Dakrong Pissuwan, Ph.D
Dakrong.pis@mahidol.ac.th

Educations:

Ph.D. Science (Nanobiotechnology)
Institute for Nanoscale Technology, University of Technology Sydney, Australia

M.Sc. Applied Microbiology
King Mongkut's University of Technology Thonburi, Thailand

B.Sc. Microbiology
Srinakharinwirot University, Thailand

Fellowship, Awards, and Scholarships:

1. JSPS Postdoctoral Fellowship (FY2009-2010): Host - Kyushu University
2. First Prize Poster Presentation on UTS Science's Day, University of Technology Sydney, Australia (2008)
3. Institute for Nanoscale Technology Doctoral Scholarship at University of Technology Sydney, Australia (2005-2008)
4. Vice-Chancellor's Postgraduate Research Student Conference Fund (2007-2008)
5. Postgraduate Grant from Shell (Thailand) Co., Ltd (1998)
6. Research exchange student scholarship, The University of Melbourne, Australia (1998)

Research Grants Acquired in the Past:

1. Principal investigator: Dakrong Pissuwan
Source: A-STEP- Japan Science and Technology Agency (2013)
Period: 8 months
Direct Cost: 1,300,000 Yen

2. Principal investigator: Dakrong Pissuwan
Source: Grant in Aid for Young Scientist B-JSPS (2012, 2013)
Period: 2 Years
Direct Cost: 3,500,000 Yen

3. **Principal investigators:** Dakrong Pissuwan&Takuro Niidome (2009, 2010)
Source: Grant-in-Aid for JSPS Fellows supported -JSPS
Period: 2 Years
Direct Cost: 2,100,000 Yen

Peer Review journals: (h-index of 2014 = 10)

1.Pissuwan, D., Hobro, A., Pavillon, N., Smith, N. Distribution of label free cationic polymer-coated gold nanorods in live macrophage cells reveals formation of groups of intracellular SERS signals of probe nanoparticles, *RSC Advances*, 2014, Vol.4, pp.5536-5541 (I.F. = 2.56) *corresponding author*

2.Pissuwan, D., Kumagai, Y., Smith, N. Effect of surface-modified gold nanorods on the inflammatory cytokine response in macrophage cells, *Particle and Particle System Characterization*, 2013, Vol. 30, pp. 427-433 (I.F. = 0.86) *corresponding author*

3.Nose, K., Pissuwan, D., Goto, M., Katayama, Y., Niidome, T. Gold nanorods in an oil-base formulation for transdermal treatment of Type 1 diabetes in mice, *Nanoscale*, 2012, Vol.4, pp. 3776-3780 (I. F. = 6.23) *corresponding author*

4.Kurihara, R., Pissuwan, D., Mori, T., Katayama, Y., Niidome, T. Biodistribution and tumor localization of PEG-modified dendritic poly(L-lysine) oligonucleotide complexes, *Journal of Biomaterials Science-Polymer Edition*, Vol.23, pp.2369-2380 (I.F. = 2.158)

5.Pissuwan, D., Nose, K., Kurihara, R., Kaneko, K., Tahara, Y., Kamiya, N., Goto, M., Katayama, Y., Niidome, T. A solid-in-oil dispersion of gold nanorods can enhance transdermal protein delivery and skin vaccination, *Small*, 2011, Vol. 7, pp. 215-220 (I.F. = 7.33) *corresponding author*

6.Niidome, T., Shiotani, A., Akiyama, Y., Ohga, A., Nose, K., Pissuwan, D., Niidome, Y. Theragnostic approaches using gold nanorods and near infrared light, *Yakugaku Zasshi-Journal of the Pharmaceutical Society of Japan*, 2011, Vol. 130(12), pp. 1671-1677 (I. F. = 0.43)

7.Pissuwan, D., Niidome, T., Cortie, M.B. The forthcoming applications of gold nanoparticles in drug and gene delivery systems, *Journal of Controlled Release*, 2011, Vol. 149,(1), pp.65-71 (I. F. = 7.16)

8.Pissuwan,D., Cortie,C.H., Valenzuela,S.M., Cortie,M.B. Functionalised gold nanoparticles for controlling pathogenic bacteria, *Trends in Biotechnology*, 2010, Vol.28(4), pp.207-213 (I. F. = 9.64)

