Selection of Sponsor and Institution

I aspire to become a cardiovascular physician-scientist devoted to integrating the full spectrum of translational bench-based research and innovative patient care at an academic medical center. In seeking a sponsor, I sought a mentor whose career mirrors my goals, incorporating strong basic research in vascular biology and clinical practice in cardiology. Moreover, I sought a mentor who is committed to training innovative, ethical researchers who will one day have to balance their time in the laboratory with clinical responsibilities. Dr. Stephen Chan's innovative and productive research, strong funding history, clinical acumen, and, most importantly, his enthusiasm for and commitment to training students makes him the ideal sponsor for my graduate training. His research successfully employs network-based bioinformatics with sophisticated disease models and cutting-edge molecular technologies to advance systems-wide discovery in pulmonary hypertension. In doing so, he was the first to identify the systems-level functions of microRNAs as a root cause of PH. His research spans exploring the role of noncoding RNA species in health and disease as well as their effect on cellular metabolism in the context of pulmonary hypertension (earning him publications in top peer-reviewed journals such as *JCI, Cell, Scientific Reports*). He has ample funding to support my training as evidenced by consistent funded from the NIH and others sources (see "Sponsor and Co-sponsor Information). As the Director of the Center for Pulmonary Vascular Biology and Medicine, he is building a collaborative, vibrant community of scientists and clinicians alike who are committed to supporting pulmonary hypertension patients through evidence-based care. He truly uses his training as an M.D.,Ph.D. to bridge research and clinical practice through translational basic research and treatment discovery-driven clinical trials. I have been introduced to many members of the community and the breadth of ongoing research pursuits at our institution through this venue. Dr. Chan has mentored scientists at all stages of training with measurable success. Still, Dr. Chan's true strength comes in his daily mentorship when he balances guidance with student independence. He spends at least an hour each week during our formal one-on-one meetings discussing new data, project design, sound statistical analysis, and experimental trouble-shooting; as well as effective scientific communication, career planning, and efficient balance of work with a personal life. He maintains an open-door policy despite an incredibly busy schedule and has fostered a laboratory environment that is exciting, productive, ethical, and creative. He has already pushed me to apply for programs and conferences to present my work, receive feedback, and gain valuable networking experience. I am confident that under his guidance and example I will be prepared for a dynamic career in academic medicine.

The research and training potential of Dr. Chan's laboratory is enhanced by the ongoing interactions with the University of Pittsburgh School of Medicine, UPMC's Heart and Vascular Institute (HVI), and the Vascular Medicine Institute (VMI). The University of Pittsburgh is widely recognized as a leading academic and biomedical research institution and consistently ranks within the top 10 institutional recipients of overall NIH funding. The HVI is made up of physicians and scientists located in UPMC facilities throughout Western Pennsylvania who combine outstanding community-based care with the most advanced technology and treatments available. The VMI employs experts studying vascular health and disease who are committed to mentorship and provides interdisciplinary resources for trainees.

My training in the Chan laboratory is also supplemented by our cross-institutional Medical Scientist Training Program (MSTP). Our program merges the strengths of the University of Pittsburgh with those of Carnegie Melleon University to create a multifaceted training program. Importantly, the MSTP fosters successful physician scientists by integrating both clinical and research training with the active development of professional and ethical skills. The comprehensive MSTP curriculum encompasses several longitudinal enrichment activities (see "Additional Educational Information") including research rotations to facilitate the development of research skills and identification of thesis labs; professional development courses devoted to scientific communication, networking, grant-writing and ethical reasoning; structured longitudinal clinical clerkships during graduate school; monthly MSTP seminars/workshops providing structured access to physician-scientist role models and peer-driven professional and ethics development; and yearly MSTP retreats offering a dedicated MD-PhD forum for scientific and mentoring interactions. Personally, I was drawn to this MSTP based on its dedication to basic and clinical enrichment at each stage of training, knowing that I would have experience balancing both prior to receiving a degree; its commitment to adapting to student-driven feedback and its student-led committees and workshops, allowing for tailored courses and professional development; and the kindness and helpfulness of its students and faculty, allowing for meaningful informal and formal mentoring at each phase of training. In summary, I believe I have selected an exceptionally-qualified sponsor within a uniquely-tailored, nationally-recognized training environment ideal for my development as a physician-scientist.