

Niyom

Hongsith



Contact

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Languages

Thai & English

Hobbies

- Gaming
- Programming
- Craft
- Gardening

Summary

I have received a B.Sc. degree in Physics, a M.Sc. degree in Applied Physics, and a Ph.D. in Physics from Chiang Mai University, Chiang Mai, Thailand. My current research interests are in the field of metal-oxide-semiconductor nanostructures including synthesis, fabrication, and applications.

Skill Highlights

- ❑ Nanoscience and Nanotechnology
- ❑ Gas sensors and Solar Cells
- ❑ Computer Programming
- ❑ Arduino and Programming
- ❑ IoT Technology

Experience

Lecturer

University of Phayao
Thailand
2011-present

- ❖ Physics 1 and Physics
- ❖ Experiment 1 and Experiment 2
- ❖ Quantum Physics and Quantum Theory: an atomic structure
- ❖ New innovation and invention
- ❖ Innovation for Physics Teaching
- ❖ Special Topic in Physics
- ❖ Project in Physics
- ❖ Seminar and Independent study

Management position

University of Phayao
Thailand
2017-2019

- ❖ Vice Dean of Research and Academic Service, School of Science of Science, University of Phayao

Education

2010

Ph.D in Physics

Chiang Mai University, Thailand

Research title: ZnO nanostructures and Nano-devices application

2006

M.Sc in Applied Physics

Chiang Mai University, Thailand

Research title: ZnO nanobelt prepared by RF Sputtering Technique

2003

Bs. Sc. in Physics

Chiang Mai University, Thailand

Research title: Deposition of ZnO Thin Films by Sputtering Technique

Research Project

2019 1 School 1 Model School of Science, University of Phayao "Value of natural resources , environment and the quality of life of the Mae Chun of organic rice farmers"

2018 Support and Development Chun Organic Rice Product to Online Marketing

Research Project

- 2017 Organic way of supporting science and post-harvest (the third consecutive year)
- 2016 Identity organic mechanism by way of supporting science and technology
- 2016 Enhancement of ethylene gas sensor and fabrication of a prototype ethylene sensor
- 2016 Fabrication and development of ethylene gas sensor for monitoring of fruit quality in Phayao province (2nd Year)
- 2014 Ethylene gas sensor based on single crystalline ZnO nanostructures
- 2014 Fabrication and Development of ethylene gas sensor for Phayao economic fruits analysis
- 2011 Fabrication and Development of 1-D ZnO nanostructure gas sensor

Publications

- 2021 **Highly selective room temperature ammonia sensors based on ZnO nanostructures decorated with graphene quantum dots (GQDs)**
Wongrat, Ekasiddh; Nuengnit, Thiranuch; Panyathip, Rangsan; Chanlek, Narong; **Hongsith, Niyom**; Choopun, Supab;
Sensors and Actuators B: Chemical, 326, 128983, Elsevier
- 2021 **Synthesis of NiO Nanostructures by Sonocatalyzed Microwave Irradiation Technique and Their Acetone Sensing Properties**
Kaowphong, Sulawan; Chachvalvutikul, Auttaphon; **Hongsith, Niyom**; Ren, James; Prasatkhetragarn, Anurak;
- 2018 **The role of stearic acid for silver nanoparticle formation on graphene and its composite with poly (lactic acid)**
Chartarrayawadee, Widsanusan; Too, Chee On; Ross, Sukunya; Ross, Gareth Michael; **Hongsith, Niyom**; Ratchawet, Anodar;
Polymer Bulletin, 75, 7, 3171-3187, Springer Berlin Heidelberg
- 2018 **Fabrication of 1-D ZnO by Thermal Oxidation Process**
Choopun, Supab; Wongrat, Ekasiddh; **Hongsith, Niyom**;
1-Dimensional Metal Oxide Nanostructures, 59-94, CRC Press
- 2016 **Synthesis and Characterization of MgO by Microwave-Assisted Thermal Oxidation for Dye-Sensitized Solar Cells**
Nilphai, Sanpet; Thepnurat, Meechai; **Hongsith, Niyom**; Ruankham, Pipat; Phadungdhitidhada, Surachet; Gardchareon, Atcharawan; Wongratanaphisan, Duangmanee; Choopun, Supab;
Key Engineering Materials, 675, 158-162, Trans Tech Publications Ltd
- 2016 **Low temperature ethanol response enhancement of ZnO nanostructures sensor decorated with gold nanoparticles exposed to UV illumination**
Wongrat, Ekasiddh; Chanlek, Narong; Chueaiarrom, Channarong; Samransuksamer, Benjarong; **Hongsith, Niyom**; Choopun, Supab;
Sensors and Actuators A: Physical, 251, 188-197, Elsevier
- 2015 **Efficiency Enhancement of ZnO Dye-Sensitized Solar Cell Using Platinum Nanoparticles Prepared by Sparking Process**
Hongsith, K; **Hongsith, N**; Wongratanaphisan, D; Gardchareon, A; Phadungdhitidhada, S; Choopun, S;
Journal of nanoscience and nanotechnology, 15, 9, 7025-7029, American Scientific Publishers
- 2015 **Realization of interlinked ZnO tetrapod networks for UV sensor and room-temperature gas sensor**
Thepnurat, Meechai; Chairuangstri, Torranin; **Hongsith, Niyom**; Ruankham, Pipat; Choopun, Supab;
ACS applied materials & interfaces, 7, 43, 24177-24184, American Chemical Society

