

CV Massimo Tonelli



Date of birth: **6/4/1963**

Nationality: **Italian**

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Occupational field: **research laboratory manager**

Short self-presentation:

I have a deep and extensive knowledge of Microscopy, and I work with researchers in different fields of study. I am able to manage a budget for instrument maintenance and upgrading. My work involves a wide range of scientific topics.

Professional experience:

- Director Centro Interdipartimentale Grandi Strumenti.
- Since December 2004 I have been in charge of a lab with 3 Electron Microscopes (2 SEMs and 1 TEM), 2 Scanning Probe Microscopes, 2 X-ray Diffractometers.
- Promoted to application scientist (May 2000).
- Switched my career to laboratory technician (September 1995).
- Employed in CIGS, Centro Interdipartimentale Grandi Strumenti, of the University of Modena as a software developer (March 1990).
- Physics degree from Dipartimento di Fisica, Università degli Studi di Modena (December 1988).
- Member of:
 - Società Italiana Scienze Microscopiche
 - Royal Microscopical Society

In charge of scientific collaborations:

- TESTING S.r.l.-"Analisi di laboratorio" (dal 2021 ad oggi)
- TEC Star s.r.l - "Analisi di nanomateriali" (dal 2016 al 2023).
- Alma Mater Studiorum – Università di Bologna – Dipartimento di Scienze Biologiche, Geologiche e Ambientali, "Inorganic Nanoparticles of Archean Carbonaceous Matter"(dal 2016 al 2017).
- Kerakoll – "Studio e caratterizzazione di materiali per l'edilizia" (dal 2010 al 2012).
- MODENA CENTRO PROVE – "Studio di materiali sottoposti ad usura e corrosione e caratterizzazione di difetti di produzione in materiali ceramici con tecniche di microanalisi EDS , FTIR" (dal 2011 al 2017).
- ASSOCIAZIONE MICRO-MINERALOGICA ITALIANA a private association for crystal research and classification (2010).

Other collaborations:

- TETRA PAK, global packaging company.
- FERRARI, F1 sports car team.
- FRESENIUS, a company leader in infusion therapy and clinical nutrition.
- Several ceramic tile companies of (i.e. Marazzi, Atlas Concorde, Graniti Fiandre, etc).
- Several departments of the Universities of Bologna, Padova, Milano.

Languages:

Italian (mother tongue), English (level C1).

KEY SKILLS

Communication - My job is a mix of different kinds of communication. The scientific problem approach, using scientific instruments, means talking to researchers and understanding their point of view. Another part of my job is user training, preparing presentations about technical topics, and editing short instruction manuals.

Information Technology - All scientific instruments create data with different digital formats: images, spectrums, numerical data; they need procedures for storage, back-up, reload, and elaboration. My IT skills primarily regard the standard treatment of files, but also the principal software used in Windows operative systems. I use Word, Excel, and Powerpoint extensively. Internet browsing and e-mail software are part of my daily job. I'm able to use Excel for data management and I have experience with Windows Visual Basic programming language to create my personal software routines and user interface.

Application of number - After data collection a further step for result interpretation is necessary; it involves specific software (generally designed directly by manufacturing companies) and/or "homemade" routines that are carried out using mathematical calculations.

Problem-solving - I'm in charge of the day-to-day maintenance and correct functioning of seven instruments (see "professional experience" paragraph) which need weekly tests to check their performance and periodic maintenance operations. Some of these are performed by me and my colleagues, for example, fixing a bug and finding the right solution. In some cases, I need to call in a company technician and check that the final solution works fine.

Working with others - Working with other people is the central part of my job. Collecting analytical data, discussing results, planning further analysis: these are the main objectives of my lab. In reality, teamwork is part of the "problem solving", because sometimes it can be difficult to match expectations with scientific results. Another side of my job is to collect contributions (ideas and money) for the acquisition of new instruments. In this case, the teamwork involves many people and I am in charge of finding a solution that takes into consideration the opinions of the whole group.

Improving learning and performance - Big efforts are necessary to keep our labs up-to-date. The scientific environment is a world of new developments and I need the most recent information about new instruments, tools, or accessories. For new instruments, I have to acquire skills and experience to use them and to pass on this knowledge to other colleagues.