LONDON, UNITED KINGDOM JULY 6-7, 2018

International Parkinson and Movement Disorder Society

2nd Speech and Swallowing in Parkinson's Disease School

Course Description

Dysarthria in Parkinson's disease (PD) is primarily characterized by hypophonia and dysprosody. It worsens during the disease progression with a poor and variable response to pharmacological and/or neurosurgical treatments. Hypophonia in PD usually responds well to intensive speech therapies, but speech therapy is rarely proposed to PD patients. While speech therapy gained growing relevance in the management of patients with PD, evidence-based evaluation of behavioral speech therapies for PD remains difficult due to the heterogeneity of dysarthria, as well as the variety of available treatments. Speech therapy programs are often individually tailored to each patient for reaching specific objectives, therefore limiting the conclusions of clinical trials. Moreover, the need for specific training of therapists may restrict access to this therapy.

The main objective of Speech and Swallowing in Parkinson's Disease school is to provide an opportunity for speech therapists to keep informed about clinical aspects of Parkinsonism, as well as to provide the most recent knowledge about clinical management of dysarthria in PD. During the school, the idea is to provide recommendations while educating students, clinicians and researchers in order to improve their understanding of speech impairment in PD as a multidimensional, multidisciplinary and multiparametric symptom.

The program is designed as a 1 1/2-days school in order to provide an opportunity for small group workshops. We look forward to an inspiring event, providing a unique opportunity to discuss speech therapy in PD with a transdisciplinary team.

Learning Objectives

- The participant will be able to discuss the neurological bases of normal speech production and speech impairment in PD and atypical parkinsonism.
- The participant will be able to assess speech impairment and swallowing impairment in PD and its implications on social participation.
- The participant will be able to select and design a rehabilitation program targeting speech and/or swallowing impairments in PD patients.
- The participant will be able to consider technological advances for assessing and treating and monitoring speech and swallowing problems.
- The participant will be able to appreciate the challenge of treating speech impairment as part of a multidisciplinary team.
- The participant will be able to consider patient-reported outcome measures as part of the evaluation and follow-up program of management.
- The participant will be able to identify how and when speech therapy can be fully effective according to disease progression and in association with medical and/or surgical treatments

Schedule

DAY 1	
TIME	LECTURE
9:00 – 9:15	Welcome and short introduction *Elina Tripoliti, London, UK*
9:15-9:30	Why is speech the great challenge in managing Movement Disorders *TBC*
Atypical parkinsonism and speech	
9:30-10:00	Atypical parkinsonism *Huw Morris, London, UK*
10:00-10:30	Variability of speech symptoms in atypical parkinsonism *Elina Tripoliti, London, UK*
10:30-11:00	**COFFEE AND DISCUSSION**
Speech versus speaking: enhancing social participation	
11:00-11:30	Communication changes through the disease process: the patient's perspective *Matthew Eagles, UK*
11:30-12:00	How to study communication changes through the disease process *Ellika Schalling Sweden*
12:00-12:30	Using the Lombart effect through masking to treat speech *Tim Grover, London, UK*
12:30-13:00	Dissecting speech impairment in PD *Serge Pinto, France*

13:00-14:00	LUNCH PROVIDED
14:00-15:30	***Speech assessment and treatment Workshop*** ***3 groups of patients, 3 sessions of 20 min each*** ***Group 1: Communicative Participation*** *Ellika Schalling* ***Group 2: Speech Treatment*** *Lorraine Ramig and Cynthia Fox* ***Group 3: Technology and speech*** *Jan Rusz and Dimitris Fotiadis*
15:30-16:00	COFFEE and DISCUSSION
Pharmacological and surgical treatments for PD and their effects on speech	
16:00-16:30	What is new in pharmacological treatments for PD and could there be an effect on speech? *Tom Foltynie, London, UK*
16:30-17:00	Surgical treatments of PD and adjustments options for speech *Patricia Limousin, London, UK*
17:00-17:30	How to treat speech post DBS *Elina Tripoliti, London, UK*
17:30-18:00	Amplitude training and motor learning in PD and atypical parkinsonism *Cynthia Fox or Lorraine Ramig, Denver, CO, USA*
DAY 2	
9:00-9:30	Neurophysiology of swallowing in PD and atypical parkinsonism *Hanneke Kalf, Nijmegen, Netherlands*
9:30-10:00	Assessing swallowing function in PD *Hanneke Kalf, Sue McGowan*

