- **Christopher Winfree** presented a case series of phrenic nerve neurolysis to treat diaphragm weakness after parsonage-turner syndrome with promising early results.

- **Stephen Dell** presented an overview of computational modelling of mammalian cortical network micro-structure

- **Robert McGovern** presented data supported development of a new biomarker for responders to ANT-DBS for epilepsy. His group discovered that DBS responders show low gamma oscillatory (30-45 Hz) peak that can be suppressed with acute stimulation after measuring LFP recordings over 1-2 years using the Medtronic PC percept system.

- **Christopher Miller** demonstrated that in patients undergoing High Frequency Ultrasound (HiFU) targeting the Thalamus (Vim) for essential tremor, lesions made in white matter tracts connected to the ipsilateral precentral gyrus.

- **Brett Youngerman** presented initial safety and feasibility data in a porcine model for Bioelectronic Interface System to the Cortex (BISC), a new ultrathin high density electrode with wireless power and high-throughput telemetry though a wearable relay station.

- **Parmita Das** spoke about her experiences with the implementation of a program to allow military general surgeons to learn fundamentals of neurosurgical management of TBI in order to provide basic neurosurgical and post-op care on the battlefield until evacuation to higher level of care is available

- **John Lee** gave an entertaining and enlightening talk about his journey to self-installing home solar panels.

- **Peter Morrone** described an novel computer vision-based system to detect and track surgical instruments in real-time, resulting from a quality improvement initiative to reduce inefficiencies in the Sterile Processing Department (SPD) of the OR.

- **Debraj Mukherjee** reported on outcomes of a resident-led virtual lecture series for Clerkship students and sub-interns on Neurosurgery rotations. The intervention cohort demonstrated significantly improved preparedness and understanding of neurosurgical concepts.

- **Piiramaria Virtanen** discussed a systematic literature review exploring the use of artificial intelligence (AI), virtual reality (VR) and augmented reality (AR), mixed reality (MR), and 3D printing technologies in neurosurgical training.

- **Patricia Raskin** presented a challenging case that illustrates the limitations of clinical guidelines in the real world, and the importance of expertise.