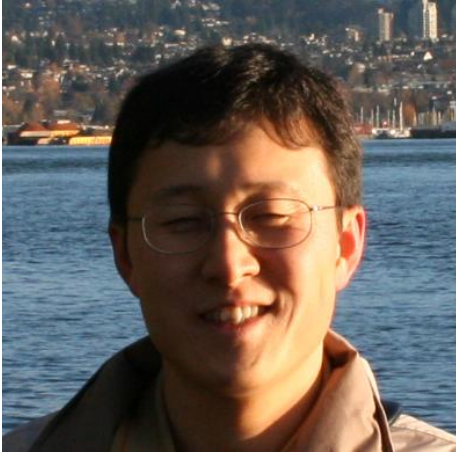


# Soon-Yong Chang

Post-Doctoral Research Associate, INT-UW



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## Education

**Ph. D. Physics** U. of Illinois at Urbana-Champaign (USA), May-2006.  
Thesis: Study of the Properties of Dilute Fermi Gases in the Strongly Interacting Regime.

Advisor: Vijay R. Pandharipande (deceased-2006).

**M.S. Physics** San Diego State University (USA), 2001.

Thesis: Theoretical Study of the Equation of State of Helium at High Pressure.

Advisor: Massimo Boninsegni (now at U. of Alberta, Canada)

**Licenciado Physics** University of Córdoba (Argentina), 1997.

Thesis: Study of the Dispersion in the Spin-Lattice Relaxation in the Bimesogenic Polymers (experimental).

Advisor: D. Pusiol.

## Honors

Felix T. Adler Fellowship Award (2006-UIUC).

## Research Interests

Many-body physics. Stochastic *ab-initio* methods.  
Atomic gases. Condensed matter. Superfluidity.  
Superconductivity. Material physics.

## Languages

Fluent in English, Spanish, and Korean.

## Citizenship

South Korea (ROK). H1-B visa holder.

## Work Experience

**Post-Doctoral Research Associate** INT-U. of Washington, Aug-2006 to present.

**Research Assistant** UIUC, 2002-2006.

**Teaching Assistant (grader)** UIUC, 2001-2002.

**Research Assistant** SDSU, 2000-2001.  
**Teaching Assistant (Laboratory)** SDSU, 1999-2000.  
**Quality Control Engineer** Samsung Optoelectronics, San Diego, CA, 1997-1999.  
**Undergraduate Research** U. of Córdoba, 1996.

## Publications

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+*Phases of Asymmetric Fermi Gases*

S. Y. Chang, and M. M. Forbes

To be submitted soon..... (2007)

+*Equation of State and Polarized Phases of Polarized Unitary Fermi Gas*

S. Y. Chang

arXiv:0711.4615 (2007)

+*Unitary Fermi Gas in a Harmonic Trap*

S. Y. Chang, and G. F. Bertsch

Phys. Rev. A **76**, 021603(R) (2007)

+*Study of Degeneracy Three Fermi Fluid*

S. Y. Chang, and V. R. Pandharipande

<http://arxiv.org/abs/physics/0607008> (2006)

+*Regime of Validity of the Pairing Hamiltonian in the Study of Fermi Gases*

S. Y. Chang, and V. R. Pandharipande

Phys. Rev. B **73**, 212502 (2006)

+*Ground State Properties of Fermi Gases in the Strongly Interacting Regime*

S. Y. Chang, and V. R. Pandharipande

Phys. Rev. Lett. **95**, 080402 (2005)

+*Neutron Matter : A Superfluid Gas*

S. Y. Chang, J. Morales, Jr., V. R. Pandharipande, D. G. Ravenhall, J. Carlson, Steve C. Pieper, R. B. Wiringa, and K. E. Schmidt  
Nuclear Physics A. **746**, 215c (2004)

+*Quantum Monte Carlo Studies of Superfluid Fermi Gases*

S. Y. Chang, J. Carlson, V. R. Pandharipande, and K. E. Schmidt

Phys. Rev. A. **70**, 043602 (2004)

+*Dilute Fermi Gases with Large Scattering Lengths: Atomic Gases and Neutron Matter*

J. Carlson, S. Y. Chang, V. R. Pandharipande, and K. E. Schmidt

AIP Conf. Proc. **690**, 184 (2003)

+*Superfluid Fermi Gases with Large Scattering Lengths*

J. Carlson, S. Y. Chang, V. R. Pandharipande, and K. E. Schmidt

Phys. Rev. Lett. **91**, 50401 (2003)

+*Ab Initio Potentials and the Equation of state of Condensed Helium at High Pressure*

S. Y. Chang, and M. Boninsegni  
J. Chem. Phys. **115**, 2629 (2001)

## Presentations

+*Equation of State and Phases of Unitary Fermi Gas*  
Theory Seminar, T-division, Los Alamos National Laboratory(LANL),  
Oct-31,2007.

+*'Artificial' Superfluidity.*  
Condensed Matter Seminar, Dept. of Physics, Yale University, April-5,  
2007.

+*Quantum Monte Carlo Methods in the Study of Fermi Gases.*  
Invited talk at T-division, Los Alamos National Laboratory(LANL), June-  
26, 2006.

+*Study of the Strongly Interacting Fermi Gases.*  
Invited talk at INT-U. of Washington, January-23, 2006.

+*Study of the Strongly Interacting Fermi Gases.*  
Invited talk at T-division, Los Alamos National Laboratory(LANL), June,  
2005.

+*Study of the Strongly Interacting Fermi Gases.*  
Invited talk at the Chemistry Dept. UC Berkeley, August, 2005.

+*Ground State Properties of Fermi Gases in the Strongly Interacting  
Regime.*  
Poster presentation at 12th International Conference on Recent Progress in  
Many-Body Theories, Santa Fe, New Mexico, August 23-27, 2004.

+*Quantum Monte Carlo Studies of Superfluid Fermi Gases.*  
Invited talk at INT mini workshop on Dilute Strongly Interacting  
Fermions. INT-U. of Washington, Seattle, WA, November 18-20, 2003.

+*Theoretical Calculation of the Equation of State of Condensed Helium at  
High Pressure.*  
Oral presentation at APS March Meeting, Seattle 2001.  
[www.getcited.org/pub/103395037](http://www.getcited.org/pub/103395037)

## References

**\*\*Prof. Pandharipande, Vijay R.**

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Champaign  
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\*\*Ph.D. advisor. Passed away in 2006.  
His letters are available through the  
secretary:

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**Carlson, Joseph A.**

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**Prof. Baym, Gordon**

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**Prof. Bulgac, Aurel**

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**Prof. Boninsegni, Massimo**

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