10:00-10:30	Treating swallowing disorders in PD *Hanneke Kalf, Elina Tripoliti*
10:30-11:00	Saliva production and management options in PD and dystonia *Guy Carpenter, London, UK*
11:00-11:30	COFFEE AND DISCUSSION
11:30-12:30	***Swallowing workshops*** ***2 groups, 2 sessions of 30 min each*** ***Group 1: Videofluoroscopy Workshop*** *Hanneke Kalf, Elina Tripoliti,* ***Group 2: Expiratory Muscle Strength Training Workshop*** *TBC*
12:30-13:30	LUNCH provided
Technology for enhancing clinical practice	
13:30-14:00	Automated analysis of connected speech in PD *Jan Rusz, Prague, Czech Republic*
14:00-14:30	Enhancing therapy access via technology *Cynthia Fox or Lorraine Ramig, US*
14:30-15:00	Use of technology to measure everyday function *Dimitris Fotiadis, Greece*
	Novel topic: Non motor symptoms in speech and swallowing rehabilitation
15:00-15:30	How non-motor symptoms impact speech and swallowing function in PD *Cynthia Fox, US*

15:30-16:00	***Plenary session and closure*** *Elina Tripoliti, Serge Pinto, Hanneke Kalf, Cynthia Fox, Jan Rusz, Ellika Schalling, Dimitris Fotiadis, Guy Carpenter and Patricia Limousin*

Registration: **https://mds.execinc.com/edibo/SPEECH18UK/**

Faculty

Guy Carpenter

Guy Carpenter received his PhD in 1997 by examining salivary glycoproteins in health and disease. The disease in this case was xerostomia or dry mouth caused either by an automimmune condition (Sjogren's syndrome) or as a side-effect of prescribed medications. This has been a continuing interest for the last 20 years as PhD and post-doc projects have examined the physical properties of saliva and their importance in the functions of saliva. The main function of saliva is to lubricate the oral tissues to prevent oral tissues/ surfaces from sticking to each other. Of course, this has particular reference to speech but this is hugely understudied and indeed one that I have not (yet) researched. So in this talk I will cover the components, secretion and functions of saliva and some of the methods we use to analyse and assess it and I'll then speculate about how this may affect speech. Currently I am a reader of oral biology at Kings College London Dental Institute.

Matt Eagles

Patient Engagement Advocate.
Having had Parkinson's for forty-two years, I have become an expert in my own condition. I had deep brain stimulation just short of 12 years ago. My passion is raising awareness of patient sentiment and encouraging meaningful dialogue between pharma, HCP's and patients themselves, so outcomes benefit everyone. I am now the Head of Patient Engagement at Havas Lynx, a global healthcare communications company.
I was the keynote speaker at Wired Health 2017, Financial Times HealthTech Europe, the Digital World Health Summit and the British Neuroscience Winter Symposium. I have been a panellist at Founders Forum, Mindshare Huddle and the Virtual Futures salon.
In partnership with the Financial Times and SoftBank Investment Advisers, I have also been asked to join a panel at CogX 2018; which will bring together 4,000 attendees and 300 speakers across 5 main stages. The event focuses on the impact of Artificial Intelligence (AI) on industry, government and society, as well as taking a deep dive into the cutting edge technologies and provides a stage dedicated to the practical advice on how to get from "Lab to Live" and a stage to dig into the ethical considerations.
I offer new refreshing insights from a patient perspective, as I have no previous background in healthcare after spending 25 years working for several trade publishing companies producing in-house advertising funded publications in a variety of sectors.
"Never pre-judge and never discount opinion without listening first, everyone has a story to tell and something valuable to contribute if you let them"

