

CURRICULUM VITAE

Personal Information

Name: Waraporn Nuntiyakul, Ph.D.
Position: Faculty member (**Astrophysics**)
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Birth: August 13th, 1981, Bangkok, Thailand
Sex: Female
Nationality: Thai

Educational Background

2009 – 2014 Ph.D. (Physics), Mahidol University, Bangkok, Thailand,
Dissertation: “Analysis of Data from a Calibration Neutron
Monitor at Doi Inthanon and a Ship-Borne Neutron Monitor.”,
Supervisor: Prof. Dr. David Ruffolo
2003 – 2006 M.Sc. (Physics) (highest GPA), Kasetsart University, Bangkok,
Thailand, Thesis: “Study on Activity Determination by Using
Liquid Scintillation Spectrometer via CIEMAT/NIST method.”,
Supervisor: Asst. Prof. Dr. Teerasak Veerapaspong
1999 – 2003 B.Sc. (Physics)(Honors with highest GPA), Silpakorn University,
Nakhonpathom, Thailand, Supervisor: Assoc. Prof. Dr. Serm
Janjai

Awards and Scholarships

February 2017 Received TRF MRG Grant; the form calls it “ทุนพัฒนาศักยภาพการ
ทำงานวิจัยของอาจารย์รุ่นใหม่” as head of the project on the topic of
Short-term variations of cosmic ray count rates with latitude,
longitude, and time. Project duration is 2 years (August 2017 - July
2019).

- October 2016** Received Researcher Grant; the form calls it “ทุนส่งเสริมกลุ่มวิจัย (เมธีวิจัยอาวุโส สกว.)” as joint researcher on the topic of Space Plasma Physics and Cosmic Rays. Project duration is 3 years (August 2016 – July 2019).
- July 2016** Received outstanding award for the highest-ranked qualitative and quantitative publications in Faculty of Science, Chandrakasem Rajabhat University, TH.
- June 2016** Received award through the American Physical Society (APS)’s International Research Travel Award Program (IRTAP). The proposal was reviewed by a committee comprised of representatives of the APS units that sponsor the program, USA.
- Sep 2014** Received the Max Hammond Award for the Highest-Ranked Application in Space Physics, from 47th Annual American Geophysical Union Fall Meeting (AGU), San Francisco, USA.
- May 2014** Outstanding Oral Presentation Award, from RGJ-Ph.D. Congress XV, Pattaya.
- 2013** The 2nd Poster Award, from the committee on Space Research and the organizers of the first COSPAR Symposium, Bangkok.
- 2011-2013** Ph.D. (Physics) Scholarship from the Royal Golden Jubilee Ph.D. Program (RGJ), Bangkok.
- 2010** Received a teaching assistant scholarship from Faculty of Science, Mahidol University.
- 2009** Received a Research Assistantship from the Thailand Center of Excellence in Physics (ThEP), Chiang Mai.
- 2009** Outstanding Researcher of Invention Awards, from Chandrakasem Rajabhat University, Bangkok.
- 2006** Graduate Thesis International Conference Awards on Applied Science (ICAS 2006) at Don Chan Palace, Vientiane, Lao PDR in November 5-7, 2006, from Faculty of Graduate Studies, Kasetsart University, Bangkok.
- 2004** Received a teaching assistant scholarship from Faculty of Science, Kasetsart University, Bangkok.

- 2003** Outstanding Physics Student with the Highest GPA Awards 2004 in Master Degree, from Professor Taeb Nilanithi Foundation, Bangkok.
- 2002** Outstanding Physics Student with the Highest GPA Awards 2003 in Bachelor Degree, from Professor Taeb Nilanithi Foundation, Bangkok.
- 2002** Outstanding Physics Student with the Highest GPA Awards 2002, from Bruce Scott Prize, Nakhonpathom.
UCE Cultural Exchange Student at Derby College in Derby, England from Oct 11, 2002 to Oct 31, 2002.
- 2001** Outstanding Physics Student with the Highest GPA throughout Academic Year 2000 Awards, from Faculty of Science, Silpakorn University, Nakhonpathom.

