



# The 4<sup>th</sup> SNUH-Mayo Clinic Joint Symposium

June 21<sup>st</sup> (Fri) - June 22<sup>nd</sup> (Sat), 2019 · Rochester

Venue : Hilton Rochester, Dr. William J. Mayo Hall

## Invitation

안녕하십니까?

지난 2005년에 문을 연 서울대학교병원 파킨슨센터는 관련 진료 각 과 (신경과, 신경외과, 영상의학과, 마취과, 의공학과, 재활의학과, 정신건강의학과)의 긴밀한 협조로 파킨슨병을 포함한 이상운동질환 환자에 대하여 전신 마취하의 미세전극기록을 통한 뇌심부 자극술과 함께 전문적이고 통합된 개인 맞춤 치료를 시행해 오고 있습니다.

서울대학교병원 파킨슨센터는 이러한 이상운동질환환자들의 치료 경험과 최근 들어 급속하게 발전하고 있는 이상운동질환의 최신 지견을 공유하기 위하여 미국의 Mayo Clinic 병원과 함께 매년 서울대학교 병원과 Mayo clinic을 오가며 공동 심포지엄을 개최해오고 있습니다.

2016년 7월에는 서울대학교병원에서 첫 번째 이상운동질환 공동 심포지엄을 개최하였고 2017년에는 Mayo Clinic에서, 2018년에는 서울대학교 병원에서 이상운동질환 공동 심포지엄을 개최하였습니다.

올해에도 서울대학교병원 파킨슨센터는 개소 14주년을 기념하여 2019년 6월 21일~22일 양일간 Mayo Clinic과 4<sup>th</sup> SNUH-Mayo Clinic Joint Symposium의 네번째 공동 심포지엄을 아래와 같이 개최하기로 하였습니다.

이번 심포지엄에서도 서울대학교병원과 Mayo Clinic의 신경과, 신경외과, 영상의학과, 의공학과, 핵의학과, 및 뇌과학 기초연구의 많은 교수진들이 참여하여 이상운동질환의 기초연구와 임상연구의 다양한 최신 지견을 공유하고자 합니다. 파킨슨병을 비롯한 이상운동질환과 뇌심부자극술에 관심을 갖고 계시는 신경과, 신경외과, 영상의학과, 의공학과 선생님들의 격려와 성원을 부탁드립니다.