Thomas Foltynie

Professor Tom Foltynie is Consultant Neurologist at the Sobell Department of Motor Neuroscience at the UCL Institute of Neurology and National Hospital for Neurology and Neurosurgery, Queen Square, London. He completed Neurology training in Cambridge, where he undertook his PhD in the Epidemiology & genetics of Parkinson's disease. He is responsible for Movement disorder patients, particularly PD patients undergoing advanced treatments such as DBS, Apomorphine and Duodopa. He is chief investigator for a series of trials of Exenatide - a potential neurorestorative treatment for PD, as well as the lead clinician at UCL for a multi-centre trial of fetal dopaminergic cell transplantation for PD, and a proposed trial of Deep Brain stimulation as a treatment for the cognitive problems associated with advanced PD. Prof. Foltynie is also leading a trial of Deep Brain Stimulation for the treatment of patients with severe Tourette syndrome.

Dimitrios Fotiadis

Professor Dimitrios I. Fotiadis (M), received the Diploma degree in chemical engineering from the National Technical University of Athens, Athens, Greece, in 1985, and the Ph.D. degree in chemical engineering and materials science from the University of Minnesota, Minneapolis, in 1990. He is currently a Professor of Biomedical Engineering in the Department of Materials Science and Engineering, University of Ioannina, Ioannina, Greece, where he is also the Director of the Unit of Medical Technology and Intelligent Information Systems, and is also an Affiliated Member of Foundation for Research and Technology Hellas, Institute of Molecular Biology and Biotechnology, Dept. of Biomedical Research. He was a Visiting Researcher at the RWTH, Aachen, Germany, and the Massachusetts Institute of Technology, Boston. He has coordinated and participated in more than 200 R&D funded projects. He is the author or coauthor of more than 240 papers in scientific journals, 450 papers in peer-reviewed conference proceedings, and more than 50 chapters in books. He is also the editor or coeditor of 25 books. His work has received more than 10,500 citations (h-index = 52). He is a senior member of IEEE, member of IEEE Technical Committee of information Technology in Healthcare and the Editor in Chief of IEEE Journal of Biomedical and Health Informatics, and Associate Editor for Computers in Biology and Medicine. His research interests include multiscale modeling of human tissues and organs, intelligent wearable/implantable devices for automated diagnosis, processing of big medical data, sensor informatics, image informatics, and bioinformatics. He is the recipient of many scientific awards including the one by the Academy of Athens.

Cynthia Fox

Dr. Fox received her doctorate degree in Speech and Hearing Sciences from the University of Arizona, Tucson. Dr. Fox is a research associate at the National Center for Voice and Speech and Co-Founder of LSVT Global. She is an expert on rehabilitation and neuroplasticity and the role of exercise in the improvement of function consequent to neural injury and disease. Dr. Fox is among the world's experts in speech treatment for people with Parkinson disease. She has multiple publications in this area of focus, as well as numerous national and international research and clinical presentations. Dr. Fox has worked closely with Dr. Ramig for the past 18 years on studies examining the efficacy of LSVT LOUD, the underlying mechanisms of speech disorders in PD, and the application of LSVT LOUD to other disorders (children and adults) and other motor systems (e.g., limb).

Tim Grover

Mr. Grover, MRes, MRCSLT, received his degree in Speech Sciences at University College London (UCL) and has gone on to complete a Masters of Research in Speech, Language and Cognition at UCL. His thesis examined stimulation frequency and speech intelligibility and verbal fluency in patients with Parkinson's disease treated with deep brain stimulation. Mr. Grover works in a clinical and research capacity in the Unit of Functional

Neurosurgery. His areas of interest are movement disorder related speech difficulties and in particular those related to deep brain stimulation and has co-authored on publications on this topic. A further interest is the assessment and treatment of hypomimia.

