



Central Connecticut State University

Docket No. 03012001
Control No. ~~134371~~ 575730
License No. 06-16975-01 *msf*

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July 28, 2011

Team Leader
Licensing Assistance Team
Division of Nuclear Materials Safety
United State Nuclear Regulatory Commission
Region 1
475 Allendale Road
King of Prussia, Pennsylvania 19406-1415

2011 AUG - 1 PM 1:01
RECEIVED
REGION 1

SUBJECT: Central Connecticut State University, Authorization of New Radiation Safety Officer

Dear Team Leader:

I am retiring as of August 1, 2011, as Radiation Safety Officer at Central Connecticut State University, Physics and Earth Sciences Department. Dr. Luisito Tongson has been working with me with these materials and is capable of handling the responsibility of the Radiation Safety Officer. I am enclosing his CV.

I hope that you will approve this transfer of responsibility to Dr. Tongson. In the meantime, until I hear from you, I will still be teaching in the summer and part-time in the fall, and I will continue my responsibilities until the transfer.

Thank you very much.

Yours truly,

Ali A. Antar, Ph.D.
Radiation Safety Officer
Physics and Earth Sciences
860 832-2932
860 832-2930

Cc: Susan Pease, Dean, School of Arts and Sciences

575730
NMSS/RGN1 MATERIALS-002

RESUME OF LUISITO L. TONGSON

EDUCATION

Degree	Institution	Year	Major
B. S.	University of the Philippines	██████	Mech. Eng'g
M. A.	Columbia University	██████	Physics
M. S.	University of Delaware	██████	Physics
Ph. D.	University of Delaware	██████	Physics

Ph. D. dissertation: "Mass Spectrometric Studies on Inert Gas Ion Scattering and Secondary Ion Emission from Copper".

M. S. Thesis: "Sputtering Yield Measurements with Silver Single Crystals"

EMPLOYMENT

1996 - present	Professor of Physics, Central Connecticut State University
1990	Associate Professor of Physics, Central Connecticut State Univ
1983-90	Associate Professor of Physics, Worthington Scranton Campus, Penn State University
1982-83	Senior Research Associate, Materials Research Laboratory, Penn State University
1974-82	Research Associate, Materials Research Laboratory, Penn State University
1971-74	Research Assistant, Dept. Of Physics, University of Delaware
1968-71	Teaching Assistant, Dept. Of Physics, University of Delaware
1963-67	Instructor/Assistant Professor of Physics, University of the Philippines
1958-61	

TEACHING EXPERIENCE**A. At Central Connecticut State University**

-Teaching load consists of:

- (a) Physics 121 GENERAL PHYSICS I (Lecture & Lab)
- (b) Physics 122 GENERAL PHYSICS II (Lecture & Lab)
- © Physics 125 UNIVERSITY PHYSICS I (Lecture & Lab)
- (d) Physics 126 UNIVERSITY PHYSICS II (Lecture & Lab)
- (e) Physics 250 INTERMEDIATE LAB I
- (f) Physics 350 INTERMEDIATE LAB II
- (g) Physics 450 ADVANCED LABORATORY- Faculty in charge of
the 400 kV Van de Graaff Linear Accelerator
- (h) Physics 452 INDEPENDENT STUDY IN PHYSICS
- (i) Physics 460 SEMINAR IN PHYSICS
- (j) Physics 490 TOPICS IN PHYSICS
- (k) Physics 519 TOPICS IN PHYSICS

B. At Penn State University, Worthington Scranton Campus

-Teaching load consisted of:

- (a) Physics 100 THE SCIENCE OF PHYSICS
- (b) Physics 150 & 151 TECHNICAL PHYSICS
- © Physics 201 GENERAL PHYSICS * Mechanics
- (d) Physics 202 GENERAL PHYSICS * Electricity & Magnetism
- (e) Physics 203 GENERAL PHYSICS * Wave motion & Thermodynamics

-While teaching at the Worthington Scranton campus of Penn State, Dr. Tongson initiated the idea of measuring the axial field of a solenoid using the Hall effect. Manuscript describing the apparatus is Item 28 in the list of publications.

RESEARCH EXPERIENCE

-Extensive background in instrumentation, high vacuum and ultra-high vacuum systems.

