CURRICULUM VITAE
Alberto Tagliaferro

[redacted]

1982 Graduation cum laude in Nuclear Engineering
1987 PhD in Physics
1989-1992 Researcher at Politecnico Torino
1992-present Associate Professor (Solid State Physics) at Politecnico Torino

Chair of IUVSTA Thin Film Division (2010-2016) (www.iuvsta.org)

Adjunct Professor at University of Ontario Institute of Technology – Canada

Member of the Editorial Board of Diamond and Related Materials – an Elsevier Journal

Member of the Editorial Board of BioNanoScience – a Springer Journal

Co-Editor of 'Carbon for Sensing Devices' book - Springer

Delegate of the rector for developing collaboration with NCIC (National Conference Italian Canadians)

Former member of ISO Technical Committee 229. Expert in WG2/PG5: 'Measurement methods for the characterization of multi wall carbon nanotube (MWCNT)'

Head of the research team "Carbon group" of Politecnico. (www.polito.it/carbongroup/)

Member (2002-2005) of the Steering Committee of the CBE (Carbon Based Electronics) project, a consortium of 13 British universities financed by the British Engineering and Physical Sciences Research Council (EPSRC).

Project evaluator for:
- several foreign research councils (Singapore, United Kingdom, Canada, Russia, Israel, …).
- Italian Ministry of Productive Activity, Italian Ministry of Education and research, …

Monitor of industrial projects for the Italian Ministry of Productive Activities.

Referee for several international journals:
- Physical Review B and Letters, Applied Physics Letters, Journal of Applied Physics, Thin Solid Films, …

Member of several International Conference Committees such as Diamond Conference Series, IEEE Nanoelectronics 2008 (Shangai), ICONAME 2008 (Pondicherry), Diamond SBD Series (Hasselt, Belgium), IVC 2010 (Beijing), ...

Large number of invited talks at International Conferences and Schools worldwide.

Invitations by the Chinese Academy of Sciences (Changchun Key Laboratory) and by the Bhaba Atomic Research Center (Mumbai - India).

Invited professor (june 2010) at the University of Picardie Jules Verne (France)

He has published more than 140 papers on international journals.

List of publications can be found at
http://www.swas.polito.it/rubrica/scheda_pers.asp?vis_PUB=S&vis_cv=&vis_prog=&matricola=001817

List of recent projects (currently funded for about 3 M€) include coordination of one EU project (PhocsCleen) on photocatalytic materials and participation as local coordinator to other EU projects: Fibralspec, focused on Carbon Fibers, and Bisnano, focused on developing applications for Bi based materials
www.swas.polito.it/rubrica/scheda_pers.asp?vis_PROG=S&vis_pub=N&vis_cv=&matricola=001817

Two patents on:
- innovative procedure to optimize output of colour sensors
- growth of carbon nanotubes from waste material

He has performed research work in the fields of solar cells devices and hydrogenated amorphous silicon (1982-1990) and in the field of carbon-based thin and nanostrictired films (amorphous carbons, carbon nanotubes, nanocrystalline diamond, …) (from 1990 onward). In recent years he has focused on the application of carbon based nanostructured materials. He has developed worldwide recognised competences in
(i) carbon based nanostructured materials growth
(ii) structural and surface characterisations
(iii) modelling of the correlations between structure and optoelectronic properties
(iv) modelling of density-of-states in amorphous materials
(v) filling of epoxy resins and polymers with CNTs and graphene

More recently he added to his scientific interests photocatalytic Bi-based materials. Among his achievements in the field:
(i) growth of nanostructured thin films of Bismuth oxides on a variety of substrates (insulating, conductive, ...) including metal grids surfaces and silica filters internal pores. Production of bismuth oxides nanparticles was achieved also in the powder form.
(ii) photocatalytic water decoloration obtained in shorter times than those achievable with TiO2 nanoparticles
(iii) catalytic room temperature water decoloration using Bismuth oxide nanoparticles
(iv) water splitting obtained using bismuth oxides without vanadium

Among his scientific achievements:
- introduction of Gaussian density-of-states in amorphous carbon-based thin films
- role of nitrogen in determining the properties of N-‘doped’ amorphous carbons
- modelling of optoelectronic and properties and defects nature in carbon thin films
- development of innovative growth methods
- growth of self-standing mm-thick CNTs carpets
- development of CNT based biosensors for drugs and DNA detection
- improvement of structural properties of resins by CNT additions for application in repairs
- investigation and modelling of thermal, electrical and piezoelectrical properties of nanocomposites

International Collaborations

- Imperial College London (UK); Prof. R. Jackman
- University of California Riverside (USA); Prof. A. Balandin;
- University of Surrey (UK); Prof. R.S. Silva;
- UOIT (Canada); Prof. F. Gaspari
- UofT (Canada); Prof. N. Kherani
- Université Picardie Jules Verne (France); Dr. M. Lejeune, Dr. F. Le Marrec, Dr. A. Zeinert

- Nagoya Institute of Technology (Japan): Dr. G. Rius
- Central Glass and Ceramic Research Institute, Kolkata (India): Dr. R. Banerjee
- Ecole Politechnique Federale Lausanne (Switzerland): Proff. G. Demicheli and S. Carrara
- Universidad National Autonoma de Mexico (Mexico): Prof. S. Rodil
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