Hanneke Kalf

Dr. Hanneke Kalf is a speech-language therapist and assistant professor in acquired speech and swallowing disorders at the department of Rehabilitation of the Radboud university medical center in Nijmegen, the Netherlands. She earned her PhD with her thesis “Drooling and dysphagia in Parkinson’s disease”. She combines clinical work with research projects, supervision of PhD candidates and development of postgraduate education. Her clinical and scientific focus is on the assessment and treatment of dysarthria and oropharyngeal dysphagia in particular in neurodegenerative diseases. She has provided numerous post-graduate course in these domains and authored several books, including the Dutch guideline for speech therapy in Parkinson’s disease. She is involved in ParkinsonNet to educate speech-language therapist nationally and internationally in the treatment of people with PD. Currently, she is also co-chair of the Health Professionals (Non-Physicians) Special Interest Group of the International Parkinson and Movement Disorders Society.

Patricia Limousin

Professor Patricia Limousin is a Consultant Neurologist with expertise in the diagnosis and management of movement disorders, in particular Parkinson’s disease, dystonia and tremor. Professor Limousin has worked at UCL Institute of Neurology and the National Hospital for Neurology & Neurosurgery since 1997, where she is currently a Professor of Clinical Neurology and Consultant Neurologist.
Professor Limousin completed her medical education in 1993 at the University of Grenoble, France and in 1998 obtained a PhD in Neuroscience from the University of Lyon I. The topic of her PhD thesis was deep brain stimulation of the subthalamic nucleus as a treatment for Parkinson's disease. Professor Limousin was a member of the medical team in Grenoble (which included Professors Benabid and Pollak) that developed the use of deep brain stimulation for movement disorders. She is one of the most experienced neurologists in the world in setting the optimal parameters for deep brain stimulation and post-operative management of DBS patients. She has received international recognition for her work in the treatment of Parkinson's disease and other movement disorders, and for her research in to deep brain stimulation.

Sue McGowan

Mrs. Sue McGowan works as a Clinical Specialist Speech and Language Therapist (SLT) at the National Hospital for Neurology and Neurosurgery in London. Her clinical input is mostly with ventilator-dependent patients on two neurointensive care units. She is on the committee of the Tracheostomy Clinical Excellence Network and has lectured nationally and internationally on Speech and Language therapy in neurosciences. She is an RCSLT Advisor in Critical Care and has contributed to and co-authored profession-specific and national guidance documents relating to the care of neuroscience patients. She completed a MSc in Adult Critical Care at Imperial College London in 2005.

Huw Morris

Professor Morris is Consultant Neurologist and Professor of Clinical Neuroscience at the Royal Free Hospital, National Hospital for Neurology and Neurosurgery and UCL Institute of Neurology. His main clinical and research interests are in Movement Disorders and Neurogenetics, particularly early onset, genetic and familial Parkinson's disease and atypical Parkinsonian disorders such as Progressive Supranuclear Palsy, Cortico-basal degeneration and Fronto-temporal dementia with Parkinsonism. His clinical and research training took place at the National Hospital, Queen Square, the Mayo Clinic and the Western Pacific island of Guam. He was Senior Lecturer and then Professor of Neurology and Neurogenetics at Cardiff University from 2003 to 2013. His research is funded by Parkinson's UK, the Medical Research Council, the PSP Association and the Motor Neuron

Disease Association. He is Chair of the Dendron Parkinson's Disease Clinical Studies Group and the Clinical Research and Academic Committee of the Association of British Neurologists. He serves on the Research Advisory Panels of Parkinson's UK, the Motor Neuron Disease Association, Cure PSP and the Multiple System Atrophy trust. Professor Morris also serves on the Honorary Medical Advisory Panel on Driving and Disorders of the Nervous System for Driver and Vehicle Licensing Authority.

