Curriculum Vitae et Studiorum

Personal Information

Name and Surname:	Angelo Tavella
Address:	

March 2022 - Today	Infra Transformation Analyst Accenture, Rome Primary Italian Bank Group - CISCO Digital & AI Transformation. Installation and configuration of Cisco UCCE 12.6 components on CVOS and Windows system for voice and chat channels. Routing Script and VXML App migration from Cisco 11.6 to Cisco 12.6 infrastructure. Python and JavaScript code programming. Database management with MySQL and MongoDB.

Education and Training

March 2022	Master's Degree in Condensed Matter Physics Sapienza University of Rome Master's Thesis Title: "Infrared Spectroscopy on transition metal dichalcogenides". Supervisors: Prof. P. Postorino, Prof. A. Nucara Co-Supervisor: Dr. E. Stellino Department of Physics at Sapienza University of Rome Thesis discussed on March 23rd, 2022 Final mark 107/110 My Thesis aims to study the vibrational modes of TMDs semiconductors by analyzing the far infrared reflectivity spectrum. The measurements have been performed for both normal and oblique incidence, in the case of unpolarized and polarized light. The data fitting takes into account a Drude model for the background, a Lorentz model for the E_{1u} phonon mode and a Fano model for the A_{2u}. According to

the Fano model, the particular shape of the A_{2u} phonon arises from the coupling between the phonon mode and an electronic continuum, ascribed to n-type doping levels, with comparable energy scales.

2022

Proposal
Soleil Synchrotron - St. Aubin (France)
Beamline: AILES
Proposal number: 20210996

Searching for Fano resonance in the longitudinal infrared modes of Transition Metal Dichalcogenides through grazing-angle spectroscopy.

Proposer: Dr. E. Stellino
Co-Proposer: Prof. A. Nucara, Prof. P. Postorino, Dr. A.Tavella

February 2017 - July 2018

Laboratory of Physics - Internship
Sapienza University of Rome
X-ray photoelectron spectroscopy measurements on graphite and microporous graphene intercalated with alkali metals. Supervisors: Prof. M.G. Betti, Prof. P. Calvani

Calibration of the instrumental apparatus.
Analysis of graphite and microporous graphene (growth on Ni and suspended) images produced by Scanning Electron Microscope. Deposition of alkali metals on the samples in Ultra High Vacuum environment to measure the diffusion effectiveness and entrapment of the metal by the three systems with X-ray photoelectron spectroscopy.
Analysis of the FWHM of the 1s of C, $2p_{1/2}$ and $2p_{3/2}$ of K and 1s of O by fitting the shape with a Lorentzian and Gaussian convolution to measure the interdiffusion and the clustering/oxidation.

November 2016

Bachelor's Degree in Physics
Sapienza University of Rome

Bachelor's Thesis Title: "Emissione di radiazione di sincrotrone da una particella carica accelerata".
Supervisor: Prof. C Mariani
Department of Physics at Sapienza University of Rome
Thesis discussed on November 17th, 2016
Final mark 96/110

I carried out an analysis of the angular distribution of the radiation emitted by an accelerated charge, starting from the Larmor formula and its relativistic extension.
I discussed the frequency spectrum of the radiation emitted and the different components of a synchrotron beamline with a focus on its application in condensed matter, chemistry, biology and cultural heritage conservation.

Experimental expertise

Advanced skills

Mid and Far Infrared spectroscopy, Raman spectroscopy, X-ray photoelectron spectroscopy, Ultra High Vacuum Machine, Residual Gas Analyzer.

Use of specific software for data acquisition (e.g. Opus, LabSpec) and data analysis (e.g. OriginLab, Igor, Matlab).

Optical properties measurement and estimation of the oxidation of the sample.

Additional skills

Lineshape deconvolution using data fitting. Cleavage of graphite, annealing, sample preparation and securing it to the sample holder. Instrumental calibration and optical alignment.

Data analysis and code programming using different tools.

Basic computer skills

Data Acquisition and Analysis

Opus: IR acquisition software

	LabSpec: Raman acquisition software Origin, Igor: data analysis software
Operative systems	Windows, Linux Vmware ESXi: hypervisor that virtualizes and partitions hardware infrastructure Docker: tool used to automate the deployment of applications in lightweight containers so that applications can work efficiently in different environments in isolation, instead of defining different single enviroments each one handled by an OS. IIS: Internet Information Services that allows certification sharing through the network
Software	Microsoft Office (Word, Excel, PowerPoint) Azure Cloud: Microsoft Cloud Computing platform
CISCO Software	Router, Switch, Firewall, ICM, UCCE, UCCX, CVP, CUCM, Voice GW: servers and applications used for the call flow management in the CISCO environment
Protocols	TCP, UDP: protocols for data audio and video streaming
Programming	Latex, Python, C, C#, VS Code, JavaScript
DataBase	Windows SQL Management, MongoDB: SQL and NoSQL software used for configuring, managing, and administering all components of a DataSource or a Database.

Other personal skills

Language	
Mother tongue	Italian
Other languages	Spanish (fluent) - One-year exchange student withinthe Erasmus program at "Universidad de Zaragoza" English (Intermediate) French (good knowledge)

April 09th, 2024