

Curriculum Vitae

Dr. Mohamed S Kariapper

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Education:

Ph.D. in Physics, The University of Warwick, UK, 2001

Concentration: Surface Physics

Thesis: *X-ray Standing Wave Studies of Surface Adsorption Structure*

Advisor: Professor D. P. Woodruff

M.S. in Physics, King Fahd University of Petroleum and Minerals, June 1989

Concentration: Solid State Physics

Thesis: *Magnetization and ESR studies of $(Ce_{1-c}Gd_c)Rh_2$*

Advisor: Professor Ahmet Tari

B.Sc (Hons). in Physics, University of Colombo, Sri Lanka, December 1984

Professional Experience

Teaching

Assistant Professor: Sep 2013 - present

College of Science
Alfaisal Univeristy
Saudi Arabia

Lecturer: 1989-2013

Department of Physics, KFUPM, Dhahran
-Teaching Phys101 and Phys102 lectures, recitations and labs

Research Assistant: 1986-1989

Department of Physics, KFUPM, Dhahran
Laboratory, Phys101 and Phys102

Assistant Lecturer: Sep 1985-Aug 1986

Department of Physics, University of Ruhuna, Sri Lanka
Problem solving sessions (tutorials) for 1st year undergraduate students; involved heavily in the research activities as well.

Demonstrator: Sep 1984-Aug 1985

Department of Physics, University of Colombo, Sri Lanka

Research:

Member of Research Project titled "Effects of Pulsed Nd:YAG Laser fluence on the Structural properties and Valence States of Transition Metal Ions in Phosphate Glasses", under grant awarded by KFUPM 2012-2012

Skilled in

- Basic Surface Science Techniques: XPS, LEED, Auger
- Synchrotron based Surface Science Techniques:
 - Normal Incidence X-ray Standing Wavefield absorption (NIXSW)
 - Near Edge Absorption Fine Structure (NEXAFS)
- Magnetization measurements: Vibrating Field magnetometer
- Electron Spin Resonance Spectrometer (ESR)
- Proficient in several scientific software packages:
 - IGOR Pro (An integrated program for visualizing, analyzing, transforming and presenting data, with the powerful feature of automation and data processing via a built-in programming environment)
 - Mathematica
 - FORTTRAN

Professional Activities and Affiliation

Developed online course material for phys101 as the Principal Investigator. The course is now being successfully implemented as a complementary material. The salient feature of this online course is the simulations designed by me using customizable java applets called physlets®. This is one of the first four online courses developed by KFUPM under the initiative by the deanship of academic development in 2001.

Team member of the phys102 online course development team.

Awarded a certificate for successfully completing an online course conducted by University of Illinois, USA on e-learning.

Lab Coordinator for both phys101 and phys102 undergraduate labs since 2006. I am responsible for scheduling and overseeing the smooth functioning of these labs. I have developed and revised several experiments and rewritten the lab manuals.

Team member of development team of "Computer Aided Laboratory for phys101" (2010-2011). We have now completely modernized the traditional lab format into computer based experiments using sensors.

Assistant Coordinator for phys101- responsible for maintaining the grade-book of this coordinated course with large enrolment of students (reaching 1000). I have automated the processing of the grades using my knowledge of Microsoft Access Database Program. In addition to this I am responsible for maintaining the website of phys101 and help preparing the major exams and final with the exam committee.

Member of Saudi Physical Society

Member of American Institute of Physics

PUBLICATIONS:

1. M. Faiz, A. Mekki, M. S. Kariapper, B. S. Mun, Z. Hussain, X-ray absorption near edge structure investigation of iron-sodium silicate glasses, *J NON-CRYST SOLIDS*, 357 (2011), 3803-3806
2. M.S. Kariapper, C.J. Fisher, D.P. Woodruff, A.S.Y. Chan and Robert G. Jones, *Structure determination of PF3 adsorption on Cu(1 0 0) using X-ray standing waves*, **Surface Science** 602 (2008) 650-659
3. Jalil, PA; Kariapper, MS; Faiz, M; Tabet, N; Hamdan, NM; Diaz, J; Hussain, Z, *Surface and bulk investigation of ZSM5 and Al-MCM-41 using synchrotron XPS, XANES, and hexane cracking*, **APPLIED CATALYSIS A-GENERAL**, 290 (2005) pp. 159-165.
4. Jackson, GJ; Cowie, BCC; Woodruff, DP; Jones, RG; Kariapper, MS; Fisher, C; Chan, ASY; Butterfield, M, *Atomic quadrupolar photoemission asymmetry parameters from a solid state measurement*, **PHYSICAL REVIEW LETTERS**, 84 (2000) pp. 2346-2349.
5. M. S. Kariapper, G. F. Grom, G. J. Jackson, C. F. McConville and D. P. Woodruff, *Characterisation of Thiolate Species Formation on Cu(111) using Soft X-ray Photoelectron Spectroscopy*, **Journal of Physics :**

Condensed Matter, 10 (1998) pp. 4393-4397.

6. M. S. Kariapper and A. Tari, *Effect of local environment on the magnetic state of cerium in $(Ce_{1-c}Gd_c)Rh_2$* , **Physical Review B-Condensed Matter**, 42 (1990) pp. 4393-4397.
7. K. Tennakone, C. A. N Fernando, M. Dewasurendra, and M. S. Kariapper, *Dye sensitized cuprous iodide photocathode*, **Japanese Journal of Applied Physics**, 26 (1987) pp. 561-563.
8. K. Tennakone, C. A. N Fernando, M. Dewasurendra, M. S. Kariapper, and A. H. Jayatissa, *A technique for reducing the rate of concentration quenching in a dye sensitized photoelectrode*, **Journal of Photochemistry**, 37 (1987) pp. 257-262.
9. K. Tennakone, C. A. N Fernando, M. Dewasurendra, and M. S. Kariapper, *The characteristics of a para-Cu/CNS photocathode sensitized with acridine-orangy*, **Solar Energy Materials**, 14 (1986) pp. 499-506
10. K. Tennakone, C. A. N Fernando, M. S. Kariapper and M. Dewasurendra, *Stabilization of a dye sensitized photocathode by deposition of platinum*, **Japanese Journal of Applied Physics**, 25 (1986) pp. 1602-1603.
11. K. Tennakone, C. A. N Fernando, M. Dewasurendra and M. S. Kariapper, *A stable dye sensitized photoelectrochemical cell*, **Journal of Physics D-Applied Physics**, 19 (1986) pp. L191-L194.
12. K. Tennakone, C. A. N Fernando, M. S. Kariapper and M. Dewasurendra, *Stabilization of photoelectrochemical cells based on p-type semiconductors by platinum deposition*, **Journal of Physics D-Applied Physics**, 19 (1986) pp. L125- 127.
- 13.

Presentations:

1. "Structure of PF3 adsorbed on Cu(100)" GCC Universities Surface Physics Workshop, Muscat, Oman, 21 March 2002
 2. General Trends of Faculty Evaluation, Discussion Forum On Faculty Evaluation By Students, KFUPM, Dhahran 2005
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