

Report of the Brazilian Vacuum Society
about the IUVSTA Technical Short Course on
Thin Films: Growth Methods, Characterization, and Applications

The technical short course, which had sixteen hours, occurred at the Guaratingueta campus of the Sao Paulo State University - UNESP, Brazil, in September 17, 18, 2009, right after the XXX Brazilian Congress on Applications of Vacuum in Industry and Science (<http://www.feg.unesp.br/~ocs/index.php/cbravic/cbravic2009>), which was organized by the Brazilian Vacuum Society (BVS) in a nearby touristic city, in September 13-16. 2009. The registration fees charged for the short course were: R\$ 50.00 for students, R\$ 100.00 for teachers, professors, and/or researchers, and R\$ 150.00 for other professionals (approximate exchange rate: 1 Euro = R\$ 2.60).

Five teachers were involved in this course: Pedro A. P. Nascente, Federal University of Sao Carlos, Department of Materials Engineering, Sao Carlos, SP, Brazil; Past-President of the BVS; Angelo L. Gobbi, Brazilian Synchrotron Light Laboratory, Microfabrication Laboratory, Campinas, SP, Brazil; Secretary of the BVS; Alvaro J. Damiao, Institute for Advanced Studies, General Command for Aerospace Technology, Sao Jose dos Campos, SP, Brazil, Cultural Director of the BVS; Joao R. Moro, State University of Campinas, Advanced Center for Technological Education, Limeira, SP, Brazil, President of the BVS; and Deborah C. R. dos Santos, Sao Paulo State University, Faculty of Engineering, Department of Physics and Chemistry, Guaratingueta, SP, Brazil. The lectures were given in Portuguese.

The topics were:

- Physical Deposition
 - Thermal
 - Sputtering
 - Ion Assisted
 - Laser Ablation
- Chemical Vapor Deposition
- Characterization and Analysis
 - X-ray Diffractometry and Reflectometry
 - Scanning Electron Microscopy
 - X-ray Photoelectron Spectroscopy
 - Atomic Force Microscopy
 - Ellipsometry, Guided Modes and other optical methods
- Applications
 - Electronic devices
 - Magnetic devices
 - Optical devices
 - Protective coatings
 - Catalysts

The attendees were technicians, engineers, physicists, and chemists. Among the 24 students, three work at Opto (<http://www.opto.com.br/>), a manufacturer of optical devices located in Sao Carlos, SP, Brazil, one works at Ello Correntes, a mechanical manufacturer located in Sertaozinho, SP, Brazil, one is a professor at the Federal University of Espirito Santo, located

in Vitoria, ES, Brazil, and the other 19 are graduate students of four universities: 10 from the Federal University of Rio Grande do Norte, located in Natal, RN, Brazil, 4 from the Technological Center of Minas Gerais, located in Belo Horizonte, MG, Brazil, 3 from the State University of Santa Catarina, located in Joinville, SC, Brazil, and 2 from the Sao Paulo State University, located in Guaratingueta, SP, Brazil. The fees were waived for all graduate students and the professor, using the IUVSTA grant. The grant also covered for the teachers' expenses.

I consider that the short course on Thin Films was highly successful.

Pedro A. P. Nascente
IUVSTA Councillor representing the Brazilian Vacuum Society

Photos taken during the Short Course:



Photo 1: Alvaro Damiao teaching laser ablation.



Photo 2: The audience.



Photo 3: Instructors and students.