서울대학교병원 파킨슨센터



Seoul National University Hospital  
Movement Disorder Center



Mayo Clinic  
Neurologic Surgery Department

# The 4<sup>th</sup> SNUH-Mayo Clinic Joint Symposium

June 21<sup>st</sup> (Fri), 2019 · Rochester

Venue : Hilton Rochester, Dr. William J. Mayo Hall

## Program

08:00	Opening Remarks	
08:00-08:10	Welcome : Kendall Lee, MD, PhD, Suh Ha Paek, MD, PhD, Kevin Bennet, PhD, MBA, Michael Park, MD, PhD	
08:10-10:10	<b>Clinical Section</b>	<b>Chair : Kendall Lee</b>
	<b>SNUH</b>	Experience of DBS in SNUH MDC Sun Ha Paek
		A bioprinted human-glioblastoma-on-a-chip for the identification of patient-specific responses to chemoradiotherapy Hee_Gyeong Yi
		Clinical outcome prediction with deep learning from microelectrode recording of deep brain stimulation Kwang Hyon Park
	<b>Mayo</b>	VIM localization with DTI and Tractography for MRgFUS and DBS Vance Lehman
		Cala TWO: Clinical efficacy and effects on regional brain metabolism in Essential Tremor subjects Charles Blaha & SooYoon Shin
		The electrophysiology of a human obsession in nucleus accumbens Kai Miller
	<b>VU</b>	DBS of STN and it's disease modifying effects Peter Konrad
	<b>UofM</b>	REM sleep without atonia and motor signs in people with early stage Parkinson's disease Colum MacKinnon
10:10-10:35	Coffee Break	
10:35-12:15	<b>Basic Research Section</b>	<b>Chair : Sun Ha Paek</b>
	<b>SNUH</b>	mGRASP for high-resolution structural and functional synapse mapping at multiple scales Jin Hyun Kim
		Revising the role of the Direct and indirect pathway in the striatum : A paradigm shift from the classic model Jung Hwan Shin
	<b>RIKEN</b>	Intervention with DBS in the Primate Nucleus Accumbens for Neuropsychiatric Disorders: Should we or Shouldn't we? Kevin McCairn
	<b>QBI</b>	Antidepressant and Antimanic Effects of Deep Brain Stimulation of the Ventral Tegmental Area Sue Tye
	<b>UTEP</b>	Simultaneous Detection of Dopamine and Serotonin – a Comparative Experimental and Theoretical Study of Neurotransmitter Interactions Felicia Manciu
	<b>UofM</b>	Effects of parkinsonism and vigilance on oscillatory activity in the basal ganglia and motor cortex Luke Johnson
	<b>USD</b>	Tiring from trying: A relationship between errors in motor control and post-stroke fatigue Lee Baugh
12:15-12:20	Photo Minutes	
12:20-13:00	Lunch	
13:00-15:00	<b>Industrial Panel</b>	<b>Chair : Kevin Bennet</b>
	13:00-13:15	Medtronic
	13:15-13:30	Boston Scientific
	13:30-13:45	Abbott
	13:45-14:00	Magstim
	14:00-14:15	Insightec
	14:15-14:30	Cala
	14:30-15:00	Panel discussion
15:00-15:20	Coffee Break	
15:20-16:50	<b>Biomedical Engineering Section</b>	<b>Chair : Hee Chan Kim</b>
	<b>SNUH</b>	Wireless power and data communication based implantable Brain Computer Interface device – in electronics aspect Sung Kyu Lee
		Noninvasive and Nonintrusive Technology for Mobile Healthcare Service: Progress Report on a Patch-Type Device Hee Chan Kim
	<b>Mayo</b>	WINCS MAVEN: Kevin Bennet & Kendall Lee
		A Novel CT Guided Stereotactic System for External Ventricular Drain Placement Aaron Rusheen & Abhijeet Barath
	<b>HYU</b>	Real-time electrochemical impedance spectroscopy based on cyclic square wave voltammetry Dong Pyo Jang
	<b>Deakin</b>	AI-enabled all-in-one closed loop deep brain stimulation devices Abbas Kouzani
16:50	Closing Remarks	
17:00	Adjourn	



Seoul National University Hospital  
Movement Disorder Center



Mayo Clinic  
Neurologic Surgery Department

## The 4<sup>th</sup> SNUH-Mayo Clinic Joint Symposium

June 22<sup>nd</sup> (Sat), 2019 · Rochester

Venue : Hilton Rochester, Dr. William J. Mayo Hall

### Program

08:00	Opening Remarks	
08:00-08:10	Welcome : Kendall Lee, MD, PhD, Suh Ha Paek, MD, PhD, Kevin Bennet, PhD, MBA, Michael Park, MD, PhD	
08:10-09:40	<b>UofM</b>	Impact of shuffling on the effectiveness of coordinated reset deep brain stimulation in Parkinson's disease Jing Wang
		Optimizing neuromodulation therapies Tay Nethoff
		Neuromodulation to restore function after chronic motor-complete spinal cord injury David Darrow
	<b>Mayo</b>	Advancing next generation of neuromodulation therapies in brain and spinal cord Kendall Lee & Kristin Zhao
		Advances in neuromodulation for medically refractory epilepsy Sanjeet Grewal
		MR-guided Focused Ultrasound of the Brain: Non-Invasive Invasiveness Timothy Kaufmann
09:40-10:00	Coffee Break	
10:00-11:00	<b>Mayo</b>	High-Resolution Distortion-Free Diffusion Imaging using DIADEM (Distortion-free Imaging: A Double Encoding Method) MyungHo In
		Sensitive and selective measurement of serotonin in vivo using fast cyclic square-wave voltammetry Hojin Shin
	<b>UofA</b>	REM sleep without atonia and motor signs in people with early stage Parkinson's disease Michael Heien
	<b>SNUH</b>	Next generation DBS Man Seong Heo
11:00	Closing Remarks	
11:10	Adjourn	