Zubairi** (presenter) and F. Weber, ACSESS, SDSU, March 26, 2010.

31. "Anisotropic Energy Transfer in Neutron Stars", Omair Zubairi (presenter) and F. Weber, March 23, 2012.

32. "Non-Spherical Stellar Models of Compact Stars", **Omair Zubairi** (presenter) and F. Weber, ACSESS, SDSU, March 28, 2014.

33. "Parallel Maximum Likelihood Reconstruction for Muon Tomography", Joseph Hellmers (presenter)] and F. Weber, ACSESS, SDSU, April 17, 2015.

34. "Impact of Deformation on Non-Rotating Neutron Stars", **Omair Zubairi** (presenter) and F. Weber, ACSESS, SDSU, April 21, 2015

35. "The Strangeness of Neutron Stars", **William Spinella** (presenter) and F. Weber, ACSESS, SDSU, April 21, 2017.

36. "Differentially Rotation in Proto-Neutron Stars, **Matthew Portman** (presenter) and F. Weber, ACSESS, SDSU, April 6, 2018.

XXI. CONFERENCE AND UNIVERSITY LECTURES, COURSES PRESENTED AT INTERNATIONAL PHYSICS SUMMER SCHOOLS

1. "The Tamm-Dankoff Approximation I", February 11, 1980, Institute for Theoretical Physics, University of Munich, Germany.

2. "The Tamm-Dankoff Approximation II", February 18, 1980, Institute for Theoretical Physics, University of Munich, Germany.

3. "RPA Calculations with Realistic Nuclear Potentials", May 21, 1981, Sektion Physik, University of Munich, Garching, Germany.

4. "Extension of the Quasi-Hartree-Fock Methode to Hard-Core Potentials", June 3, 1982, Sektion Physik, University of Munich, Garching, Germany.

5. "Greens Functions and Nuclear Matter", June 4, 1982, Institute for Theoretical Physics, University of Munich, Munich, Germany.

6. "Parameter-free Nuclear Matter Calculations", June 10, 1983, Institute for Theoretical Physics, University of Munich, Munich, Germany.

7. "The Paris Potential and Nuclear Calculations", June 21, 1984, Sektion Physik, University of Munich, Garching, Germany.

8. "Behandlung des Kernmaterieproblems mittels der Greenschen Funktionen", Spring Meeting of the German Physical Society, March 11 – 15, 1985, Munich, Germany.

9. “Nuclear Matter Calculations in the Ladder Approximation”, December 12, 1985, Sektion Physik, University of Munich, Garching, Germany.

10. “Impact of Dispersion on Relativistic Nuclear Matter”, November 14, 1986, Institute for Theoretical Physics, University of Munich, Munich, Germany.

11. “Spectral Representations in Many-Body Physics”, May 22, 1987, Institute for Theoretical Physics, University of Munich, Munich, Germany.

12. “Relativistic Nuclear Matter Calculations at Finite Temperatures”, Spring Meeting of the German Physical Society, March 21 – 25, 1988, Berlin.

13. “Hot and Dense Many-Baryon Matter”, III. La Rabida International Summer School (Nuclear Astrophysics), June 16 – July 2, 1988, La Rabida, Huelva, Spain.

14. “Hot and Dense Relativistic Nuclear Matter”, University of Melbourne, August 4, 1988, Melbourne, Australia.

15. “Neutron Star Properties and the Relativistic Nuclear Equation of State of Superdense Matter”, Australian National University of Canberra, August 7, 1988, Canberra, Australia.

16. “Nonlinear Extension of Walecka's Model”, Australian National University of Canberra, August 9, 1988, Canberra, Australia.

17. “Relativistic Green Functions”, Australian National University of Canberra, August 10, 1988, Canberra, Australia.

18. “Relativistic Many-Baryon Matter and Neutron Stars”, International Workshop on Nuclear Dynamics at Medium and High Energies, October 10 – 14, 1988, Bad Honnef, Germany.

19. “Relativistische Baryonenmaterie bei endlichen Temperaturen und Neutronen-sterne”, Technical University of Munich, November 22, 1988, Munich, Germany.

20. “Bulk Parameters of Neutron Stars“, Spring Meeting of the German Physical Society, March 13 – 17, 1989, Bonn, Germany.

21. “Relativistic Baryon and Neutron Fields at Finite Temperature in the Theory of Nuclear Matter”, Spring Meeting of the German Physical Society, March 13 – 17, 1989, Bonn, Germany.

22. “Untersuchungen zur Zustandsgleichung von Baryonenmaterie und ihr Einfluß auf Neutronensterne”, Sektions-Kolloquium at the Ludwig-Maximilians University of Munich, May 3, 1989, Munich, Germany.

23. "Neutron Star Calculations in the Relativistic Hartree and Hartree-Fock Approximation", Nato Advanced Study Institute The Nuclear Equation of State, May 21 – June 3, 1989, Peniscola, Spain.

24. "Dense Baryon Matter Calculations", February 1, 1990, Nuclear Science Division, Lawrence Berkeley Laboratory, Berkeley, California, USA.

25. "Density Functionals", 9 May, International School on Medium and High-Energy Nuclear Physics, 1990, Taipei, Taiwan.

26. "Rotating Neutron Stars and the Equation of State of Dense Matter", invited talk, held at the Second International Conference of Medium and High-Energy Nuclear Physics, May 14 – 18, 1990, Taipei, Taiwan.

27. "Limiting Angular Velocity of Relativistic Neutron Stars", August 21, 1990, invited talk, held at the Institute for Nuclear Theory, University of Washington, Seattle, Washington, USA.

28. "Properties of Rotating, General Relativistic Neutron Stars", October 19, 1990, Lawrence Livermore National Laboratory, California, USA.

29. "Constraints on the Nuclear Equation of State from Rapidly Rotating Pulsars", December 18, 1990, Technical University of Munich, Germany.

30. "Study of the Properties of Rotating Neutron Stars in General Relativity", invited talk, University of Frankfurt, January 10, 1991, Frankfurt am Main, Germany.

31. "Hadronic Matter and Neutron Stars. Part I: Equation of State", January 24, 1991, Nuclear Science Division, Lawrence Berkeley Laboratory, Berkeley, California, USA.