9.Pissuwan, D., Boyer, C., Gunasekaran, K., Davis, T. P., Bulmus, V. *In vitro* cytotoxicity of RAFT polymers, *Biomacromolecules*, 2010, Vol.11(2), pp.412-420 (I. F. = 5.33)

10.Boyer, C., Priyanto, P., Davis, T. P., Pissuwan, D. , Bulmus, V. , Kavallaris, M. , Teoh, W. Y., Amal, R. , Carroll, M. , Woodward, R. , St Pierre, T. Anti-fouling magnetic nanoparticles for siRNA delivery, *Journal of Materials Chemistry*, 2010, Vol.20, pp.255-265 (I. F. = 5.10)

11.Pissuwan, D., Valenzuela,S.M., Miller. C.M., Killingworth, M.C., and Cortie, M.B. Destruction and control of *Toxoplasma gondii* tachyzoites using gold nanoparticle/antibody conjugates, *Small*, 2009, Vol.5(9), pp.1030-1034 (I. F. = 7.33)

12.Pissuwan, D., Valenzuela,S.M., and Cortie,M.B. Prospects for gold nanorod particles in diagnostic and therapeutic applications, *Biotechnology & Genetic Engineering Reviews*(BGER), 2008, Vol.25, pp.93-112 (I. F. = 0.89)

13.Pissuwan,D., Cortie, C.H, Valenzuela,S, Cortie,M.B. Gold nanosphere-antibody conjugates for therapeutic applications, *Gold Bulletin*, 2007, Vol.40(2), pp.121-129 (I. F. = 2.72)

14.Pissuwan, D., Valenzuela, S.M., Miller, C.M., and Cortie, M.B. Golden bullet? Selective targeting of *Toxoplasma gondii* tachyzoites using antibody-functionalized gold nanorods, *Nano Letters*, 2007, Vol.7(12), pp.3808 – 3812 (I. F. = 12.19)

15.Pissuwan, D., Valenzuela, S.M., Killingsworth M.C., Xu X.,and Cortie, M.B. Targeted destruction of murine macrophage cells with bioconjugated gold nanorods, *Journal of Nanoparticle Research*, 2007, Vol.6, pp.1109-1124 (I. F. = 3.25)

16.Pissuwan, D., Valenzuela, S.M., Cortie, M.B. Therapeutic possibilities of plasmonically heated gold nanoparticles, *Trends in Biotechnology*, 2006, Vol.4(2), pp.62-67 (I. F. = 9.64)

Journal and Magazine Reports:

1. Pissuwan, D. and Stokes, N. Putting gold nanorods to work. *Gold Bulletin*, Vol. 41(1), 2008, p.NTGN4

2. Pissuwan, D. Valenzuela, S. M., Cortie, M. B. Gold nanoparticles for photothermal therapeutics, *Material Australia*, Vol.39(4), 2006, p.20

Book Chapter:

1.Pissuwan D. and Niidome T. Gold nanoparticles for the development of transdermal delivery systems. *Functional Nanoparticles for Bioanalysis, Nanomedicine, and Bioelectronic Devices (ACS publication)*, Vol. 2, Chapter 5, 2013, pp.69-80

Patent:

A Japanese patent (patent application number JP2012001461-A) is under consideration. The current stage is on published patent application

Interviewed by a Journalist:

1. Drug delivery: from needles to nanorods? , Royal Society of Chemistry (RSC) Chemistry World http://www.rsc.org/chemistryworld/News/2010/December/17121001.asp

Invited Speaker (International Conference):

1. Intersection of light and gold nanoparticles for biomedical applications, December 16, Photonics global conference, December 13-16, 2012, Singapore

Selected Invited Seminars/Classes

1.Invited Lecturer: Biological applications of gold nanoparticles, March 5, 2011, Saga Prefectural Chienkan Senior High School, Saga, Japan

2.Invited Lecturer: Tiny gold in biological/biomedical applications, September 14, 2010, Kumamoto Prefectural Daini High School, Kumamoto, Japan