Skills and Qualifications

- Programming in C, Fortran and basic of Python
- Root Data Analysis Framework: It provides all the functionalities needed to deal with big data processing, statistical analysis, visualization and storage. It is mainly written in C++ but integrated with other languages such as Python and R.
- Software development in Visual Basic
- FLUKA Monte Carlo simulation package: It has many applications in applications in high energy experimental physics and engineering, shielding, detector and telescope design, cosmic ray studies, dosimetry, medical physics and radio-biology.
- Data visualization by IDL
- Graphic production: Adobe Illustrator, Adobe Photoshop
- Document: Microsoft Office Word, Excel, Power Point, Publisher, Visio, Acrobat Professional and LaTeX
- Operating systems: Microsoft Windows, Linux
- Languages: Thai, English

Connections/Collaborations

- University of Wisconsin-River Falls (UWRF), USA: for doing yearly student exchange astrophysics research program between Thailand and IceCube (Neutrino Observatory) group to determine of accurate response functions of South Pole detectors operated by UWRF; contact with Prof. James Madsen and Assist. Prof. Suruj Seunarine.
- Involved as an associated membership in IceCube collaboration.
- University of Delaware, USA: for collaborative neutron monitor research and IceTop tank; contact with Prof. Paul Evenson.
- Mahidol University, TH: for neutron monitor research; contact with Prof. David Ruffolo.

Research Experience

- 2014-present** Has invited to University of Delaware, USA to discuss our ongoing research and collaboration.
- 2015** Has successfully completed the IceCube Boot Camp 2015, University of Wisconsin-Madison, USA
- 2014** One of the Core Team to upgrade PSNM at Doi Inthanon, Chiangmai, TH
- 2012-2013** Analysis of Data from a Ship-Borne Neutron Monitor (Dorman Method)
- 2012** Monte Carlo Simulation Package for the Interaction and Transport of Particles and Nuclei in Matter (FLUKA) at Jefferson Lab, Newport News, VA, USA
- 2011-2012** Analysis of Data from a Ship-Borne Neutron Monitor (Nagashima Method) in Bartol Research Institute, University of Delaware, USA
- 2010-2011** Analysis of Data from a calibration Neutron monitor (**calmon**)
- 2009** Invention of an Engine Hood of the Small Moter Boat by Using Local Resource
- 2008** The factors influencing students selecting decision on higher education
- 2008** Modification of the Examination Method that Effect on the Basic Physics Learning of Students in Chandrakasem Rajabhat University

- 2008** To Invent and Set Up Steam Gasoline System in Benzene Engine for Saving
- 2007** Multimedia Development for Physics 1 Course in Learning of Physics Introduction and Measurement.
- 2006** Study on Activity Determination by Using Liquid Scintillation Spectrometer via CIEMAT/NIST Method

Teaching Experience

- 2006-present** Lecturer in Faculty of Science, Chandrakasem Rajabhat University
- 2017** Visiting professor working together with American students on South Pole neutron monitor research in University of Wisconsin - River Falls from June 1, 2017 to July 27, 2017.
- 2016** Visiting professor working together with American students on South Pole neutron monitor research in University of Wisconsin - River Falls from June 1, 2016 to August 15, 2016.
- 2015** Invited Speaker in Special Space Physics Seminar: The Neutron Monitor: What does it tell us?, Institute of Science, Suranaree University of Technology, September 25, 2015
- 2015** Invited Speaker in Special Space Physics Seminar: The Neutron Monitor: What does it tell us?, Faculty of Science and Technology, Rajamangala University of Technology Thanyaburi, August 21, 2015
- 2015** Visiting professor working together with American students on neutron monitor research in University of Wisconsin - River Falls from June 1, 2015 to August 7, 2015.
- 2014** Invited Speaker in Special Space Physics Seminar: Determining the Spectrum of GCRs by Using Latitude Survey Technique, Department of Physics and Astronomy, University of Delaware, USA
- 2014** Translator and Voice Recorder of KHAN Academy (English) to Thai Language in Chemistry (~73 VDO Clips) (Supported by Sakdibhornssup Foundation)

- 2014** Invited Speaker in Seminar Course: Determining the Spectrum of GCRs by using Latitude Survey Technique, Faculty of Science and Technology, Rajamangala University of Technology Thanyaburi, September 15, 2014
- 2010** Teaching Assistant: Physics Laboratory 1 (SCPY170), Mahidol University International College
- 2008-2009** Invited Lecturer: Math-Science Genius Camp 2008 & 2009
- 2004 - 2006** Teaching Assistant: Physics Laboratory 1 and 2, Kasetsart University

Publications in Books and Refereed Journals

Remark: 2013 impact factor in parentheses.

