

Somrit Unai

Ph.D.



Contact

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Languages

Thai
English

Academic position

Lecturer in Physics

Experiences

Teaching experience

- Member of instructor for 244101 PhysicsI and 244102 PhysicsII (class size ~ 600 students) 2015 - present
 - Create lecture note, Homeworks, LAB manual and construction fundamental instrument for laboratory apparatus.
- Instructor for 244251 Modern physics (Class size ~ 30 students) 2015 - present
- Instructor for 244331 Optics (Class size ~ 30 students) 2015 - present

Educations

- 2009-2013
Ph.D. (Physics), Chiang Mai University, Thailand
- 2005-2008
M.Sc. (Physics), Mahidol University, Thailand
- 2000-2003
B.Sc. (Physics), Thammasat University, Thailand

Specializations

- Microfluidics, MeV Ion Beam, Image processing
- Data acquisition and data analysis
- Software skills: MATLAB, Python3.x

Publications

List of international publications

1. Elemental mapping of plant leaves by MeV glass capillary microbeam PIXE. S Wongke, LD Yu, S Natyanun, **S Unai**, S Sarapirom, N Pussadee, U Tippawan. Surf. Coat. Technol. 399, 126126 (2020).
2. A period-based measurement for grounding capacitance meter with arduino using a relaxation oscillator. T Gasosoth, T Lianghiranthaworn, **S Unai**. Journal of Physics: Conference Series 1380 (1), 012074 (2019).
3. S Natyanun, **S Unai**, L D Yu, U Tippawan and N Pussadee., Preliminary application of tapered glass capillary microbeam in MeV-PIXE mapping of longan leaf for elemental concentration distribution analysis. Journal of Physics: Conference Series, J. Phys.: Conf. Ser. 901, 012132.
4. S. Singkarat, N. Puttaraksa, **S. Unai**, L.D. Yu, K. Singkarat, N. Pussadee, H.J. Whitlow, S. Natyanum, U. Tippawan. Development of economic MeV-ion microbeam technology at Chiang Mai University, Nucl. Instr. Meth. B (2017), <http://dx.doi.org/10.1016/j.nimb.2017.01.048>.
5. U Tippawan, T Kamwanna, L Yu, S Intarasiri, N Puttaraksa, **S Unai**, Somsorn Singkarat. One versatile MeV-ion beamline for multiple applications. Electrotech. Electron. 5, 334-343 (2016).
6. **S. Unai**, N. Puttaraksa, N. Pussadee, K. Singkarat, M.W. Rhodes, H.J. Whitlow, S. Singkarat. Fast and Blister-Free Irradiation Conditions for Cross-Linking of PMMA Induced by 2 MeV Protons. Microelectron. Eng., 102, pp. 18–21 (2013).
7. **S Unai**, MW Rhodes, C Sriprom, K Singkarat, N Pussadee, S Singkarat. A tapered glass microcapillary processing system for focusing a MeV H⁺ ion beam. Chiang Mai Journal of Science 40 (4), 789-797 (2013).
8. **S. Unai**, N. Puttaraksa, N. Pussadee, K. Singkarat, M.W. Rhodes, H.J. Whitlow, S. Singkarat. Influence of MeV H⁺ Ion Beam Fluxes on Crosslinking and Blister Formation in PMMA Resist. Maejo Int. J. Sci. Technol., 6, pp. 70-76 (2012).
9. N. Puttaraksa, **S. Unai**, M. W. Rhodes, K. Singkarat, H. J. Whitlow, S. Singkarat. Fabrication of a negative PMMA master mold for soft-lithography by MeV ion beam lithography. Nucl. Instrum. Methods Phys. Res. B 272, pp. 149-152 (2012).
10. **Somrit Unai**, Paisan Kanthang, Udorn Junthon, Waipot Ngamsaad, Wannapong Triampo, Charin Modchang, Chartchai Krittanai. Quantitative analysis of time-series fluorescence microscopy using a spot tracking method: application to Min protein dynamics. Biologia, 64 (1), pp. 27-42 (2009).
11. U. Junthorn, **S. Unai**, P. Kanthang, W. Ngamsaad, C. Modchang, W. Triampo, C. Krittanai, D. Triampo and Y. Lenbury. Single-Particle Tracking Method for Quantitative Tracking and Biophysical Studies of the MinE Protein. Journal of the Korean Physical Society, 52 (3), pp. 639-648 (2008).