-Modified a quartz crystal microbalance detector for use in an arc-discharge sputtering apparatus for studying ionic bombardment of solid surfaces. Investigated sputtering yields and sputtering thresholds for silver single crystal surfaces using the quartz crystal microbalance. Results of this study were reported in Radiation Effects (Publications item 1).

-Designed, supervised construction, tested and put in operating condition an ultra-high vacuum mass spectrometer for studying the scattering of inert gas ions from solid surfaces and the ejection of secondary positive, negative, atomic and molecular ions from the bombarded surface. Chiefly responsible for the design of the following components:

- (a) An inert gas ion gun, electron bombardment type, with beam energies from 20 eV to 2 keV.
- (b) Target sample holder and secondary ion draw-out lens system, to focus ions at the entrance slit of the magnetic sector analyzer.
- (c) Channeltron detector mount and associated detector electronics. Detection scheme was either analog mode or pulse-counting mode.
- (d) Constant current source for a Hall effect probe, using integrated circuits.

This instrument was described in detail in J. Of Physics (E) (Publication item 4), while the studies were reported in Surface Science (Publications item 2).

-Post Doctoral work was conducted at the Materials Research Laboratory of The Pennsylvania State University. Initially, Dr. Tongson was in charge of the Ion Scattering-Auger Electron Spectrometer. During the last two years of his work at the Research Lab, he was also in charge of their Secondary Ion Mass Spectrometer. He collaborated with other faculty and staff in research projects utilizing these three techniques. Students were trained by him in using these instruments effectively.

-In view of such cooperative effort, Dr. Tongson has diverse experience in materials research, not only in preparation but in characterization as well.

-Research interests include the physics of low energy (<1000 eV) ion and electron beam interactions with surfaces of solids; neutralization of low energy inert gas ions on surfaces of solids as a viable method of determining structure and electronic properties of surfaces atoms; ion bombardment for corrosion protection; modification of surfaces due to ion and electron beam irradiations.

GRANTS AND CONTRACTS

- 1992 Apollos Kinsley Grant, Yankee Ingenuity Initiative, State of Connecticut. Joint proposal with Dale Doering of Wesleyan University. "In-vacuum Passivation of Gallium Arsenide", \$100,000.
- 1998 Summer Curriculum Development Grant, CSU. "Computer Interfacing of Physics Laboratory Experiments", P. LeMaire and L. Tongson, \$2096.
- 2001 Summer Curriculum Development Grant, CSU. "Computer Aided Introductory Lab Experiments", P. LeMaire and L. Tongson, \$2,333.
- 2008 Summer Curriculum Development Grant, CSU. "Development of computer controls to interface an Ion Scattering Spectrometer of the Physics Department for use in precision data acquisition, data analysis and automated instrument control." L. Tongson. \$1,800.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

American Vacuum Society
Materials Research Society

PUBLICATIONS

A total of 30 publications since 1975; publications 26-30 appear below. Publication # 28 is an instructional paper.

26. Murphy O.J., T.E. Pou, J. O'M Bockris and L. L. Tongson. Investigation of the Anodically Formed Passive Film on Iron by Secondary Ion Mass Spectroscopy.
27. S. Bhat, S. Ashok, S. J. Fonash and L. Tongson. Reactive Ion Beam Deposition of Aluminum Nitride Thin Films. J. Electronic Materials 14, 405 (1985).
28. Golden, L.B., J.R. Klein, and L. Tongson. An Introductory Low Cost Magnetic Field Experiment. American J. of Physics 56, 846 (1988).
29. Tongson, L.L. A Simplified Model of Electron Transfer in Low Energy ($E(p) < 2$ keV) Probe Ion-Target Atom Collisions. Surface Science 202, L550 (1988).
30. K. H. Siek. D. L. Doering, R. N. Sacks, and L. L. Tongson. Absorption Coefficient Measurements of (Al,Ga)As/GaAs Heterojunction Structures Using Transient Photoluminescence Spectroscopy. in Growth, Processing and Characterization of Semiconductor Heterostructures (G. Gumbs, S. Luryi, B. Weiss and G. W. Wicks Eds) Proc. Mat. Res. Soc. Vol. 326, 549-554 (1994).

This is to acknowledge the receipt of your letter/application dated

7/28/2011, and to inform you that the initial processing which includes an administrative review has been performed.

Amend. 06-16975-01 There were no administrative omissions. Your application was assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

Please provide to this office within 30 days of your receipt of this card

A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

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