

Program of International Conference on Nuclear Theory in the Supercomputing Era — 2013 (NTSE-2013)

Sunday, May 12

Memorial Union, 2nd floor, Campanile Room

5:30–6:30pm	<i>Welcome Reception</i>
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Monday, May 13

All talks are in Memorial Union, 3d floor, Gallery Room

Chair: Bruce Barrett

8:30–8:45am	<i>Conference opening</i>
Keynote talk:	
8:45–9:30am	Gaute Hagen <i>Ab Initio</i> Nuclear Structure — from Light to Medium Weight Nuclei
9:30–10:00am	David Dean A Survey of Experimental Challenges to Computational Nuclear Physics
10:00–10:30am	<i>Coffee break</i>

Chair: Winfried Leidemann

10:30–11:00am	Robert B. Wiringa Quantum Monte Carlo Calculations of Transitions and Reactions
11:00–11:30am	Steven C. Pieper Green's Function Monte Carlo Calculations of Carbon
11:30–12:00pm	Pieter Maris <i>Ab Initio</i> Calculations of <i>p</i> -shell Nuclei with JISP16
12:00–1:30pm	<i>Lunch break</i>

Chair: Robert B. Wiringa

Keynote talk:	
1:30–2:15pm	Jerry P. Draayer — Unraveling Mysteries of the Strong Interaction — ‘Top Down’ versus ‘Bottom Up’ Considerations
2:15–2:45pm	Tomáš Dytrych Utilizing Symmetry Coupling Schemes in <i>Ab Initio</i> Nuclear Structure Calculations
2:45–3:15pm	<i>Coffee break</i>

Chair: Steven C. Pieper

3:15–3:45pm	Gerald A. Miller Nuclear Isospin Violation — How It Turned out and Where It Is Going
3:45–4:15pm	Joseph Carlson Homogeneous and Inhomogeneous Fermions: Cold Atoms and Neutrons
4:15–4:45pm	Hans Weidenmüller Nuclear Excitation by a Strong Zeptosecond Laser Pulse: Theoretical Expectations

Tuesday, May 14

All talks are in Memorial Union, 3d floor, Gallery Room

Chair: Martin Savage

Keynote talk:	
8:30–9:15am	Stanley J. Brodsky Light-Front Quantum Chromodynamics
9:15–9:45am	Heli Honkanen Modeling Nuclear Parton Distribution Functions
9:45–10:15am	Dipankar Chakrabarti Generalized Parton Distributions for the Proton

10:15–10:45am	<i>Coffee break</i>
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Chair: Morten Hjorth-Jensen

10:45–11:15am	Vladimir Karmanov Nonperturbative Calculations in the Light-front Field Theory
11:15–11:45am	Yang Li Introduction to Basis Light-Front Quantization Approach to QCD Bound State Problems
11:45–12:15pm	Paul Wiecki Positronium in Basis Light Front Quantization

12:15–1:45pm	<i>Lunch break</i>
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Chair: Stanley J. Brodsky

Keynote talk:	
1:45–2:30pm	Martin Savage Nuclear Forces from Quantum Chromodynamics
2:30–3:00pm	Kirill Tuchin Hot Nuclear Matter in Intense Magnetic Field

3:00–3:30pm	<i>Coffee break</i>
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Chair: Steven C. Pieper

3:30–4:00pm	Usha Kulshreshtha Light-front Quantization of Non-Linear Sigma Models
4:00–4:30pm	Daya Shankar Kulshreshtha Light-Front Quantization and DLCQ of Large N Scalar QCD ₂
4:30–5:00pm	Xingbo Zhao Scattering in Time-Dependent Basis Light Front Quantization

Wednesday, May 15*All talks are in Memorial Union, 3d floor, Gallery Room***Chair: Achim Schwenk**

Keynote talk:	
8:30–9:15am	Petr Navrátil <i>Ab Initio</i> Approaches to Nuclear Reactions
9:15–9:45am	Winfried Leidemann Recent Results with the Lorentz Integral Transform (LIT) Method
9:45–10:15am	Jimmy Rotureau <i>Ab Initio</i> Description of Light Nuclei in the Berggren Basis

10:15–10:45am	<i>Coffee break</i>
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Chair: Jerry P. Draayer

10:45–11:15am	Andrey Shirokov Oscillator Basis and Scattering
11:15–11:45am	Youngman Kim SuperHeavy Element Studies at RAON
11:45–12:15pm	George Fai The View from Germantown