Serge Pinto

Dr. Pinto received his doctorate degree in Neurosciences from the Grenoble University, France. Dr. Fox is a tenure researcher of the CNRS (French National Centre of Scientific Research) at the Speech and Language Laboratory (Laboratoire Parole et Langage, UMR 7309, CNRS / Aix-Marseille University). His research interests mainly focus on the understanding of motor speech disorders physiopathology, mainly in Parkinson's disease and other Movement Disorders such as generalized dystonia and essential tremor. His investigation is generally twofold: studying acoustically the alteration of speech production in Parkinson's disease patients and the impact of this change on their intelligibility and quality of life, and looking for the brain dysfunctions at the origin of dysarthria and the functional brain reorganization that may be implicated. His research is interdisciplinary by nature, integrating theoretical frameworks of linguistics and phonetics in neurophysiological models of speech production. Dr. Pinto is an expert on the neurolinguistic approach to studying dysarthria and its dedicated treatments, and particularly deep brain stimulation.

Lorraine Ramig

Dr. Ramig is a Research Professor at the University of Colorado-Boulder and Senior Scientist at the National Center for Voice and Speech-Denver. She is an Adjunct Professor at Teachers College, Columbia University-New York City and Co-Founder of LSVT Global-Tucson. Her research has been funded by the National Institutes of Health-National Institutes of Deafness and Communication Disorders (NIH-NIDCD) for over twenty years. She has received Honors of the Association, the highest professional award of the American Speech Language Hearing Association (ASHA). Dr. Ramig and her colleagues pioneered LSVT LOUD (Lee Silverman Voice Treatment) an evidence-based behavioral treatment for Parkinson disease and other neurological disorders which is now being implemented in clinical practice globally.

Jan Rusz

Jan Rusz received the Ph.D. degree in 2012 in Electrical Engineering Theory and currently is Assistant Professor at the Faculty of Electrical Engineering of the Czech Technical University in Prague, Czech Republic. His expertise covers mainly motor speech disorders in progressive neurodegenerative diseases with the interdisciplinary background of data analysis, digital signal processing, neuroscience and physiology. The motivation of his research is to provide more insights into mechanism of speech disorders in neurodegenerative disorders with potential clinical applications helping to improve early diagnosis and prognosis of disease as well as monitoring disease progression and treatment efficacy. Dr. Rusz has more than 30 peer-reviewed journal articles in this area of focus, as well as numerous national and international research presentations. Currently, his main research interests are speech biomarkers for the early stage of neurodegeneration in Parkinson's disease. He is principal investigator of the multi-site project, "Detecting Parkinson's Disease Through Speech Analysis" funded by Michal J. Fox Foundation. He also serves as Associate Editor of the Logopedics Phoniatrics Vocology journal and member of SpringerPlus editorial board.

Ellika Schalling

Ellika Schalling, PhD, SLP, is an assistant professor at the Division of Speech and Language Pathology at the Karolinska Institute, KI, in Stockholm, Sweden. Ellika Schalling received her Masters from Boston University and her doctorate from the Karolinska Institute. Her current position at the KI includes teaching and administration at both the Masters' and doctoral programs in SLP, as well as research and clinical work at the Karolinska

University Hospital. Primary research interests are speech and voice in chronic neurological disease; specifically treatment outcomes. Ongoing research also focus on voice use and treatment outcomes in Parkinson's disease, studied in settings outside the clinic using ambulatory phonation monitoring.