32. "Hadronic Matter and Neutron Stars. Part II: Rotating Relativistic Neutron Stars", January 25, 1991, Nuclear Science Division, Lawrence Berkeley Laboratory, Berkeley, California, USA.

33. "Relativistic Baryon and Neutron Fields at Finite Temperature in the theory and Nuclear Matter", Spring Meeting of the German Physical Society, March 25 – 29, 1991, Regensburg, Germany.

34. "Impact of the Nuclear Equation of State on Models of Rotating Neutron Stars", invited plenary talk, held at the International Workshop on Unstable Nuclei in Astrophysics, June 7 – 8, 1991, Tokyo, Japan.

35. "Relativistic Green's Functions, Equation of State, and Rotating Neutron Stars", invited lecture, Institute for Theoretical Physics, Beijing, June 28, 1991, P. R. of China.

36. “Transport Properties of Stellar Matter”, invited lecture, Institute for Theoretical Physics, Beijing, June 29, 1991, P. R. of China.

37. “Rotating Fluids in General Relativity”, invited lecture, Institute for Theoretical Physics, Beijing, June 30, 1991, P. R. of China.

38. “Instabilities in General Relativistic Rotating Fluids”, invited lecture, Institute for Theoretical Physics, Beijing, June 31, 1991, P. R. of China.

39. “Pulsars and Nuclear Physics”, invited talk, November 20, 1991, University of Notre Dame, Notre Dame, Indiana, USA.

40. “Ringing of Neutron Stars”, November 25, 1991, Divisional meeting, Lawrence Berkeley Laboratory, Berkeley, California, USA.

41. “Neutron-, Hybrid-, and Strange Quark Stars”, December 10, 1991, Nuclear Science Division, Lawrence Berkeley Laboratory, Berkeley, California, USA.

42. “Hadronic Matter and Rotating Relativistic Neutron Stars”, invited 10-hours course, held at the International Summer School on Nuclear Astrophysics, June 17 – 27, 1991, Tianjin, China, organized by D. H. Feng, G. Z. He, and X. Q. Li.

43. “Relativistic Astrophysics,” invited 10-hours course, July 1 – 12, 1991, Beijing Normal University, Beijing, China.

44. “Fast Pulsars, Neutron Stars, and Strange Quark Stars”, January 28, 1992, Technical University of Munich, Germany.

45. “Interpretation of Fast Pulsars”, January 31, 1992, Astronomy Department of the University of Munich, Munich, Germany.

46. “Impact of the Nuclear Equation of State on Models of General Relativistic Rotating Neutron Stars”, February 28, 1992, Spring meeting of the German Physical Society, February 24 – 28, 1992, Salzburg, Austria

47. “Are Fast Pulsars Rapidly Rotating Neutron Stars?”, invited talk, March 5, 1992, Observatoire de Paris, Dept. d'Astrophysique Relativisite et de Cosmologie, Mendon, France.

48. “Strange Quark Stars”, May 8, 1992, Institute for Theoretical Physics, University of Munich, Munich, Germany.

49. “Hadronic Matter and Rotating Relativistic Neutron Stars”, June 24, 1992, Habilitation colloquium, University of Munich, Munich, Germany.

50. “Rapid Rotation of Pulsars”, invited plenary talk, presented at the International Conference Nuclei in the Cosmos, Karlsruhe, Germany, July 6 – 10, 1992.

51. "Sub-millisecond Pulsars and the Nuclear Equation of State", University of Munich, Germany, July 13, 1992.

52. "Neutron Stars, Pulsars, and the Nuclear Equation of State", invited plenary talk, held at the First Symposium on Nuclear Physics in the Universe, Oak Ridge, Tennessee, USA, September 24 – 26, 1992.

53. Rapidly Rotating Pulsars, Compact Stars, and the Strange Matter Hypothesis", invited talk, October 1, 1992, Clemson University, Clemson, South Carolina, USA.

54. "Rapidly Rotating Pulsars, Strange Stars, and the Nuclear Equation of State", invited talk, University of Basel, Switzerland, January 8, 1993.

55. "Fast Pulsars, Compact Stars, and the Strange-Matter Hypothesis", invited talk, 2nd International Conference on Physics and Astrophysics of the Quark-Gluon Plasma, January 19 – 23, 1993, Calcutta, India.

56. "Neutron Stars, Strange Stars, and the Nuclear Equation of State", plenary talk, Spring Meeting of the German Physical Society, Mainz, Germany, March 21 – 26, 1993.

57. "Equation of State of Neutron Star Matter", invited 1-hour plenary lecture, presented at the NATO Advanced Study Institute Hot and Dense Nuclear Matter, Bodrum, Turkey, September 26 – October 9, 1993, organized by W. Greiner.

58. "Nuclear and Strange Matter in Compact Stars", invited talk, University of Giessen, Germany, April 22, 1993.

59. "Rotating Neutron Stars", invited plenary talk, Workshop on Meson Production in Nuclear Collisions, Gesellschaft für Schwerionenforschung (GSI), organized by E. Grosse, Darmstadt, Germany, May 5 – 8, 1993.

60. "Nuclear Many-Body Physics in Neutron Stars", invited talk, University of Rostock, Germany, June 11, 1993.

61. "Rapidly Rotating Pulsars, Hadronic Matter, and the Strange-Matter-Hypothesis", invited talk, Max-Planck Institute Heidelberg, Germany, June 14, 1993.

62. "Rapidly Rotating Pulsars, Neutron Stars, and the Strange-Matter-Hypothesis", invited talk, University of Hamburg, Germany, July 1, 1993.

63. "Rapidly Rotating Neutron Stars, Fast Pulsars, and the Strange-Matter-Hypothesis" LBL Nuclear Science Division Colloquium, August 16, 1993, Lawrence Berkeley Laboratory, Berkeley, USA.

64. "Limiting Rotational Periods of Fast Pulsars and Properties of Strange Stars", invited 1-hour plenary lecture, presented at the NATO Advanced Study Institute Hot

and Dense Nuclear Matter, Bodrum, Turkey, September 26 – October 9, 1993, organized by W. Greiner.

65. "Equation of State of Neutron Star Matter", invited 1-hour plenary lecture, presented at the NATO Advanced Study Institute Hot and Dense Nuclear Matter, Bodrum, Turkey, September 26 – October 9, 1993, organized by W. Greiner.

