

# Rhinology

## Rhinology Research (SMH)

John Lee

Despite the challenges imposed by the COVID-19 pandemic, 2019-2020 was an incredibly productive year for our rhinology research program here at St. Michael's Hospital (SMH). I am grateful for the continued generosity of the Dunin Foundation which believed in our research agenda and has supported so many of our projects. I also want to thank the university department which has provided invaluable grant support through the Harry Barberian Scholarship, for our resident projects during their dedicated research blocks. Below are some of the highlights from this past year:

- 1) A total of 9 peer-reviewed manuscripts were published in the following journals this past year:
  - a. International Forum of Allergy & Rhinology (3)
  - b. The Laryngoscope (1)
  - c. Otolaryngology-Head and Neck Surgery (1)
  - d. American Journal of Rhinology & Allergy (1)
  - e. Head & Neck (1)
  - f. Canadian Journal of Emergency Medicine (1)
  - g. Canadian Medical Association Journal Open (1)

The majority of these studies were led by the incredibly talented residents in our training program: Drs. Vincent Wu (PGY2), Daniel Lee (PGY3), Chris Noel (PGY3), and Justin Cottrell (PGY3). A special mention should be given to Dr. Daniel Lee who was the first author on five of these studies. His interest and dedication in rhinology is incredible. I also want to acknowledge Elysia Grose, a medical student from the University of Ottawa who was also first author on one of the studies. She participated in the Keenan Research Summer Student program and was incredibly productive during her time

with us.

- 2) Dr. Vincent Wu (PGY2) spent his 4-month research block with me at SMH this past year. Vincent was incredibly well organized and motivated and had a tremendously successful research rotation. First of all, Vincent was successful in obtaining a Harry Barberian Grant to study "Levels of Nasal Nitric Oxide (nNO) and Inducible Nitric Oxide Synthase Expression in Chronic Rhinosinusitis with Nasal Polyposis (CRSwNP)". During his research block, Vincent not only measured nNO in CRSwNP surgical patients but he also performed true translational research by collecting mucosal specimens from the operating room and performing both protein and RNA analysis in Dr. Philip Marsden's lab in the Li Ka Shing Knowledge Institute. While all patient recruitment has been completed, some of the final laboratory analysis has been delayed because of the shutdown associated with COVID-19. However, we are all excited to see Vincent present his research next year at major international rhinology meetings.
- 3) Scientific meetings this year have been forever changed because of the pandemic. That being said, we were all set to have one of the strongest showings from our department at the American Rhinologic Society Spring Meeting at COSM where a total of 3 scientific oral presentations were accepted from SMH. This meeting was ultimately postponed to a virtual meeting in Fall 2020 but I want to congratulate Elysia Grose, Drs. Daniel Lee (PGY3) and Shireen Samargandy (PGY3) for their outstanding efforts. Topics that were to be presented include surgical outcomes in aspirin exacerbated respiratory disease, nasal nitric oxide as a long-term biomarker for sinus mucosal health, as well as a systematic review of outcomes in chronic rhinosinusitis and immunodeficiency. Additionally, two scientific oral presentations

were accepted into the Canadian Society of Otolaryngology-Head & Neck Surgery Annual meeting but that has been delayed until the fall.

- 4) Finally, I want to highlight a study that was conceived, completed and published in the height of the first wave of the pandemic. With the tireless work of Dr. Daniel Lee (PGY3) and in collaboration with the COVID-19 assessment centre at SMH, we performed the first and only Ontario-specific cross-sectional study to evaluate the association between anosmia/dysgeusia and COVID-19 positivity. This study was published in the Canadian Journal of Emergency Medicine and has garnered significant attention well beyond our own specialty.

Once again, I want to thank our medical students and resident trainees whose continued hard work and dedication is what truly drives our rhinology research mission at St. Michael's Hospital. I would not be able to pursue these endeavours without a strong group of motivated and interested team members. Despite the anticipated challenges in clinical research this upcoming year, I am excited to continue to see the growth of rhinology research at our institution.