- 2015 Efficiency enhancement of ZnO dye-sensitized solar cells by modifying photoelectrode and counterelectrode**
Hongsith, Kritsada; [Hongsith, Niyom](#); Wongratanaphisan, Duangmanee; Gardchareon, Atcharawon;
Phadungdhitidhada, Surachet; Choopun, Supab;
Energy Procedia, 79, 360-365, Elsevier
- 2013 Influence of carbon nanotubes in gel electrolyte on photovoltaic performance of ZnO dye-sensitized solar cells**
Khongchareon, Natthorn; Choopun, Supab; [Hongsith, Niyom](#); Gardchareon, Atcharawon;
Phadungdhitidhada, Surachet; Wongratanaphisan, Duangmanee;
Electrochimica Acta, 106, 195-200, Elsevier
- 2013 Sparking deposited ZnO nanoparticles as double-layered photoelectrode in ZnO dye-sensitized solar cell**
Hongsith, Kritsada; [Hongsith, Niyom](#); Wongratanaphisan, Duangmanee; Gardchareon, Atcharawon;
Phadungdhitidhada, Surachet; Singjai, Pisith; Choopun, Supab;
Thin Solid Films, 539, 260-266, Elsevier
- 2013 Energy conversion efficiency improvement of ZnO dye-sensitized solar cells by dye re-adsorption and NP junction technique**
Futemvong, Surat; [Hongsith, Niyom](#); Wongratanaphisan, Duangmanee; Gardchareon, Atcharawon;
Choopun, Supab;
CHIANG MAI JOURNAL OF SCIENCE, 40, 4, 783-788
- 2012 Control of depletion layer width via amount of AuNPs for sensor response enhancement in ZnO nanostructure sensor**
Wongrat, Ekasiddh; [Hongsith, Niyom](#); Wongratanaphisan, Duangmanee; Gardchareon, Atcharawon;
Choopun, Supab;
Sensors and Actuators B: Chemical, 171, 230-237, Elsevier
- 2012 Metal-oxide nanowires for gas sensors**
Choopun, Supab; [Hongsith, Niyom](#); Wongrat, Ekasiddh;
Nanowires-Recent Advances, InTech: London, UK
- 2012 Effect of Mg_xZn_{1-x}O thin film as barrier layer for efficiency improvement of ZnO dye-sensitized solar cells**
Pengpad, Atip; [Hongsith, Niyom](#); Wongratanaphisan, Duangmanee; Gardchareon, Atcharawon;
Choopun, Supab;
- 2011 Zinc oxide whiskers by thermal oxidation method**
Kongjai, Kiattipoom; Choopun, Supab; [Hongsith, Niyom](#); Gardchareon, Atcharawon;
Chiang Mai J. Sci, 38, 1, 39-46
- 2011 Effect of solution on growth of zinc oxide tetrapod by thermal oxidation technique**
Bhoomanee, Chawalit; [Hongsith, Niyom](#); Wongrat, Ekasiddh; Choopun, Supab; Wongratanaphisan,
Duangmanee;
Chiang Mai J. Sci, 38, 2, 187-192
- 2011 Effect of nickel oxide thin films on photoconversion efficiency in zinc oxide Dye-Sensitized Solar Cells**
Futemvong, Surat; Pengpad, Atip; [Hongsith, Niyom](#); Wongratanaphisan, Duangmanee; Gardchareon,
Atcharawon; Choopun, Supab;
Materials Science Forum, 695, 509-512, Trans Tech Publications Ltd
- 2011 Enhancement of sensor response by Au nanoparticles doping on ZnO tetrapod sensor**
Bhoomanee, Chawalit; Gardchareon, Atcharawon; [Hongsith, Niyom](#); Choopun, Supab;
Wongratanaphisan, Duangmanee;
Materials Science Forum, 695, 565-568, Trans Tech Publications Ltd
- 2010 Sensor response formula for sensor based on ZnO nanostructures**
[Hongsith, Niyom](#); Wongrat, Ekasiddh; Kerdcharoen, Teerakiat; Choopun, Supab;
Sensors and Actuators B: Chemical, 144, 1, 67-72, Elsevier