66. "Schnellrotierende Pulsare, Neutronensterne und Strange-Materie-Hypothese", Colloquium at the University of Munich, Germany, February 21, 1994.

67. "Hadronic Matter and Rapidly Rotating Compact Stars", invited plenary talk, International Conference on Nuclear Physics and related Topics Perspectives of Nuclear Physics in the Late Nineties, March 14 – 18, 1994, Hanoi, Vietnam.

68. "Rapidly Rotating Pulsars and the Search for Exotic Matter", invited talk, Vietnam National University, Hanoi, Vietnam, March 21, 1994.

69. "Non-radial Nuclear Oscillations", Spring meeting of the German Physical Society, Munich, Germany, April 5 – 9, 1993.

70. "Rapidly Rotating Neutron Stars, Fast Pulsars, and Strange Stars", invited talk, Max-Planck-Institut für Extraterrestrische Physik, Garching, Germany, May 17, 1994.

71. "Schnellrotierende Pulsare, Strange-Materie und Seltsame Quark-Sterne", invited talk, Kernforschungszentrum Jülich, Jülich, Germany, May 26, 1994.

72. "Strange Stars", Summer Institute on Nuclear Physics and Astrophysics, Gran Sasso, Assergi, L'Aquila, Italy, June 27 – July 7, 1994.

73. "Strange Matter and Fast Pulsars", invited talk, INFZ, Catania, Italy, July 15, 1994.

74. "Strange-Matter Stars", invited talk, International Symposium on Strangeness and Quark Matter, September 1 – 5, 1994, Crete, Greece.

75. "Strange Stars", Institute for Nuclear and Particle Astrophysics, Lawrence Berkeley Laboratory, Berkeley, California, USA, September 30, 1994.

76. "Strange Stars and Strange Dwarfs", LBL Nuclear Science Division Colloquium, October 5, 1994, Lawrence Berkeley Laboratory, Berkeley, USA.

77. "Strange Quark-Matter Stars", invited talk, University of Notre Dame, Notre Dame, Indiana, USA, November 28, 1994.

78. "From Strange Stars to Strange Dwarfs", invited talk, Canadian Institute for Theoretical Astrophysics, Toronto, Canada, December 1, 1994.

79. "Fast Pulsars, Strange Stars and Strange Dwarfs", 17th TEXAS Symposium on Relativistic Astrophysics, December 12 – 17, 1994, Munich, Germany.

80. "Strange Quark Matter and Massive Stars", invited talk, Drexel University, Philadelphia, USA, January 26, 1995.

81. "From Dense Strange Stars to Strange Dwarfs", MPI Werner Heisenberg, Munich, Germany, February 13, 1995.

82. "Strange Stars and Strange Dwarfs", invited plenary talk, Ringberg Workshop '95, organized by Max-Planck Institute for Astrophysics, Garching, March 6-10, 1995.

83. "Nuclear Physics and Stellar Collapse", Kernforschungszentrum Jülich, Jülich, Germany, April 21, 1994.

84. "Strange Matter and Massive Stars", invited talk, presented as part of the series of talks on Extreme Astrophysical Environments, Max-Planck Institute for Astrophysics, Garching, April 11, 1995.

85. "Quarkmaterie, Neutronensterne und Seltsame Zwerge", invited talk, University of Bern, Switzerland, April 21, 1995.

86. "Mögliche Signaturen von Quarkmaterie in Neutronensternen und weißen Zwergen", invited talk, University of Rostock, Germany, June 23, 1995.

87. "Quarkmaterie, Pulsare und Seltsame Zwerge", Colloquium at the University of Munich, Germany, June 30, 1995.

88. "Quark Matter, Pulsars, and Strange Dwarfs", invited talk, China Institute of Atomic Energy, Beijing, P. R. China, August 10, 1995.

89. "Stability of Strange Dwarfs", invited talk, China Institute of Atomic Energy, Beijing, P.R. China, August 11, 1995.

90. "Dense Hadronic Matter", invited talk, Beijing Normal University, Beijing, P. R. China, August 14, 1995.

91. "The Lense-Thirring Effect", invited talk, Beijing Normal University, Beijing, P. R. China, August 15, 1995.

92. "Physics of Massive Stars", invited talk, Beijing Normal University, Beijing, P. R. China, August 16, 1995.

93. "Dense Matter, Fast Pulsars, and Strange-Matter Stars", invited talk, Lanzhou University, Lanzhou, P. R. China, August 18, 1995.

94. "Relativistic Nuclear Field-Theories", invited seminar, Lanzhou University, Lanzhou, P. R. China, August 19, 1995.

95. "Stellar Collapse and the Formation of Hypothetical Strange Quark Matter Stars", invited talk, Lanzhou University, Lanzhou, P. R. China, August 21, 1995.

96. "Strange-Matter Stars versus Neutron Stars and White Dwarfs", International Nuclear Physics Conference, August 21 – 26, 1995, Beijing, P. R. China.

97. "From Fast Pulsars to Strange Dwarfs", invited talk, November 3, 1995, IGGP, Lawrence Livermore National Laboratory, California, USA.

98. "Braking of Pulsars", December 14, 1995, Nuclear Science Division, Lawrence Berkeley Laboratory, Berkeley, California, USA.

99. "Physics of Compact Stars", three invited 1-hour lectures presented at Lanzhou University, Lanzhou, P.R. China, August 19, 1995.

100. "Structure of Neutron Stars", invited 3-hours course, International Summer School for Students on Development in Nuclear Theory and Particle Physics, Dubna, Joint Institute for Nuclear Research, Russia, August 24-September 8, 1995, organized by V. Burov, S. Ivanova, and G. Röpke.

101. "Neutron Stars, Strange Pulsars, and Strange Dwarfs", IAU Colloquium 160 - Pulsars: Problems and Progress, January 8 – 12, 1996, Sydney, Australia.

102. "Strange MACHOS", invited talk, January 18, 1996, Mount Stromlo Observatory, Canberra, Australia.

103. "Numerical Simulations of Rotating Compact Objects in General Relativity", invited talk, January 19, 1996, Mount Stromlo Observatory, Canberra, Australia.