* Researchers working in Thailand in bold type. Presented by first author unless otherwise indicated.

- 2017** **W. Nuntiyakul**, P. Evenson, **D. Ruffolo**, **A. Sáiz**, J. W. Bieber, J. Clem, R. Pyle, M. L. Duldig, and J. E. Humble, Bare Neutron Counter and Neutron Monitor Response to Cosmic Rays during a 1995 Latitude Survey, 2017, *Geophys. Res. (Submitted)* (2013 Impact Factor = 3.440)
- 2016** P.-S. Mangeard, **D. Ruffolo**, **A. Sáiz**, **W. Nuntiyakul**, J. W. Bieber, J. Clem, P. Evenson, R. Pyle, M. L. Duldig, and J. E. Humble, Dependence of the Neutron Monitor Count Rate and Time Delay Distribution on the Rigidity Spectrum of Primary Cosmic Rays, 2016, *Geophys. Res. Space Physics*, *121*, 11,620-11,636. (2013 Impact Factor = 3.440)
- 2015** L. Parmeter, K. Lueckfeld, **W. Nuntiyakul**, J. Madsen, S. Seunarine, Simulation of Neutron Monitors at the University of Wisconsin-River Falls (Full IEEE proceeding, catalog number CFP15TIC-POD, ISBN: 978-1-4673-7671-6, page 493-501 in 1st International Conference on Science and Technology, Rajamangala University of Technology Thanyaburi, Pathumthani, November 4-6, 2015)
- 2015** **P. Mangeard**, **D. Ruffolo**, **A. Sáiz**, **W. Nuntiyakul**, **S. Madlee**, **T. Nutaro**, J. W. Bieber, J. Clem, P. Evenson, R. Pyle, L. Duldig, J. E. Humble, Relationship between the Neutron Time Delay Distribution and the Rigidity Spectrum of Primary Cosmic Rays up to 16.8 GV (Full proceeding in 34th International Cosmic Ray Conference, The Hague, The Netherlands, July 30-Aug 6, 2015)

- 2015** N. Aieamsa-ad, D. Ruffolo, A. Sáiz, P. Mangeard, T. Nutaro, W. Nuntiyakul, P. N. Kamyam, T. Khumlumlert, H. Kruger, H. Moraal, J. W. Bieber, J. Clem, P. Evenson, Measurement and simulation of neutron monitors count rate dependence on surrounding structure (Full proceeding in 34th International Cosmic Ray Conference, The Hague, The Netherlands, July 30-Aug 6, 2015)
- 2015** W. Nuntiyakul, P. Evenson, D. Ruffolo, A. Sáiz, J. W. Bieber, J. Clem, R. Pyle, M. L. Duldig, and J. E. Humble, Latitude Survey Investigation of Galactic Cosmic Ray Solar Modulation during 1994-2007 (Full proceeding in 34th International Cosmic Ray Conference, The Hague, The Netherlands, July 30-Aug 6, 2015)
- 2015** N. Aiemsad, D. Ruffolo, A. Sáiz, P.-S. Mangeard, T. Nutaro, W. Nuntiyakul, N. Kamyam, T. Khumlumlert, H. Krüger, H. Moraal, J. W. Bieber, J. Clem, P. Evenson, Measurement and simulation of neutron monitor count rate dependence on surrounding structure, 2015, *Geophys. Res. Space Physics*, 120 (2013 Impact Factor = 3.440)
- 2014** W. Nuntiyakul, P. Evenson, D. Ruffolo, A. Sáiz, J. W. Bieber, J. Clem, R. Pyle, M. L. Duldig, and J. E. Humble, Latitude Survey Investigation of Galactic Cosmic Ray Solar Modulation during 1994-2007, 2014, *Astrophys. J.* (Impact Factor = 6.733)
- 2011** H. Kruger, H. Moraal, D. Ruffolo, A. Saiz, T. Nutaro, N. Kamyam, W. Nuntiyakul, B. Hebbler, C. Steigies, Progress Report on the Intercalibration of the World's Neutron Monitors (Full proceeding in 32ND International Cosmic Ray Conference, Beijing, China, Aug 11-18, 2011)
- 2008** W. Nuntiyakul, Multimedia Development for Physics 1 Course in Learning of Physics Introduction and Measurement, 2008, *Chandrakasem Rajabhat University Journal* , Volume 14, pp 109.
- 2006** W. Nuntiyakul, T. Veerapasong, Study on Activity Determination by Using Liquid Scintillation Spectrometer via CIEMAT/NIST Method, Proceedings of the 1st International Conference on Applied Science in Lao People's Democratic Republic, Volume 1, pp 211-215

