

# MEMBER SPOTLIGHT



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## TELL US ABOUT YOURSELF – WHERE YOU COMPLETED YOUR UNDERGRADUATE/POSTGRADUATE, WHAT A TYPICAL DAY LOOKS LIKE FOR YOU, ETC.

After graduating from medical school in Beijing, China, I came to the University of Florida (UF) to obtain a PhD degree in molecular pathology & immunology. I then completed a residency in anatomic pathology and clinical pathology as well as a fellowship in cytopathology at UF. In 2005, after achieving American Board of Pathology certification, I accepted the assistant professor position at Moffitt Cancer Center (MCC or Moffitt) and I was promoted to professor/senior member in 2015. MCC is one of the premier cancer centers in the US and the only NCI designated cancer center in Florida (<https://moffitt.org/providers/marilyn-bui/>). My daily goal is to provide the best possible patient care as a pathologist with expertise in bone and soft tissue pathology, cytopathology, breast cancer biomarker testing and digital pathology. I am also involved in research, education, advocacy and other service activities which allow me to have a positive impact on patient care in a broader sense, not just one patient at a time.

## HOW LONG HAVE YOU BEEN WORKING WITH DIGITAL PATHOLOGY?

During my time at the University of Florida from 1995-2005, I worked with Dr. Shala Masood, a breast pathology expert, using quantitative image analysis for breast cancer biomarker testing in various research projects. When I started at Moffitt Cancer Center in 2005, I had the privilege and honor to serve as the Scientific Director of the Analytic Microscopy Core (AMC) Laboratory where digital pathology (whole slide imaging, image analysis, and more) is a key service provided to support the cancer center researchers' investigational work. In my clinical practice, I have been using an FDA-approved commercially available platform of breast cancer biomarker quantitative image analysis (QIA). I also use digital pathology for tumor boards, teaching, consultation, research and publication.

## HOW LONG HAVE YOU BEEN WITH YOUR CURRENT EMPLOYER AND WHAT IS YOUR ROLE?

I have been at Moffitt since 2005. My current positions include Tenured Senior Member, President of Medical Staff, Scientific Director of Analytic Microscopy Core, and Section Head of Bone and Soft Tissue Pathology. I am also a Professor and Program Director of the Cytopathology Fellowship at the University of South Florida Morsani College of Medicine. I am on the clinician educator track with primary responsibility for patient care, complemented by education, research and service activities that are mostly on my "spare time" and driven by passion and commitment to better our profession.

## HOW HAS DIGITAL PATHOLOGY DIRECTLY AFFECTED YOUR BUSINESS?

Delivering the best possible patient care as a pathologist is my business. Digital pathology has enhanced my ability to do so. Using QIA for biomarker testing allows me to provide more accurate, reliable and reproducible results. Telepathology enables cytopathologists to conduct rapid on-site evaluations and allows surgical pathologists to obtain expert consultation for frozen sections and challenging cases to improve the accuracy of their diagnoses. Whole slide images are easier to search and retrieve for case comparison when signing out cases, presenting cases at tumor boards and teaching. This option streamlines workflow and increases efficiency. Image analysis is far superior to manual scoring of sophisticated images in immunohistochemistry, fluorescence, and multiplex testing, especially when quantification is involved. Image analysis is one of the most frequent requests that the AMC receives from Moffitt researchers for detection, classification, quantification and more. Because of digital pathology, our lab has contributed to numerous publications with high impact scientific discoveries.

## HOW IS DIGITAL PATHOLOGY IMPACTING THE HEALTHCARE AND DIAGNOSTICS INDUSTRIES AS A WHOLE?

Pathology is the cornerstone of medicine. Pathologists are the natural leaders in precision medicine, because a patient's medical journey begins with their diagnosis; they are also the primary providers of prognostic and predictive information, setting the direction of patient management. Whole slide imaging is the first step in transforming analog information on glass slides into digital information that can be shared, analyzed, quantified and integrated into other forms of data in the health care ecosystem. Automation can also be useful in underdeveloped countries or regions, where one can use computer-assisted PAP test screening as a solution for the early detection of cervical cancer when there is a significant shortage of cytopathologists. Image analysis, computational pathology and artificial intelligence have the potential to unleash the ultimate power of digital pathology to transform the delivery of precision medicine.