104. "Fast Pulsars and Strange-Quark-Matter Stars", invited talk, University of Melbourne, January 24, 1996, Melbourne, Australia.

105. "Relativistic Brueckner-Hartree-Fock Calculations for Asymmetric Nuclear Matter", invited talk, University of Rostock, Germany, February 22, 1996.

106. "Challenges in Nuclear Astrophysics", University of Bern, Switzerland, February 28, 1996.

107. "Strange Quark Matter, Massive Stars and Strange Planets", invited plenary talk, International Conference on Nuclear Physics at the Turn of the Millennium, March 10 – 16, 1996, Wilderness, South Africa.

108. "Strange Quark Matter and Massive Stars", invited talk, March 20, 1996, University of Stellenbosch, South Africa.

109. "Gravity-wave Emission from Compact Stars", invited talk, March 25, 1996, University of Stellenbosch, South Africa.

110. “Strange Quark Matter Stars”, invited talk, Joint Institute for Nuclear Research, Dubna, Russia, April 15, 1996.

111. “Structure and Dynamics of Neutron Stars and Strange White Dwarfs”, invited talk, Joint Institute for Nuclear Research, Dubna, Russia, April 17, 1996.

112. “Dense Stellar Matter and Structure of Neutron Stars”, invited 10-hours course, III Mario Schonberg Graduate School, Joao Pessoa, Brazil, July 22-August 2, 1996, organized by S. Duarte, P. Christiano, C. Bonato, and A. L. de Brito.

113. “From Quark Matter to Strange MACHOS”, invited plenary talk, Vulcano Workshop 1996, Frontier Objects in Astrophysics and Particle Physics, May 27 – June 1, 1996, Vulcano, Italy.

114. “Astrophysical Implications of Absolutely Stable Strange Quark Matter”, invited talk, International Workshop on the Physics of Supernovae and Neutron Stars, June 3 – 14, 1996, European Center for Theoretical Studies in Nuclear Physics and Related Areas, Trento, Italy.

115. “Quarkmaterie und Massive Sterne”, invited talk, University of Bremen, Germany, June 13, 1996.

116. “Strange Quark Matter and Massive Stars”, Nuclei in the Cosmos IV, June 20-27 1996, University of Notre Dame, Indiana, USA.

117. “Compact Stars and Strange Quark Matter”, invited talk, Centro Brasileiro de Pesquisas Fisicas (CBPF), Rio de Janeiro, Brazil, August 7, 1996.

118. “Finite-Temperature Relativistic Greens Functions”, invited talk, Centro Brasileiro de Pesquisas Fisicas (CBPF), Rio de Janeiro, Brazil, August 14, 1996.

119. “Cosmological Aspects of Quark Matter”, invited talk, Lawrence Livermore National Laboratory, California, USA, November 24, 1997.

120. “Strange Quark Matter and Compact Stars”, invited talk, Caltech, California, USA, October 25, 1996.

121. “Neutron Stars”, invited talk, University of Indiana, South Bend, Indiana, USA, December 2, 1996.

122. “Neutron Stars as Probes of Superdense Nuclear Matter”, invited talk, Brookhaven National Laboratory, Brookhaven, New York, USA, December 6, 1996.

123. “Rotating Hybrid Stars”, December 12, 1996, Nuclear Science Division, Lawrence Berkeley National Laboratory, Berkeley, California, USA.

124. “Neutronensterne als Testlaboratorien für Superdichte Nukleare Materie”, invited talk, University of Frankfurt, Germany, January 16, 1997.

125. “Hybrid Stars”, invited plenary talk, 3rd International Conference on Physics and Astrophysics of Quark-Gluon Plasma, March 17 – 21, 1997, Jaipur, India.

126. “Possible Signal for the Quark-Hadron Phase Transition in Rotating Neutron Stars”, May 8, 1997, State University of New York at Stony Brook, NY, USA.

127. “Physics of Neutron Stars”, invited plenary talk, Sixth Conference on the Intersection of Particle and Nuclear Physics, May 27 – June 2 1997, Big Sky, Montana, USA.

128. “Ein Beobachtbares Signal für Quark-Deconfinement in Rotierenden Neutronensternen”, invited talk, Technical University of Munich, Germany, July 2, 1997.

129. “Neutron Stars as Probes of Superdense Matter”, invited talk, Special Research Center for the Subatomic Structure of Matter, Institute for Theoretical Physics, University of Adelaide, Adelaide, Australia, July 15, 1997.

130. “A Possible Signal for the Quark-Hadron Phase Transition in Rotating Neutron Stars”, invited talk, July 17, 1997, Australian National University, Canberra, Australia.

131. “Progress in Relativistic Many-Body Calculations”, invited talk, Ninth International Conference on Recent Progress in Many-Body Theories, 21 – 25 July 1997, School of Physics The University of New South Wales, Sydney, Australia.

132. “Pre-Supernovae Stars, Stellar Collapse, and Black Holes”, invited talk Joint Institute for Nuclear Research, Dubna, Russia, September 29, 1997.

133. “Signal for the Deconfined Phase of QCD Matter in the Timing Structure of Rotating Neutron Stars”, invited plenary talk held at the Research Workshop on Deconfinement at Finite Temperature and Density, Joint Institute for Nuclear Research, Dubna, Russia, October 1 – 25, 1997.

134. “Strange Quark Matter in Physics and Astrophysics”, invited talk held at the Research Workshop on Deconfinement at Finite Temperature and Density”, Joint Institute for Nuclear Research, Dubna, Russia, October 1 to 25, 1997.

135. “Neutron Stars”, invited 2-hours course, University of Erlangen, Germany, November 12, 1997.

136. “Boson Condensates in Physics and Astrophysics”, Lawrence Livermore National Laboratory, California, USA, December 9, 1997.

137. “Signal of Quark Deconfinement in Rotating Neutron Stars”, invited talk, Gesellschaft für Schwerionenforschung (GSI), Darmstadt, Germany, January 20, 1998.

138. Pulsars as Astrophysical Laboratories for Nuclear and Particle Physics", invited talk, University of Rostock, Germany, January 23, 1998.

139. "Neutronen- und Quark-Sterne", invited talk, University of Tübingen, Germany, February 6, 1998.

140. "Quarkmaterie in Neutronensternen", invited talk, University of Bern, Switzerland, May 29, 1998.