- 2010 AZO/Ag/AZO multilayer films prepared by DC magnetron sputtering for dye-sensitized solar cell application**
Sutthana, S; **Hongsith, N**; Choopun, S;
Current Applied Physics, 10, 3, 813-816, North-Holland
- 2010 ZnO nanobelts as a photoelectrode for dye-sensitized solar cell**
Hongsith, Niyom; Choopun, Supab;
Chiang Mai J. Sci, 37, 1, 48-54
- 2010 Metal-oxide nanowires by thermal oxidation reaction technique**
Choopun, Supab; Hongsith, Niyom; Wongrat, Ekasiddh;
Nanowires, 97-116, InTech Croatia
- 2009 Zinc oxide nanostructures for applications as ethanol sensors and dye-sensitized solar cells**
Choopun, Supab; Tubtimtae, Auttasit; Santhaveesuk, Theerapong; Nilphai, Sanpet; Wongrat, Ekasiddh;
Hongsith, Niyom;
Applied Surface Science, 256, 4, 998-1002, Elsevier
- 2009 Enhancement of ethanol sensing properties by impregnating platinum on surface of ZnO tetrapods**
Hongsith, Niyom; Choopun, Supab;
IEEE Sensors Journal, 10, 1, 34-38, IEEE
- 2009 Growth kinetic and characterization of tetrapod ZnO nanostructures**
Hongsith, N; Chairuangri, T; Phaechamud, T; Choopun, S;
Solid state communications, 149, 29-30, 1184-1187, Pergamon
- 2008 Ethanol sensor based on ZnO and Au-doped ZnO nanowires**
Hongsith, N; Viriyaworasakul, C; Mangkorntong, P; Mangkorntong, N; Choopun, S;
Ceramics International, 34, 4, 823-826, Elsevier
- 2008 Growth Kinetic and Characterization of RF-Sputtered ZnO: Al Nanostructures**
Choopun, Supab; **Hongsith, Niyom**; Wongrat, Ekasiddh; Kamwanna, Teerasak; Singkarat, Somsorn;
Mangkorntong, Pongsri; Mangkorntong, Nikorn; Chairuangri, Torranin;
Journal of the American Ceramic Society, 91, 1, 174-177, Blackwell Publishing Inc Malden, USA
- 2008 Effect of platinum impregnation on ZnO tetrapods for ethanol sensor**
Hongsith, Niyom; Choopun, Supab;
Advanced Materials Research, 55, 289-292, Trans Tech Publications Ltd
- 2007 Zinc oxide nanobelts by RF sputtering for ethanol sensor**
Choopun, Supab; **Hongsith, Niyom**; Mangkorntong, Pongsri; Mangkorntong, Nikorn;
Physica E: Low-dimensional Systems and Nanostructures, 39, 1, 53-56, North-Holland
- 2005 Single-crystalline ZnO nanobelts by RF sputtering**
Choopun, Supab; **Hongsith, Niyom**; Tanunchai, Sornchai; Chairuangri, Torranin; Krua-In, Chatchai;
Singkarat, Somsorn; Vilaithong, Thirapat; Mangkorntong, Pongsri; Mangkorntong, Nikorn;
Journal of Crystal growth, 282, 365-369, North-Holland
- 2005 Ethanol sensing properties of Zinc Oxide nanobelts prepared by RF sputtering**
Hongsith, Niyom; Choopun, Supab; Mangkorntong, Pongsri; Mangkorntong, Nikorn;
CMU. J, 4, 15-20