Elina Tripoliti

Elina Tripoliti, PhD, MRCSLT and HPC is an Honorary Senior Lecturer and Consultant Speech and Language Therapist in Movement Disorders at the Unit of Functional Neurosurgery, National Hospital for Neurology and Neurosurgery, UCLH NHS Trust.
She provides therapy for speech and swallowing difficulties of patients with Movement Disorders.
Elina has a degree in Philosophy and Clinical Psychology from Athens University, followed by a MSc in Language and Communication Studies from City University London, UK and a PhD in Neurological Studies from the Institute of Neurology, UCL, London. She has been working at the National Hospital for Neurology and Neurosurgery since 2000, and in 2003 she joined the Unit of Functional Neurosurgery where the *Speech and Movement Disorders Clinic* was created. She maintains a keen interest in the investigation of the effects of deep brain stimulation on speech.
She is a founding member and a Trustee of the *Sing for Joy* choir for people with PD.

Disclosures:

Dr. Guy Carpenter has no financial or non-financial disclosures to disclose.

Mr. Matt Eagles has no financial or non-financial relationships to disclose.

Professor Thomas Foltynie has a salary from University College London and UCLH NHS Trust. His research is supported by Michael J Fox Foundation, European Union, John Black Charitable Foundations, Cure Parkinson's Trust and Rosetrees trust. He has received honoraria for speaking at meetings sponsored by BIAL, Profile Pharma, Britannia Pharmaceuticals. He has served on Advisory Boards for BIAL and Oxford Biomedica. He has no non-financial relationships to report.

Professor Dimitris Fotiadis has no financial or non-financial relationships to disclose.

Dr. Cynthia Fox receives lecture honorarium and travel reimbursement and has ownership interest in LSVT Global, Inc. Non-financial relationships include a preference for the LSVT LOUD as a treatment technique and equipment which will be discussed as a part of this Course.

Mr. Tim Grover has no financial or non-financial relationships to disclose.

Dr. Hanneke Kalf is employed by the Radboud university medical center, department of Rehabilitation and receives a fulltime salary. A part of her research is funded by ZonMw, the Netherlands Organization for Health Research and Development.

Professor Patricia Limousin has received honorarium for lecture and travel reimbursement from Medtronic, Boston Scientific and Abbott. She has no non-financial relationships to disclose.

Mrs. Sue McGowen has no financial or non-financial relationships to disclose.

Professor Huw Morris has the following financial relationships: employed by UCL, North Thames NIHR Neurodegeneration as Specialty Lead; has or currently provides consultant services for AlzProtect, Accorda (2015), E-Scape, Bristol-Myers-Squibb, Wellcome Trust (2016), and Biogen, UCB (2018), has received lecture fees for UCB Pharma, Wellcome Trust (2016), GE Healthcare, GSK, Wellcome Trust (2017), and Biogen, UCB,

Wellcome trust, C4X Discovery (2018), has research grants through Parkinson's UK, Cure Parkinson's Trust, PSP Association, CBD Solutions, MND Association, Drake Foundation, and Medical Research Council, and has the following patents: H. R. M is a co-applicant on a patent application related to C9ORF72 - Method for diagnosing a neurodegenerative disease (PCT/GB2012/052140). Huw Morris has no non-financial relationships to disclose.

Dr. Serge Pinto has no financial or non-financial relationships to disclose.

Dr. Ramig receives lecture honorarium and travel reimbursement and has ownership interest in LSVT Global, Inc. Non-financial relationships include a preference for the LSVT LOUD as a treatment technique and equipment which will be discussed as a part of this course.

Dr. Jan Rusz discloses, in addition to his salaried faculty position, Jan Rusz is on the Editorial Board for the Logopedics phoniatrics Vocology and SpringerPlus and is a reviewer for several other peer-reviewed journals.

Professor Ellika Schalling has no financial or non-financial relationships to disclose.

Dr. Elina Tripoliti has no financial or non-financial relationships to disclose.

Financial, In-Kind and Other Support for this Course:

- Movement Disorder Society is responsible for fees related to sponsoring and organizing the course and faculty travel costs
- The National Hospital for Neurology and Neurosurgery and the Institute of Neurology, UCL in London is providing the space for the course
- Boston Scientific is providing a grant through the Movement Disorders Society
- LSVT Global is offering their support by providing ASHA CE credit for the course

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