12:15–1:45pm	<i>Lunch break</i>
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Chair: Takaharu Otsuka

1:45–2:15pm	John Hill Studies of Hot Dense Nuclear Matter with the PHENIX Detector at RHIC
2:15–2:45pm	Jianwei Qiu The Nucleus: a Laboratory for QCD

2:45–3:15pm	<i>Coffee break</i>
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Chair: Peter U. Sauer

3:15–3:45pm	Joseph N. Ginocchio Relativistic Symmetries in Nuclei and Hadrons
Distinguished lecture:	
3:45–4:45pm	James P. Vary Computational Nuclear Physics: Key to Discovery Opportunities

4:45–6:00pm	<i>Social Hour; Cash Bar</i>
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6:00 pm	<i>Group photo and Banquet</i>
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Thursday, May 16

All talks are in Howe Hall, Alliant Energy - Lee Liu Auditorium

Chair: Joseph N. Ginocchio

Keynote talk:	
8:30–9:15am	Esmond Ng Challenges in Computational Science at Exascale
9:15–9:45am	Masha Sosonkina Accelerating <i>Ab Initio</i> Nuclear Physics Calculations with GPUs and Optimization Techniques
9:45–10:15am	Ümit Çatalyürek Exploring Intel Xeon Phi and NVidia GPUs for Nuclear Physics Simulations

10:15–10:45am	<i>Coffee break</i>
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Chair: Mark A. Caprio

10:45–11:15am	Chao Yang Computational Techniques for Accelerating Nuclear Configuration Interaction Calculations in MFDn
11:15–11:45am	George Fann Adaptive Pseudo-Spectral Method for Solving HFB Equations
11:45–12:15pm	Hai Ah Nam Computational Nuclear Physics for Modern Computing Architectures

12:15–1:15pm	<i>Lunch onsite (covered by the conference fee paid in full)</i>
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Chair: Esmond Ng

1:15–1:45pm	Takaharu Otsuka Monte Carlo Shell Model and Shape Phase Transitions in Exotic Nuclei
1:45–2:15pm	Takashi Abe Monte Carlo Shell Model Towards <i>Ab-Initio</i> Calculations
2:15–2:45pm	Achim Schwenk Neutron Matter With Chiral Effective Field Theory: Perturbative and First Quantum Monte Carlo Calculations

2:45–3:15pm	<i>Coffee break</i>
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Chair: Chao Yang

3:15–3:45pm	Sidney A. Coon Infrared and Ultraviolet Cutoffs: Convergence Strategies for Harmonic Oscillator Basis Expansion Methods
3:45–4:45pm	Thomas Papenbrock Corrections to Nuclear Energies and Radii in Finite Oscillator Spaces
4:15–4:45pm	Mark A. Caprio Convergence of NCCI Calculations for Light <i>p</i> -Shell Nuclei with the Coulomb–Sturmian Basis

5:30pm	<i>Tour Excursion and Dinner</i>
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Friday, May 17*All talks are in Memorial Union, 3d floor, Gallery Room***Chair: Dick Furnstahl**

Keynote talk:	
8:30–9:15am	Ruprecht Machleidt Origin and Properties of Strong Inter-Nucleon Interactions
9:15–9:45am	Evgeny Epelbaum Nuclear Forces and Light Nuclei from Chiral Effective Field Theory
9:45–10:15am	Robert Roth New Horizons in <i>Ab Initio</i> Nuclear Structure Theory

10:15–10:45am	<i>Coffee break</i>
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Chair: Petr Navrátil

10:45–11:15am	Morten Hjorth-Jensen Living on the Edge of Stability, the Limits of the Nuclear Landscape
11:15–11:45am	Wayne Polyzou Three Nucleon Scattering at Relativistic Energies
11:45–12:15pm	Peter U. Sauer Three-Nucleon Forces — Revisited

12:15–1:45pm	<i>Lunch break</i>
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Chair: Wayne Polyzou

1:45–2:15pm	Scott Bogner Shell Model Interactions from the In-Medium Similarity Renormalization Group
2:15–2:45pm	Dick Furnstahl High-Resolution Probes of Low-Resolution Nuclei

2:45–3:15pm	<i>Coffee break</i>
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Chair: Ruprecht Machleidt

3:15–4:00pm	Bruce Barrett Conference Summary
4:00pm	<i>Conference closing</i>