

## Introduction

The following papers are samples of ongoing Portuguese contributions to the field of microscopy research. They were first communicated at the 43rd Annual Meeting of the Portuguese Society for Microscopy (Sociedade Portuguesa de Microscopia, SPMicros) held in Porto, October 30–31, 2008, and, together with most of the other communications, were published as extended abstracts in the Proceedings of the meeting (*Microsc. Microanal.* **16**, Suppl. S3). This was the second time that the abstracts of the SPMicros Annual Meetings were made available worldwide through our collaborations with *Microscopy and Microanalysis*; although throughout its long history, the society has always kept Portuguese and English records of the communications either in abstract books or as journal supplements.

In this special section of *Microscopy and Microanalysis*, two materials science papers and three life science papers are presented. In the first paper, Dr. Sónia Simões and colleagues address the potential application of Al/Ni multilayer thin films as valuable options in designing materials and devices intended to withstand very high temperatures. In a model employing focused ion beam lift out techniques, they describe their transmission electron microscopy and scanning electron microscopy structural features and discuss its value. In the second paper, Dr. Alejandro Pelaez-Vargas and associates are using silica thin films to work as a scaffold for cell adhesion and spread, having its application in regenerative medicine as the final goal. The authors characterize time-related human bone marrow stem cells behavior when grown in silica films with different texture patterns. In the first life science paper, Dr. Albina Resende and her collaborators address the histological and stereological characterization of brown trout kidney, which exhibits variation according to gender and season of the year. This is a thorough structural study in a species with relevant economic value in Portugal, probably as in other parts of the world, and I dare to say that it will be a reference paper in cases where specific trout diseases are to be diagnosed. The next paper is authored by Dr. Alexandre Lobo-da-Cunha and his group. They make a structural and cytochemical investigation on the interesting mollusk *Bulla striata*, an inhabitant of shallow seawaters of the Portuguese south coast, further adding to the current marine biology investigation taking place in Portugal by dedicated scientific institutes. To conclude this set of papers, Dr. Ana Cordeiro and colleagues report the effect of aging in the expression of angiopoietins and their specific receptor, localized to the penile vascular structures of the rat. They verify an age-related variation that may affect vascular maintenance or remodeling in old age and therefore contribute to the structural features of atherosclerosis that underlie erectile dysfunction.

As the former President of SPMicros when the 43rd Annual Meeting took place, I am delighted to introduce these peer-reviewed articles that provide knowledge from original research and, hopefully, a window into some of the Portuguese researchers who elect microscopy as a most valuable tool for their work.

Henrique Almeida, MD, PhD  
Laboratório de Biologia Celular e Molecular  
Faculdade de Medicina do Porto  
4200 319 Porto, Portugal  
almeidah@med.up.pt