3.Invited Lecturer: Selective targeting of *Toxoplasma gondii* tachyzoites using antibody-functionalised gold nanorods, November 4, 2008, Bionanotechnology guest lecturer for undergraduate student, Faculty of Science, University of Technology Sydney, Australia

4.Invited Lecturer: Selective targeting of *Toxoplasma gondii* tachyzoites using antibodyfunctionalised gold nanorods, March 17, 2008, Bionanotechnology undergraduate student class, Faculty of Science, University of Technology Sydney, Australia

5.Invited Seminar: Selective targeting of *Toxoplasma gondii* tachyzoites using antibodyfunctionalised gold nanorods, April 3, 2008, Nanomechanics Group, School of Mathematics and Applied Statistics, University of Wollongong, Australia

Scientific conferences: Oral presentation:

1.Pissuwan, D., Hobro, A., Pavillon, N., Smith, N. The uptake and intracellular signal monitoring in macrophage cells of different surface modified gold nanorods using surface enhanced Raman scattering spectroscopy, 7th International Conference on Advanced Vibrational Spectroscopy (ICAVS), August 25-30, 2013, Kobe, Japan

2.Pissuwan, D., Smith, N., Gold nanorods: Tool to detect early stage inflammation and their surface effects on inflammatory response in macrophage cells, The 4th International Nanomedicine Conference, July 1-3, 2013, Sydney, Australia

3.Pissuwan, D., Nose, K., Kurihara, K., Kaneko, K., Tahara, Y., Kamiya, N., Goto, M., Katayama, Y., Nidome, T., Enhancement of protein delivery and immune response through the skin using a solid-in-oil dispersion of gold nanorods, Material Research Society Fall Meeting, November 29-December 3, 2010, Boston, USA

4.Pissuwan, D., Valenzuela, S.M, Cortie, M.B., Selective targeting *of Toxoplasma gondii* tachyzoites using antibody-functionalised gold nanorods, The 9th Annual Cross Disciplinary Postgraduate Student Conference, August 17, 2007, University of Technology Sydney, Australia

5.Pissuwan, D.,Valenzuela, S.M, Cortie, M.B., Gold antibody conjugates for therapeutic applications, ECR/Postgraduate Student Symposium on Nanotechnology, December 8-9, 2005, Braibane, Australia

Public services:

as a PhD thesis examiner:

Being an examiner for a Ph.D. thesis of a student at Wollongong University, Australia (2014)

as a manuscript reviewer:

Reviewed manuscripts for ISI journals *ACS Medicinal Chemistry Letters, Small, Future Nanomedicine, Advanced Functional Materials, International Journal of Nanomedicine, Journal of Biomedical Nanotechnology, Langmuir, Micro&Nano Letters* (2010-present)

Past Work Experience in Academic:

Specially Appointed Researcher

World Premier International Research Center (IFReC), Osaka University, Japan (2011-2014)

JSPS Postdoctoral Fellowship

Department of Applied Chemistry, Faculty of Engineering, Kyushu University, Japan (2009-2011)

Research Associate

School of Biotechnology and Biomolecular Sciences University of New South Wales, Australia (2008-2009)

Mentoring Experience:

Applied Physics Program, Faculty of Engineering, Osaka University, Japan

Supervised and mentored Mr. Ryuji Shimomura (Master's student)

Applied Chemistry Program, Faculty of Engineering, Kyushu University, Japan

Supervised and mentored Mr. Ryohsuke Kurihara (Doctoral student)

Supervised and mentored Mr. Keisuke Nose (Master's student)

School of Biotechnology and Biomolecular Sciences, University of New South Wales, Sydney Australia
Supervised and mentored Mr. Karthikeyan Gunasekaran (Master's student)

Nanotechnology Program, University of Technology Sydney, Australia

Supervised and mentored Ms. Kiran Dahal (Undergraduate student)

Past Teaching Experience:

Faculty of Science, University of Technology Sydney, Australia (2008)
Demonstrator for undergraduate courses (laboratory sessions): Human anatomy and physiology, Fundamentals of pathophysiology, and Cell biology and genetics

Faculty of Science, University of Technology Sydney, Australia (2007)
Tutor/demonstrator for undergraduate course (tutoring and laboratory sessions): Microbiology and pharmacology