Local/International Conferences

- 2017** **W. Nuntiyakul**, Bare Neutron Counter and Neutron Monitor Response to Cosmic Rays during a 2009 Latitude Survey (SCAR-AAA 2017, Chiang Mai, July 31-August 4, 2017)
- 2017** **W. Nuntiyakul**, P. Evenson, **D. Ruffolo**, **A. Sáiz**, J. W. Bieber, J. Clem, R. Pyle, M. L. Duldig, and J. E. Humble, Bare Neutron Counter and Neutron Monitor Response to Cosmic Rays during a 1995 Latitude Survey (Siam Physics Congress 2017, Rayong, May 24-26, 2017)
- 2015** L. Parmeter, K. Lueckfeld, **W. Nuntiyakul**, J. Madsen, S. Seunarine, Simulation of Neutron Monitors at the University of Wisconsin-River Falls (Full proceeding in 1st International Conference on Science and Technology, Rajamangala University of Technology Thanyaburi, Pathumthani, November 4-6, 2015)
- 2015** **P. Mangeard**, **D. Ruffolo**, **A. Sáiz**, **W. Nuntiyakul**, **S. Madlee**, **T. Nutaro**, J. W. Bieber, J. Clem, P. Evenson, R. Pyle, L. Duldig, J. E. Humble, Relationship between the Neutron Time Delay Distribution and the Rigidity Spectrum of Primary Cosmic Rays up to 16.8 GV (34th International Cosmic Ray Conference, The Hague, The Netherlands, July 30-Aug 6, 2015)
- 2015** **N. Aieamsa-ad**, **D. Ruffolo**, **A. Sáiz**, **P. Mangeard**, **T. Nutaro**, **W. Nuntiyakul**, **P. N. Kamyam**, **T. Khumlumlert**, H. Kruger, H. Moraal, J. W. Bieber, J. Clem, P. Evenson, Measurement and simulation of neutron monitors count rate dependence on surrounding structure (34th International Cosmic Ray Conference, The Hague, The Netherlands, July 30-Aug 6, 2015)
- 2015** **W. Nuntiyakul**, P. Evenson, **D. Ruffolo**, **A. Sáiz**, J. W. Bieber, J. Clem, R. Pyle, M. L. Duldig, and J. E. Humble, Latitude Survey Investigation of Galactic Cosmic Ray Solar Modulation during 1994-2007 (34th International Cosmic Ray Conference, The Hague, The Netherlands, July 30-Aug 6, 2015)
- 2014** **W. Nuntiyakul**, P. Evenson, **D. Ruffolo**, **A. Sáiz**, J. W. Bieber, J. Clem, R. Pyle, M. L. Duldig, and J. E. Humble, Latitude Survey Investigation of Galactic Cosmic Ray Solar Modulation during 1994-2007 (47th AGU Fall Meeting, San Francisco, December 15-19, 2014)
- 2014** **W. Nuntiyakul**, P. Evenson, **D. Ruffolo**, **A. Sáiz**, J. W. Bieber, J. Clem, R. Pyle, M. L. Duldig, and J. E. Humble, Latitude Survey Investigation of Galactic Cosmic Ray Solar Modulation during 1994-2007 (12th Asia-Pacific Regional IAU Meeting, Daejeon, August 18-22, 2014)

