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Personal Statement for Application to Molecular Genetic Pathology Fellowship

Development and evolution drive my career as a scientist, a resident, and a pathologist. Academically, embryonic development and biological evolution have been my interests for more than a decade, and I have been very fortunate to receive my residency training at an institution that has afforded me the freedom and support to pursue those interests. With a departmental grant, I have demonstrated that the transcription factor INSM1 – a developmental regulator normally only expressed in embryonic tissue – can serve as an effective marker for neuroendocrine neoplasms. This work is nearing publication, and portions of it will be presented at the annual meeting of the Association for Molecular Pathology in November. It is my hope that this project will serve as the foundation for deeper and broader academic pursuits in my career.

As a resident, I work to acquire and hone my skills as an anatomic and clinical pathologist, but I also seek opportunities to help my program develop and improve. For myself and my colleagues interested in academic research, I started a bi-monthly meeting of residents and faculty to discuss their own research, acting as a "lab-meeting" for those without formal laboratories, and fostering collaboration and mentorship. I also introduced a resident wiki – an online, shared training resource – to the residency, the results of which have been accepted for presentation at the annual ASCP meeting this fall. With both projects, I have endeavored to facilitate communication and collaboration among my colleagues, and to provide adaptable tools to the training program that it can utilize as it grows and changes in the future.

In considering my own future as a pathologist, I return to the ideas of development and evolution. Health care has always been a dynamic field, in which innovation has traditionally been driven by the interplay between improved understanding of disease processes and technological advancements in diagnosis and treatment. Of late, the most fundamental and important changes have come from molecular techniques, including high-throughput diagnostic and prognostic technologies. These innovations are decreasing in cost and broadening in scope just as political and cultural changes force increasing consideration of long-term costs and efficiency. Pathologists specifically trained in molecular genetic

pathology are uniquely positioned to systemically and systematically improve health care outcomes while also improving efficiency and helping to control costs.

The benefits will come at many levels. Patients will benefit generally from improved understanding of disease, and directly as “personalized medicine” becomes practicable and cost-effective. Massive amounts of clinical data generated by comparatively few techniques will be a windfall for translational and basic research scientists, as well as for health care institutions and payers. To be sure, new opportunities will certainly be accompanied by new and obstacles. Managing and communicating results to patients and their physicians may be particularly challenging. With my skills, experience, and interests, I see more opportunity than difficulty, though. As molecular pathology continues to develop and evolve, I look forward with great anticipation to my career developing and evolving as well.