141. "Neutronensterne als Astrophysikalische Laboratorien für Kern- und Teilchen-physik", invited talk, University of Frankfurt, November 11, 1998, Frankfurt am Main, Germany.

142. "Current Status of Neutron Star Physics", invited talk, Joint Institute for Nuclear Research, Dubna, Russia, December 17, 1998.

143. "Present Status of Dense Matter Calculations", invited talk, Asian Pacific Center for Theoretical Physics, January 12, 1999, Seoul, South Korea.

144. "Rotational Instabilities in Rotating Neutron Stars", invited talk, Korean Institute for Advanced Studies, January 14, 1999, Seoul, South Korea.

145. "Signal of Quark Deconfinement in Neutron Stars", invited plenary talk, International Workshop on Understanding of Deconfinement in QCD, March 1 – 13, 1999, European Center for Theoretical Studies in Nuclear Physics and Related Areas, Trento, Italy.

146. "From Neutron Stars to Strange Machos", invited talk, University of Ferrara, Ferrara, Italy, 22 April 1999.

147. "Phases of Superdenes Matter inside Neutron Stars", invited talk, Town Meeting on Opportunities in Nuclear Astrophysics, University of Notre Dame, Notre Dame, Indiana, USA, June 7 – 8, 1999.

148. "The Numerous Faces of Neutron Stars", 1 July 1999, Nuclear Science Division Lawrence Berkeley Laboratory, Berkeley, California, USA.

149. "Physics of Neutron Stars", invited 1-hour lecture, XXIII School of Theoretical Physics, Ustron, Poland, September 15 – 22, 1999, organized by the Institute of Physics, University of Silesia, Katowice, Poland.

150. "Quark Matter in Neutron Stars", invited talk, 1 December 1999, University of Notre Dame, Notre Dame, Indiana, USA.

151. "Von der Urknall-Materie zu seltsamen Nuggets: die vielen Gesichter der nuklearen Materie in Neutronensternen", invited talk, University of Frankfurt, January 11, 2000, Frankfurt am Main, Germany.

152. "The Many Faces of Neutron Star Interiors", invited plenary talk, EOS 2000, The Nuclear Equation of State: Status and Perspectives, Topical Workshop at Gesellschaft für Schwerionenforschung (GSI), organized by P. Braun-Munzinger, J. Knoll, H. Oeschler, W. Reisdorf, P. Senger (Coordinator), R. Stock, and H. Stroebele, Darmstadt, Germany, February 20 – 23, 1999.

153. "Evidence of Quark Matter in X-Ray Pulsars?", 30 March 2000, Nuclear Science Division, Lawrence Berkeley Laboratory, Berkeley, California, USA.

154. "Quark Matter in Rapidly Rotating Pulsars", invited talk, Workshop on QCD at non-zero Baryon Number Density, Institute for Nuclear Theory, University of Washington, Seattle, Washington, USA, 3 – 14 April 2000.

155. "Neutron Star Observables", invited talk, Workshop on Frontiers in Nuclear Astrophysics, University of Notre Dame, IN, USA, 19 – 20 April 2000.

156. "Possible Evidence of Quark Matter in Neutron Star X-ray Binaries", invited talk, Heavy Ion Tea Colloquium, 23 May 2000, Nuclear Science Division, Lawrence Berkeley Laboratory, Berkeley, California, USA.

157. "Neutron Star Interiors", invited talk, International Workshop on Physics of Neutron Star Interiors, Trento, Italy, June 18 – July 8, 2000.

158. "Strangeness in Neutron Stars", invited plenary talk, 5th International Conference on Strangeness in Quark Matter (Strangeness 2000), Berkeley, California, USA, July 20 – 25, 2000.

159. "Astrophysical Signals of Quark Matter", invited talk, Theory Institute on Perspectives in Continuum Strong QCD, Argonne National Laboratory, Argonne, IL, USA, August 14 – 18, 2000.

160. "Astrophysical Signals of Quark Matter", 12 September 2000, Department of Physics, University of Notre Dame, Notre Dame, Indiana, USA.

161. "The Many Faces of Dense Matter in Neutron Stars", invited talk, 26 October 2000, TNT/TUNL, Duke, North Carolina, USA.

162. "Asymmetric Nuclear Matter and its Role in Neutron Stars", invited talk, 6 November 2000, National Superconducting Cyclotron Laboratory, Michigan State University, East Lansing, MI, USA.

163. "The Equation of State in Neutron and Strange Stars", invited plenary talk, Town Meeting on Nuclear Structure and Nuclear Astrophysics, Oakland Convention Center, California, USA, November 9 – 12, 2000.

164. "Nuclear Incompressibility and Neutron Star Structure", invited talk, Workshop on Nuclear Incompressibility, organized by Umesh Garg, University of Notre Dame, Notre Dame, Indiana, USA, January 29, 2001.

165. "Quark Matter in Neutron Stars", colloquium, 14 February 2001, Department of Physics, University of Notre Dame, Notre Dame, Indiana, USA.

166. "Phase Transitions and Compact Stars", invited talk, presented at the Workshop on Frontiers in Nuclear Astrophysics, Argonne National Laboratory, February 16 and 17, 2001; organized by J. Truran and E. Rehm, ANL, USA.

167. "Effective Nuclear Field Thoeries", 25 April 2002, Indiana State University at South Bend (IUSB), South Bend, Indiana, USA.

168. "From Neutron Stars to Quark Stars", invited plenary talk, presented at the International Conference on Compact Stars in the QCD Phase Diagram", Copenhagen (NORDITA - Niels Bohr Institute), August 15 – 18, 2001; organized by R. Ouyed and F. Sannino, NORDITA, Copenhagen, Denmark.

169. "Nuclear and High-Energy Astrophysics", invited colloquium, 27 September 2001, Kent State University, Ohio, USA.

170. "Relativistic Nuclear Matter I", 22 January 2001, Center for Astrophysics, University of Notre Dame, Notre Dame, Indiana, USA.

171. "Relativistic Nuclear Matter II", 29 January 2001, Center for Astrophysics, University of Notre Dame, Notre Dame, Indiana, USA.

172. "Quark Matter in Astrophysics", invited talk, 11 March 2002, Indiana State University at South Bend (IUSB), South Bend, Indiana, USA.