- 2014 P. Mangeard, D. Ruffolo, A. Sáiz, W. Nuntiyakul, J. W. Bieber, J. Clem, P. Evenson, R. Pyle, M. L. Duldig, J. E. Humble, Relationship between the Neutron Time Delay Distribution and the Rigidity Spectrum of Primary of Spectrum of Primary Cosmic Rays (12th Asia-Pacific Regional IAU Meeting, Daejeon, August 18-22, 2014)**
- 2014 P. Mangeard, D. Ruffolo, A. Saiz, W. Nuntiyakul, J. W. Bieber, J. Clem, P. Evenson, R. Pyle, M. L. Duldig, J. E. Humble, Relationship between the Neutron Time Delay Distribution and the Rigidity Spectrum of Primary of Spectrum of Primary Cosmic Rays (40th COSPAR Scientific Assembly, Moscow, August 2-10, 2014)**
- 2014 P. Mangeard, D. Ruffolo, A. Saiz, W. Nuntiyakul, J. W. Bieber, J. Clem, P. Evenson, R. Pyle, M. L. Duldig, J. E. Humble, Relationship between the Neutron Time Delay Distribution and the Rigidity Spectrum of Primary of Spectrum of Primary Cosmic Rays (AOGS 11th Annual Meeting, Sapporo, July 28 - August 1, 2014)**
- 2014 W. Nuntiyakul, D. Ruffolo, P. Evenson, Analysis of Data from a Ship-Borne Neutron Monitor (15th RGJ-Ph.D. Congress, Pattaya, May 2014)**
- 2014 W. Nuntiyakul, D. Ruffolo, P. Evenson, Analysis of Data from a Ship-Borne Neutron Monitor (9th Siam Physics Congress, Nakhon Ratchasima, March 2014)**
- 2013 W. Nuntiyakul, D. Ruffolo, P. Evenson, Analysis of Data from a Ship-Borne Neutron Monitor (1st COSPAR Symposium, Bangkok, November 2013)**
- 2011 H. Kruger, H. Moraal, D. Ruffolo, A. Saiz, T. Nutaro, N. Kamyran, W. Nuntiyakul, B. Steigies, Progress Report on the Intercalibration of the World's Neutron Monitors (32nd International Cosmic Ray Conference, Beijing, August 2011)**

Selected Activities

- 2017 Marker in International Olympiad on Astronomy and Astrophysics 2017, Phuket, Thailand November 12-21, 2017**
- 2016 2016 STEM (Science, Technology, Engineering and Mathematics) Ambassador in Thailand**

- 2015 Reviewer of Science and Technology RMUTT Journal, ISSN: 2229-1547 (publication certified by TCI (the 1st group), Rajamangala University of Technology Thanyaburi, November 4-6, 2015**
- 2015 Chairman in the session of Physics, Earth Science and Applied Physics of the International Conference on Science and Technology (TICST2015), Rajamangala University of Technology Thanyaburi, November 4-6, 2015**
- 2015 Marker in the 12th National Astronomy Olympiad, Samila Beach, April 20-25, 2015**
- 2015 Examination Creator for Police Candidates in Forensic Science, Royal Thai Police, February 12-15, 2015**
- 2015 A Judge of invention award in Inventors' Day, Chandrakasem Rajabhat University, February 2, 2015**
- 2015 Header and Trainer in Annually Stargazing Project, Chaing Rai, January 30 – February 1, 2015**
- 2014 Trainer in Secondary School Teachers, “Fundamental Physics”, Chandrakasem Rajabhat University in Chai-Nat Province, August 15-17, 2014**
- 2014 Referee in 11th National Astronomy Olympiad, Chiang Mai University, April 24-29, 2014**
- 2013 Trainer in Demonstration Session, “Neutron measurements from Space”, 2nd Thailand Experimental Particle Physics Novice Workshop, Mahidol University, March 25-29, 2013**
- 2013 Trainer in Open House 2013, “Cosmic Rays and Space Weather”, Mahidol University, August 21, 2013**
- 2012 Trainer in Open House 2012, “Cosmic Rays and Space Weather”, Mahidol University, August 15, 2012**
- 2011 Trainer in Open House 2011, “Cosmic Rays and Space Weather”, Mahidol University, August 17, 2011**
- 2010 Trainer in Open House 2010, “Cosmic Rays and Space Weather”, Mahidol University, August 18, 2012**

Reference Persons

- 1. Prof. David Ruffolo**

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