



Domenico Pierpaolo Mello

Date of birth: 30/06/1970

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Gender: Male

CONTACT

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ABOUT ME

I am the T&M Quality Principal Engineer and Technical Staff Senior Member in manufacturing departments at STMicroelectronics. I work in the field of Chemical and Physics Characterization, Yield Enhancement and Failure Analysis for all the department of Catania site.

WORK EXPERIENCE

2007 – CURRENT – Catania, Italy

Physics Laboratory Manager and Technical Staff Senior Member

STMicroelectronics, Semiconductor Factory, Stradale Primosole, 50 I-95121

Catania physics laboratory technical and scientific coordination. This Physics Laboratory is an advanced and interdivisional laboratory that provides strategic support to the departments of Research and Development, Process Engineering, Product Engineering, Quality Assurance and Customer Complaint within the field of Chemical and Morphological Characterization, Fault Isolation and Advanced in-line monitoring.

2006 – 2007 – Catania, Italy

Micro-Analysis Group Team Leader

STMicroelectronics, Semiconductor Factory, Stradale Primosole, 50 I-95121

Technical and scientific coordination of a Micro Analysis Group within the same laboratory. The Micro Analysis Group consisted of TEM, FIB and AFM and was in charge of two principle activities: advanced characterisation, performed mainly with TEM or manually prepared samples, or by FIB, and Advanced Process Control (APC). APC activity in particular is based on the study of critical process step and introduction of controls that is in turn based on the measurement of buried levels or complex structural characterisation.

2003 – 2006 – Catania, Italy

Failure Analysis Engineer

STMicroelectronics, Semiconductor Factory, Stradale Primosole, 50 I-95121

Characterisation using TEM techniques of simple structures on manually prepared samples utilising face-to-face gluing and mechanical polishing methods. During this period, the TEM team was comprised of one technician and myself

2001 – 2003 – Catania, Italy

Process Engineer

STMicroelectronics, Semiconductor Factory, Stradale Primosole, 50 I-95121

Process engineer in the 8" production line of the STMicroelectronics Catania site. I was particularly involved in the Rapid Thermal Process (RTP) and Metal Deposition Layer by PVD.

1998 – 1998 – Brindisi, Italy

Continuous and Coordinated Collaboration Agreement

PASTIS National Center for Research and Development of Materials S. C. p A.

Researcher in surface analysis group under the D-SIMS (Dynamic-Secondary Ion Mass Spectroscopy) spectroscopy

1996 – 1998 – Italy

Complementary Officer, Military Service

Ministry of Defence

I fulfilled my military service as a Complementary Officer having won a public competition for the 166th Course AUC (Cadets) that I attended at the SACA (School of Artillery Anti-Aircraft)

I was nominated Second Lieutenant and assigned to the Alpine Brigade "JULIA" at the 3rd Regiment of Mountain Artillery.

EDUCATION AND TRAINING

1998 – 2000 – Lecce, Italy

PhD

Università degli Studi di Lecce

During this period, I extensively studied the ion implantation process and relative process control on a cutting tool such as cutting fellow, gear shaper cutters, gear hobs etc. Thereby expanding my knowledge in micro analysis (SIMS techniques in particular) and tribology testing.

Field(s) of study

- Engineering, manufacturing and construction

Experimental study and application of ion implantation for industrial cutting tool treatment.

1989 – 1996 – Lecce, Italy

Degree in Physics

Università degli Studi di Lecce

I experimentally tested noise reduction methods in reciprocal space for HRTEM images. During my degree thesis I acquired knowledge of TEM, image elaboration and structural characterization at the nano-metric level.

Field(s) of study

- Engineering, manufacturing and construction

Methods of imaging elaboration in electron microscopy

1983 – 1988 – Piazza Palio, 63, Lecce, Italy

High School Diploma

Liceo Scientifico "Banzi"

LANGUAGE SKILLS

MOTHER TONGUE(S): Italian

OTHER LANGUAGE(S):

English

Listening
B2

Reading
B2

Spoken production
B2

Spoken interaction
B2

Writing
B2

French

Listening
B2

Reading
B2

Spoken production
B2

Spoken interaction
B2

Writing
B2

DIGITAL SKILLS

My Digital Skills

Microsoft Office / Dos, Windows, Linux, Unix, Android, IOS / Phyton basics / C C++ Language

MANAGEMENT AND LEADERSHIP SKILLS

People management

Over the years I have refined leader skills, coaching peoples with a sense of responsibility, giving orientation and direction, disseminating the corporate culture, identifying people for organizational roles, assuming risks and responsibilities.