173. "Nuclear Astrophysics at Extreme Conditions", invited talk, 8 April 2002, Argonne National Laboratory, Argonne, Illinois, USA.

174. "An Introduction to Quark Stars", 30 April 2002, Center for Astrophysics, University of Notre Dame, Notre Dame, Indiana, USA.

175. "RX J185635-3754 and 3C58 as Possible Quark Star Candidates", 2 May 2002, Center for Astrophysics, University of Notre Dame, Notre Dame, Indiana, USA.

176. "Quark Matter in Compact Stars", invited talk, held at the XVIth Particle and Nuclei International Conference (PaNIC02), September 30 to October 4, 2002, Osaka, Japan; organized by H. Toki, K. Imai, and T. Kishimoto.

177. "Relativistic field theory at finite temperature," Kyoto University, Kyoto, Japan, October 7, 2002.

178. "Nuclear and High-Energy Astrophysics", three invited 1+1/2 hour lectures, International Hadron Physics School 2002, Rio Grande do Sul, Brazil, April 14 – 19, 2002, organized by Cesar A. Z. Vasconcellos and Victoria E. Herscovitz.

179. "Computational Studies in Nuclear, Particle and Astrophysics", invited talk, 7 February 2003, San Diego State University, San Diego, California, USA.

180. "Neutron Stars and Strange Stars", invited talk, KIAS-APCTP International Symposium in Astro-Hadron Physics on Compact Stars: Quest For New States of Dense Matter", November 10 – 14, 2003, Korea Institute for Advanced Study, Seoul, Korea.

181. "Neutron Star Interiors: From Nuclei to Quarks", 20 April 2004, Center for Astrophysics and Space Sciences, University of California at San Diego, San Diego, California, USA.

182. "The Quark-Hadron Phase Transition in Neutron Stars", invited talk, Institute for Nuclear Theory program INT-04-1, "QCD and Dense Matter: From Lattices to Stars", 29 March – June 18 2004, INT, Washington University, Washington, USA.

183. "Quantum Chromodynamics and Compact Stars", invited talk, Workshop on Nuclear Astrophysics at the ECT* European Centre for Theoretical Studies in Nuclear Physics and Related Areas, May 24 – 28, 2004, Trento, Italy.

184. "Nuclear Equation of State of Compact Stars", invited talk, 228th National Meeting of the American Chemical Society (ACS) on the "Nuclear Equation of State used in Astrophysics Models", August 22-26, 2004, Philadelphia, USA.

185. "Strangeness in Nuclear and Astrophysics", 17 September 2004, Colloquium, Department of Physics, San Diego State University, San Diego, California, USA.

186. "Computational Astrophysics of Compact Stars", 15 October, 2004, Computational Science Research Center, San Diego State University, San Diego, California, USA.

187. "The Life and Science of Albert Einstein", 4 May 2005, public lecture, San Diego State University, San Diego, California, USA.

188. "Nuclear Incompressibility and Compact Stars", invited talk, Joint Institute for Nuclear Astrophysics, July 14 – 15, 2005, University of Notre Dame, Notre Dame, IN

189. "Strangenss in Compact Stars", invited talk, 29th John Hopkins Workshop on Theoretical Physics, August 1 – 3, 2005, Budapest, Hungary.

190. "Strangeness in Neutron Stars", invited talk, Division of Nuclear Physic Divisional Meeting, September 18 – 22, 2005, Maui, HI, USA.

191. "Strangeness in Astrophysics", invited talk, 2nd Int. Workshop of Astrophysics and Relativistic Astrophysics, IWARA 2005, October 2 – 6, 2005, Natal, Rio Grande do Norte, Brazil.

192. "Strangeness in Neutron Stars", invited Divisional Colloquium, 28 October 2005, Nuclear Physics Theory Center, Jefferson Lab, Jefferson Avenue, Newport News, VA, USA.

193. "Color-Superconducting Quark Matter and Compact Stats", invited talk, 14 December 2005, Frankfurt Institute of Advanced Studies, Goethe University, Frankfurt a. Main, Germany.

194. "Phases of Dense Matter in Compact Stars", invited talk, International Workshop on The Physics of Compressed Baryonic Matter, GSI, December 15 – 16, 2005, Darmstadt, Germany.

195. "Strangeness in Astrophysics", invited talk, 2nd Int. Workshop of Astrophysics and Relativistic Astrophysics, IWARA 2005, October 2 – 6, 2005, Natal, Rio Grande do Norte, Brazil.

196. "Cosmological Cannibals", 27 January 2006, Colloquium, Department of Physics, San Diego State University, San Diego, California, USA.

197. "Strangeness in Astrophysics", invited colloquium, 9 February 2006, Department of Physics & Astronomy, California State University at Los Angeles, California, USA.

198. "Neutron Stars and Black Holes", 23 February 2006, Colloquium, Department of Physics, Imperial Valley Campus, Calexico, California, USA.

199. "Challenges in Medium and High-Energy Neutron Star Physics", invited talk, 7 March 2006, Lawrence Berkeley National Laboratory, Berkeley, California, USA.

200. "Phases of Dense Matter in Compact Stars", invited talk, 8 March 2006, University of California at Davis, Davis, California, USA.

201. "From Cosmic Cannibals to Compact Stars", invited talk, International Symposium on Heavy Ion Physics, Frankfurt Institute for Advanced Studies, 2 – 6 April 2006, Frankfurt, Germany.

202. "Neutron Star Interiors and the Equation of State of Superdense Matter", invited talk, presented at the International 363rd Heraeus Seminar on "Neutron Stars and Pulsars: About 40 years after the discovery", organized by W. Becker, A. Jesner, H. Lesch, and J. Trümper, Max Planck Institute for Extraterrestrial Physics, Munich, May 14 – 19, 2006, Physics Center Bad Honnef, Germany.

203. "Color Superconductivity and Neutron Stars", invited talk, be presented at "Quark Confinement and the Hadron Spectrum VII," Azores Islands, 2 – 7 September 2006.

204. "Rotating Neutron Stars", invited talk, presented at the International Conference "HYP 2006", October 10 – 14, Mainz, Germany.