List of national publications

1. **S. Unai**, S. Gorelick, M. W. Rhodes, N. Pussadee, K. Singkarat, U. Tippawan and S. Singkarat. TRANSPORT MECHANISMS OF 2-MeV H⁺ ION BEAM IN A MICRO-TIP TAPERED GLASS TUBE. Submitted to Thai Journal of Physics (2013).
2. **Somrit Unai**, Michael W. Rhodes, Chanvit Sriprom, Kanda Singkarat, Nirut Pussadee and Somsorn Singkarat. A Tapered Glass Microcapillary Processing System for Focusing a MeV H⁺ Ion Beam. Chiang Mai J. Sci. 2013; 40(4) : 789-797
3. **S. Unai**, P. Khantang, U. Junthorn, W. Ngamsaad, N. Nattavut, W. Triampo¹, C. Krittanai. Biophysical study of MinD protein oscillation in E. coli. Thai journal of physics Series 3 (2008).

Research work presented in Conferences, Seminars, Proceedings

1. Sakda Koenrobket, Supaphon Chaudda and **Somrit Unai**. Fabrication of Microfluidic Chip Using Laser Cutting Machine. การประชุมวิชาการระดับชาติ พะเยาวิจัย 9 (Proceedings), ISBN (e-book): 978-616-7820-87-3, SCI-O48, pp. 1994-2000, 2020.
2. Semi-automation systems employing robotic and image processing for the determination of nitrite. Narong Kotchabhakdi, **Somrit Unai** and Kate Grudpan. Asianalysis XIII, held in Chiang Mai, Thailand, December 8-11, 2016.
3. **S. Unai**, S. Gorelick, M. W. Rhodes, N. Pussadee, K. Singkarat, U. Tippawan and S. Singkarat. GUIDING MECHANISMS OF 2-MeV H⁺ ION BEAM IN A TAPERED GLASS CAPILLARY WITH APPLICATION ON PROTON BEAM LITHOGRAPHY. Siam Physics Congress, 8th Annual Conference of the Thai Physics Society (2013), Chiang Mai, Thailand, 21-23 March 2013. (Best oral presentation award).
4. **S. Unai**, M. W. Rhodes, K. Singkarat and S. Singkarat. Microcapillary Processing System for the Confinement of MeV H⁺ Ion Beam by Tapered Glass Capillary. Siam Physics Congress, 7th Annual Conference of the Thai Physics Society (2012). (Oral presentation)
5. S. Arthitiya, M. Jitvisate, T. Luangpaired, R. Pinchaipat, **S. Unai**, W. Jeamsaksiri, K. Singkarat, S. Singkarat and N. Pussadee. Spiral-Shaped PDMS microfluidic device for particle separation. Siam Physics Congress, 7th Annual Conference of the Thai Physics Society (2012). (Oral presentation)
6. **Somrit Unai**, Nitipon Puttaraksa, Nirut Pussadee, Kanda Singkarat, Michael W. Rhodes, Harry J. Whitlow, Somsorn Singkarat. Fast and Blister-Free Irradiation Conditions for Cross-Linking of PMMA Induced by 2 MeV Protons. International Conference in Materials and Technology 2011 (ICMAT2011), 26 Jun-1 July 2011, Singapore, (poster presentation)
7. **S. Unai**, N. Puttaraksa, N. Pussadee, K. Singkarat, M.W. Rhodes, H.J. Whitlow, S. Singkarat. Influence of MeV H⁺ Ion Beam Flux on Crosslinking and Blister Formation in PMMA resist. Siam Physics Congress, 6th Annual Conference of the Thai Physics Society (2011). (Oral presentation)