I am able to lead a team while respecting corporate quality and discipline standards I support and facilitate the development of people, I pay a lot of attention to their growth and improvement. My expertize theoretical and practical in characterization techniques allow me to manage goals, milestones, set the right priorities and ensure high quality processes for the team.

It also allow me leading the team with solid knowledge, clear goals and up to date work planning motivatig them to reach challenging milestones.

I plane according with the team, priority to reach objectives and the maintenance scheduling of the machines in order to constantly seek for improvements.

I promote the study of efficient solutions for daily problems regarding resource management, tool performance and delivering results on time.

COMMUNICATION AND INTERPERSONAL SKILLS

Communication and relationship

I have excellent communication-relational skills developed during national and European projects, papers in international journals (with the referee system), patents and collaborations with public research centers (ENEA, CNR, IIT) and Universities (Catania, Trieste, Salento, Catanzaro, Bicocca, Sapienza).

I'm very often involved in talks in international symposia either in quality of speaker either as invited .

I was trainer for characterization analytical techniques and in particular for Electron Microscopy ones for STMicroelectronics and I was invited to perform lessons in many Italian Universities and public research centers.

Thanks to an excellent interpersonal communication skill I can perform negotiation, build relationships with customers, discuss benefits and drawback before making a decision, promote brainstorm before plan a strategy.

I'm invited to discuss with customers about specific technical issues and i have daily discussion with equipment suppliers end research divisions to ensure maximum customer satisfaction.

I have a positive and constructive attitude that together with an excellent adaptability allow me operating in multicultural environments in which it is essential to interact with peoples to achieve a shared goal.

ORGANISATIONAL SKILLS

Planning and organization

Over the years of experience as a Lab Manager and technical staff senior member, I have refined the ability to define activities to carried out with the ravailable esources to achieve the objectives, on time, guaranteeing priorities and effectively planning the work.

As the technical staff senior member I define road Map for the laboratory, I determine the strategic orientation towards the future trying to exploing the opportunities with proactivity, determination and I deepen with curiosity, desire for knowledge new products and technologies, focusing on the needs in terms of characterization and yield enhancement.

I look for original and effective solutions, to approach work problems in a creative way, to try unconventional solutions, to develop an environment for innovations.

I constantly measure myself with standards of excellence by implementing behaviors that make plans and projects operational, maintaining the commitment to achieve personal / group goals and trying to define objective parameters to measure my performance and that one of the group.

TECHNICAL SKILLS

Characterization and failure analisys

I acquired technical skills in analysis types such as SEM, TEM, FIB, EELS, EDX, AES, AFM, XRD, ToF-SIMS, D-SIMS, SRP, TXRF and good knowledge of Fault Isolation techniques such as OBIRCH, EMMI and OBICH.

TRANSVERSAL SKILLS

Others competences

Problem solving, positive attitude, team building, team work, reliability, flexibility, resilience, proactivity, creativity, public speaking.

PUBLICATIONS

Scientific activity

<https://www.researchgate.net/profile/D-Mello>

My activity is mainly focused on chemical and morphological characterization. I'm author of many scientific papers, published in international journals with the referee system, communications at national and international conferences and patents.

CONFERENCES AND SEMINARS

Seminar and tutoring activity

I have followed many students in their thesis activity in quality of tutor and/or correlator. Moreover, I'm often invited to have talks in front of national and international audiences. Below are some of the seminars:

2005 – Surface Analysis Workshop -Catania “In-line monitoring to control ion implantation and oxide nitridation processes on wafers using TOF-SIMS”.

2007- Workshop Università di Catania - Chimica Analitica di Processo –“In-Line contamination control in Pre-diffusion Wet Bench”.

2013 - 5th PicoSEC Training Event –Short Course on Semiconductor Devices, Design and Manufacturing – Catania “Surface Analysis and Solids Characterization”.

2014 - Course of Electron Microscopy join University and ST - Catania “Microscopy and Microanalysis”.

2016 – Seminar at ENEA Brindisi- “Application of Cliff and Lorimer extrapolation method in semiconductor factory”.

2018 - Electron Microscopy a bridge between research and industry “New approach in TEM-EDS quantitative analysis, used for Auger calibration in order to set an advanced back metal control”.

2018 – NanoInnovation “New approach in TEM-EDS quantitative analysis, used for Auger calibration in order to set an advanced back metal control”.

2021 - ZEISS Global Sales Meeting “STMicronics challenges”.

2022 – SEM school for PhD at University of Catania “ST New trend and Perspectives on Scanning Electron Microscopy”.

2022 – University of Trieste “The Microanalysis Role in Semiconductor Factory”.

A handwritten signature in black ink, reading "Domenico Mello". The signature is stylized, with a large, looped 'D' and a long, sweeping underline that extends to the right.

Domenico Pierpaolo Mello