205. "QCD in Neutron Stars and Strange Stars", invited talk, presented at the mini-symposium on "From Crust to Core: QCD in Neutron Stars", 2006 DNP fall meeting, Nashville, TN, October, 25 – 28, 2006.

206. "Neutron Stars", invited talk, presented at the mini-symposium on "Nuclei as mesoscopic systems; from few-body configurations to neutron stars", 2006 DNP fall meeting, Nashville, TN, October, 25 – 28, 2006.

207. "Pulsars as an Astrophysical Laboratory for Nuclear and Particle Physics", invited talk, International School of Nuclear Physics 28th course, Erice, Sicily, 16 – 24 September 2006.

208. "From Atoms to Stars: A Journey through the Wonders of Physics," public lecture presented at Explore SDSU—Open House 2007, 17 March 2007.

209. "XTE J1739 – An Ultra-Rapidly Rotating Pulsar," invited colloquium talk, Department of Physics, Mississippi State University, MS, 19 April 2007.

210. "The Enigmatic Innards of Neutron Stars," colloquium, Department of Physics, San Diego State University, San Diego, California, 21 September 2007.

211. "A Journey trough the Wonders of Physics," public lecture presented at Explore SDSU – Open House 2008, 15 March 2008.

212. "Exotic Compact Stars," invited review talk presented at "Compact Stars in the Rockies: Observations, Theory, Simulations," Banff, Alberta, Canada, May 25 – 28, 2008.

213. "Quark-Hadron Phase Transition in Neutron Stars," invited talk, ANL workshop on the equation of state in Astrophysics, ANL, IL, 25 – 29 August 2008.

214. "Superfluidity of Hyperons," University of Notre Dame, Notre Dame, IN, 27 August 2008.

215. "Albert Einstein in the 21st Century," public lecture, presented at the Albert Einstein Academy, 3035 Ash Street, San Diego, CA, June 3rd, 2008.

216. "The Life and Science of Albert Einstein," public lecture presented at Explore SDSU – Open House 2009, March 21st, 2009.

217. "Quark Matter in Neutron Stars," invited talk presented at Compact Stars in the QCD Phase Diagram II (CSQCD II), Peking University, Beijing, China, May 20 – 24, 2009.

218. "Phase Transitions in Dense Baryon Matter and Cooling of Rotating Neutron Stars," invited talk presented at the EMMI Workshop and XXVI Max Born Symposium - Three Days of Strong Interactions, Wroclaw, Poland, 9 – 11 July 2009.

219. "From Crust to Core: Quark Matter in Neutron Stars," 4th International Workshop on Astronomy and Relativistic Astrophysics, Maresias, Sao Paulo, Brazil 4 – 8 October 2009.

220. "Impact of Strange Quark Matter Nuggets on Pycnonuclear Reaction Rates in the Crusts of Neutron Stars," 3rd Joint Meeting of the APS Division of Nuclear Physics and the Physical Society of Japan Tuesday–Saturday, October 13 – 17, 2009, Waikoloa, Hawaii.

221. "Pulsars as Astrophysical Laboratories for Nuclear and Particle Physics," Texas A&M, College Station, Texas, 9 March 2010.

222. "From Crust to Core: Quark Matter in Neutron Stars," Texas A&M, Commerce, Texas, 11 March 2010.

223. "A Journey through the Milky Way," multi-media student presentation, Granger Junior High School, National City, California, 18 March 2010.

224. "From Atoms to Stars," San Diego State University, Open House 2010, 20 March 2010.

225. "Pycnonuclear Fusion Reactions and Strange Quark Matter," presented at the 2nd mini-workshop on Neutron Stars and Neutrinos, Arizona State University, Meza, Arizona, April 12 – 13, 2010.

226. "QCD in Neutron Stars," invited talks, presented at the 2nd International T(R)OPICAL QCD II Workshop, Cairns, Australia, 27 September – 1 October 2010.

227. "The Many Faces of Ultra-Dense Baryonic Matter," invited colloquium, California State University at Long Beach, October 25, 2010.

228. "Planets, Stars and the Universe," public lecture presented to students of Albert Einstein Academy Elementary School, SDSU, December 6, 2010.

229. "General Relativity and Compact Stars", 8 invited 2-hour lectures presented at the International School on Advanced Topics in Theoretical Physics, July 19 – 30, 2010, CBPF, Rio de Janeiro, Brazil.

230. "Cooling Behavior of Rotating Neutron Stars," invited talk, presented at the international workshop on recent advances in X-ray astronomy, Max Planck Institute for Extraterrestrial Physics, Garching, Germany, December 16 – 17, 2010.

231. “The Many Faces of Matter inside Neutron Stars”, invited colloquium, Max Planck Institute for Extraterrestrial Physics, Garching, Germany, December 20, 2010.

232. “The Life and Scientific Achievements of Albert Einstein”, public lecture, Albert Einstein Academies, San Diego, CA, March 11, 2011.

233. “Inside Einstein's Universe,” public lecture, SDSU Open House, San Diego, CA, March 20, 2011.

234. “Numerical Studies of Compact Stars,” Computational Science Research Center, San Diego State University, September 2, 2011.

235. “Quark Matter and Compact Stars,” invited colloquium, University of Calgary, Canada, October 28, 2011.

236. “From Atoms to Stars,” Research Foundation, San Diego State University, November 8, 2011.

237. “Planets, Stars and the Universe,” public lecture presented to students of Albert Einstein Academy Elementary School, SDSU, December 6, 2011.

238. “Physics of Neutron Stars,” invited talk, Workshop on Facets of Strong-Interaction Physics, Hirschegg, Austria, January 15 – 21, 2012.

239. “Properties of Ultra-Dense Matter in the Cores of Neutron Stars,” invited talk, Oak Ridge National Laboratory, May 10, 2012.

240. “Phase Transitions in Rotating Neutron Stars,” CASS, UC San Diego. May 30, 2012.

241. “Physics of Compact Stars,” invited talk, Int. Confer on the physics and astrophysics of compact stars, Tahiti, June 4 – 8, 2012.

242. “Numerical Modeling in Astrophysics,” 10 x 4-hour lectures presented at the Max-Planck Institute for Extraterrestrial Physics, Garching, Germany, June 18 – 29, 2012.