## FROM YOUR PERSPECTIVE, WHAT IS THE MOST IMPORTANT REASON FOR YOUR USE OF DIGITAL PATHOLOGY?

Digital pathology has already benefited me in taking care of my patients. Through research and collaboration, our advancement in knowledge, applications and new technology in digital pathology will further augment the pathologists' ability to contribute to precision medicine.

## WHAT DOES THE FUTURE OF DIGITAL PATHOLOGY LOOK LIKE TO YOU? PARTICULARLY, WHEN DO YOU SEE, OR DO YOU SEE ITS ADOPTION AS AN EVERYDAY OCCURRENCE?

Improved diagnostic accuracy and efficiency by improved workflow, connectivity, companion diagnostic tools, integration with other health care information, and automation are important to my daily practice. Where this is already the reality to my pathology colleagues in Europe, I see this influence growing. I am optimistic about our digital future.

## HOW LONG HAVE YOU BEEN A MEMBER OF THE DIGITAL PATHOLOGY ASSOCIATION (DPA) AND WHAT FIRST ATTRACTED TO YOU TO THE ASSOCIATION?

I have been a DPA member since 2012. DPA is attractive to me because it is a professional society that fosters collaboration between the pathologists, scientists, technologists, administrators and industry representatives to advance scientific discoveries, education and awareness to ultimately benefit healthcare and life sciences. The mindset of the leadership and the organization is progressive and inclusive. There are boundless opportunities to make a positive impact in this field under the auspices of DPA.

## HOW DID YOU INITIALLY GET INVOLVED WITHIN THE ASSOCIATION AND WHAT IS YOUR CURRENT INVOLVEMENT?

I joined DPA as a pathologist member to connect with other pathologists and scientists in this niche area and learn more, so that I could do my job better as the Scientific Director of AMC at Moffitt. I also submitted proposals for presentations to share our experience as a professional development opportunity. Later, I was invited to join the Pathology Visions Program Committee and then chaired that committee. This committee meets via teleconference every two weeks from January to September to put together a high-quality scientific program for the annual meeting. It has been a very rewarding experience to work with this group of talented and dedicated expert pathologists and scientists who aim to improve the quality of the presentations and increase the attendance at Pathology Visions in a significant way. Pathology Visions 18 attracted a record high number of attendees. I was appointed as a member of the Executive Board in 2015. Among other contributions, as the allied society (affinity) group chair, I organized or facilitated DPA seminars/presentations at USCAP, NSH, API, EPC, and JSDP annual meetings to expand the reach and influence of DPA through education. In my current role as the President of DPA, I look forward to continuing to serve our society to the best of my ability.

## WHAT DO YOU ENJOY MOST ABOUT THE DPA?

Great things get done and meaningful friends are made here. The talents, enthusiasm, collaborative spirit and effectiveness of such a young society are very impressive. DPA is the leader in advocacy for regulatory path clarity, digital pathology education and awareness, and interoperability collaboration, to give just a few examples. There are more initiatives that have come out of the strategic planning session from the board at Pathology Visions 18 for this year and the future. DPA will continue to lead the way to advance the field of digital pathology. Through initiatives to expand membership, facilitate regulatory path clarify in computational pathology and artificial intelligence applications, facilitate interoperability and connectivity, and provide education and publications, the best of DPA is yet to come.

I am excited to be practicing pathology at this point in time. It is a natural calling and an obligation for pathologists to embrace this transformative technology. By being actively engaging in the creation and validation of digital pathology applications, we can oversee the safety and efficacy of what computational pathology and artificial intelligence have to offer to enhance our ability in daily practice. I am optimistic about our digital future and committed to work for it to the best of my ability.

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