

Sikarin Yoo-Kong

CONTACT INFORMATION

Faculty of Science
Department of Physics
King Mongkut's University of
Technology Thonburi
Bangkok 10160

Voice: (+66)07595289894
E-mail: syookong@gmail.com

RESEARCH INTERESTS

Integrable systems, i.e., Calogero-Moser type systems
Quantum mechanics,
Quantum information, i.e., Entanglement in many-body systems
Condensed matter, i.e., Path-Integral approach
Theoretical Biophysics, i.e., DNA conductivity

EDUCATION

University of Leeds, Leeds, United Kingdom

Ph.D, Applied Mathematics(Mathematical Physics), November 2011

- Dissertation Topic: “*Calogero-Moser type systems, associated KP systems, and Lagrangian structures*”
- Advisor: Prof Frank W Nijhoff

University of York, York, United Kingdom

M.S(by research), Applied Mathematics(Mathematical Physics), October, 2007

- Dissertation Topic: “*Towards an entanglement measure based on the partial transpose*”
- Advisor: Dr Stefan Weigert

Mahidol University, Bangkok, Thailand

M.Sc., Physics, October, 2006

- Dissertation Topic: “*Large polaron mobility in a magnetic field of arbitrary strength*”
- Advisor: Prof Julian Poulter

King Mongkut's University of Technology Thonburi, Bangkok, Thailand

B.Sc., Physics, October, 2002

HONORS AND AWARDS

Royal Thai Government Fellowship, 2006
Faculty Development Thai Government Fellowship, 2002

ACADEMIC EXPERIENCE

University of Leeds, School of Mathematics, Leeds, United Kingdom

Tutorial October, 2010 - November, 2011
Helping students on their exercises.

- Introduction to applied mathematics 1.
- Introduction to applied mathematics 2.

Mahidol University, Department of Physics, Bangkok, Thailand

Tutorial October, 2003-2006
Leading Physics experimental Lab.

King Mongkut's University of Technology Thonburi, Department of Physics, Bangkok, Thailand

Lecturer

December, 2011-present

PUBLICATIONS

- [1] **Sikarin Yoo-Kong**, 2006, “*The Propagator for a charged particle in an electromagnetic field and a series of non-local harmonic Oscillators*”, Journal of the Korean Physical Society, Vol. **49**, No. 5, 1998-2000.
- [2] **Sikarin Yoo-Kong**, 2007, “*The single-path-integral approach to the steady-state condition: Alternative derivation of the Thornber theory*”, Physica B: Condensed Matter Vol. **391**, Issue 2, 357-362.
- [3] **Sikarin Yoo-Kong**, 2007, “*On the ground-state energy of a bound polaron in quantum confinement*”, Physica B: Condensed Matter Vol. **394**, Issue 1, 18-22.
- [4] **Sikarin Yoo-Kong**, 2008, “*The impedance function of a confined polaron and bipolaron: The single path integral approach*”, Physica B: Condensed Matter Vol. **403**, Issue 12, 2103-2110.
- [5] **Sikarin Yoo-Kong**, 2010, “*The path integral approach to an N-particle in a PT-symmetric harmonic oscillator*”, International Journal of Modern Physics B (IJMPB), Vol. **24**, Issue: 28, 5579-5587.
- [6] **Sikarin Yoo-Kong**, Sarah Lobb and Frank Nijhoff, 2011, “*Discrete-time Calogero-Moser system and Lagrangian 1-form structure*”, J. Phys. A: Mathematical and Theoretical, **44**, 365203(39pp) (arXiv:1102.0663v1 [nlin.SI]).
- [7] **Sikarin Yoo-Kong** and Frank Nijhoff, 2011, “*Elliptic (N, N') -soliton solution of the lattice KP equations*”, submitted to Journal of Mathematical Physics, arXiv:1111.5366 [nlin.SI and Mathematical Phys].

CONFERENCE
PRESENTATIONS,
TALKS

- [1] **Sikarin Yoo-Kong** and Stefan Weigert, “*Towards an entanglement measure based on the partial transpose*”, White Rose Quantum Information Processing (QIP): University of York, 7 August 2007.
- [2] **Sikarin Yoo-Kong**, “*Discrete-time Calogero-Moser system and Lagrangian 1-form structure*”, Applied mathematics seminar, School of Mathematics, University of Leeds, 21 February 2011.
- [3] **Sikarin Yoo-Kong**, “*Discrete-time Calogero-Moser system and Lagrangian 1-form structure*”, Integrable systems seminar, School of Mathematics, University of Leeds, 18 March 2011.
- [4] **Sikarin Yoo-Kong**, “*Discrete-time Calogero-Moser system and Lagrangian 1-form structure: Discrete Integrable systems*”, Lorentz Center, Netherlands, 18 July 2011.

COMPUTER SKILLS

- Applications: \LaTeX , common Windows database, spreadsheet, and presentation software
- Operating Systems: Unix/Linux, Windows.

Updated December 2011