243. “Structure of Quark Stars,” invited talk, IAU Symposium 291 on Neutron Stars and Pulsars: Challenges and Opportunities after 80 Years, Beijing, August 20 – 31, 2012.

244. “Strangeness in Neutron Stars,” invited talk, EMMI workshop, October 11 – 12, 2012, Tuebingen, Germany.

245. "Compact Stars as Astrophysical Laboratories for Nuclear and Particle Physics," invited talk, November 1, 2012, New Mexico State University, Las Cruces, NM.

246. "The Many Phases of Matter inside of Neutron Stars," invited talk, November 2, 2012, El Paso, Texas.

247. "Phase Transitions inside of Rotating Neutron Stars," invited talk, CSQCDIII, December 12 – 15, 2012, Brazil, Guaruja, Brazil.

248. "Coulomb Lattices of Quarks and Hadrons in the Cores of Neutron Stars," invited talk at workshop on Gluons, and Hadronic Matter under Extreme Conditions, 18 – 21 March 2013, St. Goar, Germany.

249. "Life after Stellar Death: Challenges for Computational Astrophysics," invited talk, April 12, 2013, University of Texas at El Paso, El Paso, Texas.

250. "Journey to a Black Hole," public outreach event, San Diego State University, 25 June 2013.

251. "The Physics of Compact Stars," invited 5 x 3-hour lectures presented at the Max-Planck Institute for Extraterrestrial Physics, Garching, Germany, July 1 – 5, 2013.

252. "Signals of Quark Matter in Compact Stars," invited talks, EMMI Rapid Reaction Task Force Meeting on Quark Matter in Compact Stars, October 7 – 10, 2013, Frankfurt, Germany.

253. "Journey through the Universe," public outreach event at SDSU organized for 110 3rd grade students of Albert Einstein Academies charter school, San Diego, 6 December 2013.

254. "Physics of Neutron Stars," invited 10 x 2-hours lectures presented at the international physics school on Frontiers in Nuclear and Hadronic Physics, Galileo Galilei Institute for Theoretical Physics, Florence, Italy, 24 February – 6 March 2014.

255. "Non-spherical Neutron Stars," invited talk, presented at Compact Stars in the QCD Phase Diagram IV (CSQCD IV), Prerow, Germany, 26 – 29 September 2014.

256. "Planets, Stars and Black Holes," public outreach event at SDSU organized for 145 3rd grade students of Albert Einstein Academies charter school, San Diego, 21 November 2014.

257. "Life after Stellar Death – The Many Faces of Neutron Stars," invited talk, presented at Kent State University, Kent, Ohio, 16 April 2015.

258. "Strangeness in Astrophysics," invited talk, University of Calgary, Calgary, Canada, 8 July 2015.

259. "Planets, Stars and Black Holes," public outreach event at SDSU organized for 145 3rd grade students of Albert Einstein Academies charter school, San Diego, 6 November 2015.

260. "The Core Composition of Neutron Stars," invited talk, presented at workshop on The Many Faces of Neutron Stars, Munich Institute for Astro and Particle Physics, Garching, Germany, 17 September 2015.

261. "Quark Matter in Neutron Stars," presented at INT workshop on The Faces of Dense Matter, Seattle WA, July 11 through August 12, 2016.

262. "Quarks in Astrophysics," invited 5 x 3-hour lectures, presented at the Max-Planck Institute for Extraterrestrial Physics, Garching, Germany, July 25 – 29, 2016.

263. "Quark Deconfinement in Neutron Stars," CSRC, San Diego State University, San Diego, September 2, 2016.

264. "Rotation-Driven Phase Transitions in the Cores of Neutron Stars," invited talks, International Workshop on Astrophysics and Astronomy, IWARA 2016, Gramado, RS, Brazil, 9–13 October 2016.

265. "Searching for Big Bang Matter in Dead Stars,"Albert W. Johnson University Research Lecture, San Diego State University, April 7, 2017.

266. "Dense Matter in Neutron Stars," invited talk, FIAS International Symposium on Discoveries at the Frontiers of Science, Frankfurt, Germany, June 26 through 30, 2017.

267. "Challenges in Computational Astrophysics and Numerical Relativity," Max-Planck Institute for Extraterrestrial Physics, Garching, Germany, July 6, 2017.

268. "The Structure of Dense Matter in Neutron Stars," invited talk, presented at ECT* workshop New Perspectives of Neutron Star Interiors, Trento, Italy, October 9-13, 2017.

269. "The Many Faces of Dense Baryonic Matter inside of Neutron Stars," invited talk, APS April Meeting 2018, Columbus, Ohio, April 14-17, 2018.

270. "Neutrino Emissivity in the Quark-Hadron Mixed Phase of Neutron Stars," invited talk, CSQCD VII, CUNY, College of State Island, New York, NY, June 11–15, 2018.

271. "Quark-Hadron Lattices in the Cores of Neutron Stars," invited talk, IWARA 2018, Ollantaytambo, Peru, September 9–15, 2018.

272. "The Many Faces of Matter inside of Neutron Stars," UCSD, La Jolla, CA, March 13, 2019.

273. "Properties of Hypothetical Quark-Hadron Coulomb Lattices in the Cores of Neutron Stars," APS Spring Meeting, Denver, CO, April 14, 2019.

274. “Neutron Stars,” Point Loma Nazarene University, San Diego, CA, April 26, 2019.

275. “From Proto-Neutron Stars to Neutron Stars,” Lawrence Livermore National Laboratory, CA, October 10, 2019.

276. “Dead Stars as Astrophysical Laboratories for Nuclear and Particle Physics,” CSRC, San Diego State University, San Diego, CA, September 25, 2020.

277. “Albert Einstein still a Revolutionary,” Lawrence Family Jewish Community Center, Jacobs Family Campus, La Jolla, CA, May 18, 2021.

278. “Hot and Dense (Proto-) Neutron Star Matter,” invited talk, XLIV Brazilian Workshop on Nuclear Physics (virtual meeting), November 9–11, 2021, Sao Paulo, Brazil.

279. “Hot and Dense Neutron Star Matter,” invited talk, CSQCDIX, August 1-5, 2022, Banff, Alberta, Canada.

280. “Structure and Evolution of Proto-Neutron Stars,” CSRC Colloquium, SDSU, San Diego, February 24, 2023.