



## CURRICULUM VITAE



**MAUREEN ANNE LEEHEY, M.D.**

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### **Personal Statement**

I am a board-certified neurologist, movement disorder specialist, and the Division Chief for the Movement Disorders Program at the University of Colorado Denver. I have over 30 years' experience in management of movement disorder patients. One of my major areas of research is the methodology and conduct of clinical trials. I have conducted, as PI, over 25 clinical trials and several more as a sub-Investigator. Most of these have been on Parkinson disease. The University of Colorado is an established, productive center for the conduct of clinical trials. Presently we have nine movement disorders faculty experienced in movement disorders clinical trials. Our Neurology Department Clinical Research Division Core Team consists of experienced research personnel in all aspects of study execution: PRAs, nurses, IRB, regulatory and budgetary specialists, etc. Our studies are usually conducted in the University of Colorado Hospital, which has been ranked among the top 10 academic hospitals in the United States by the University Health System Consortium for the past four years. Our movement disorders program serves as a major tertiary referral center for Colorado and many neighboring states; our service area spans from beyond the Western Rocky Mountains to the Midwest and the northern US border. In 2020 we saw over 6000 unique Parkinson disease patients.

### **1. Education**

- 1977 B.S., University of Texas School of Nursing at Houston
- 1986 M.D., University of Texas School of Medicine at Houston
- 7/86 - 6/87 Medical Internship, Presbyterian/St. Luke's Medical Center, Denver, CO
- 7/87 - 6/90 Neurology Residency, University of Colorado at Denver (UCD)
- 7/90 - 6/93 Movement Disorders Fellowship, Department of Neurology, UCD
- 7/91 - 6/93 NIH Postdoctoral Fellow, UCD, mitochondrial physiology
- 7/93 - 6/98 NIH Physician Scientist, UCD, mitochondrial genetics and tRNA structure research

### **2. Academic appointments**

- 7/93 - 6/94 Instructor, Department of Neurology, UCD
- 7/94 - 6/03 Assistant Professor of Neurology, UCD
- 6/03 - 7/07 Associate Professor of Neurology, UCD
- 3/06 - 02/09 Graduate Faculty, Clinical Science Program, CU Anschutz

- 8/07 - present Professor of Neurology, CU Anschutz
- 9/10 - present Chief, Movement Disorders Section, CU Anschutz

### 3. Hospital, government, or other professional positions

- 1994 - 2000 Co-Investigator, UCD Parkinson's Disease transplantation Program
- 1994 - 2001 Founder and Director, UCD Huntington's Disease Asymptomatic Gene Testing Program
- 1997 - 2005 Co-Investigator, UCD Movement Disorders Deep Brain Stimulation Program
- 1997 - present Co-Investigator, testing of novel agents to slow or provide symptomatic control of Parkinson disease
- 1998 - present Investigator, characterization of the neurological phenotype of fragile X premutation carriers
- 1999 - 2012 Medical Director & Co-Founder, Denver Area Restless Legs Support Group
- 2000 - present Lead Investigator, international Parkinson's Disease Study Group
- 2006 - 2008 Co-Investigator, international effort to develop a new United Parkinson Disease Rating Scale
- 2019 Appointed to the Institute of Cannabis Research Governing Board by Colorado Governor Jared Polis
- 2019 Co-Director of University of Colorado Movement Disorders Parkinson Foundation Center of Excellence

### 4. Honors, special recognitions, and awards

- 1981 Member Alpha Epsilon Delta, pre-medical honors society
- 1986 Merck Manual Award, for outstanding medical school academic performance
- 1989 Chief Resident of Neurology, UCD
- 1998 Outstanding Abstract, 5<sup>th</sup> International Congress of Parkinson's Disease and Movement Disorders, selected as one of the five most outstanding of 250 abstracts
- 2000 Doctor of Excellence Award, National Dystonia Medical Research Foundation
- 2002 Invited Faculty for the 8<sup>th</sup> International Fragile X Conference, to co-chair session on neurological problems in premutation carriers
- 2003 Hagerman Award, National Fragile X Foundation
- 2004 Outstanding Abstract, 8<sup>th</sup> International Congress of Parkinson's Disease and Movement Disorders, selected as one of the 16 most outstanding of 1340 abstracts
- 2006 Elected to the American Neurological Association
- 2006 Late-breaking abstract, 10<sup>th</sup> International Congress of Parkinson's Disease and Movement Disorders
- 2007 Outstanding abstract, 11<sup>th</sup> International Congress of Parkinson's Disease and Movement Disorders, selected as one of eight out of 283 abstracts
- 2008 Manuscript, '*FMR1* CGG repeat length predicts motor dysfunction in premutation carriers', selected to be published in a special bonus issue of Neurology, honoring the American Academy of Neurology's 60<sup>th</sup> Anniversary
- 2010 Who's Who in America 2010 - 2013
- 2010 The 2010 Distinguished Alumnus Award, University of Texas School of Medicine at Houston
- 2011 - 2012 Who's Who in Science and Engineering 2011- 2012, Who's Who in the World 2011

- 2009 - 2017 Best Doctors in America, peer-reviewed, includes the top 5% of U.S. Physicians
- 2014 Michael J. Fox Foundation Trial Finder Challenge winner, of all institutions Parkinson populations
- 2016 Awarded the title of Fellow Member of the American Academy of Neurology
- 2019 "Preliminary Findings of the use of cannabis in Parkinson Disease" poster selected for Highlights at 32<sup>nd</sup> Annual Symposium on Etiology, Pathogenesis, and Treatment of Parkinson Disease and Other Movement Disorders, Phoenix AZ, April 6, 2019.
- 2019-2020 Best Doctors in America, peer-reviewed, includes the top 5% of U.S. Physicians
- 2019-2021 Appointed to the Institute of Cannabis Research Governing Board by Colorado Governor Jared Polis
- 2019-present Co-Director of University of Colorado Movement Disorders Parkinson Foundation Center of Excellence
- 2019-2021 Asked by the Michael J Fox Foundation to lead an international effort to survey persons with PD on cannabis use
- 2020 Invited to join the PSG Credentials Committee for a three-year term

#### **5. Memberships in professional organizations**

- American Academy of Neurology
- International Parkinson and Movement Disorder Society
- American Neurological Association
- National Fragile X Foundation
- Parkinson Disease Study Group
- University of Texas Houston Medical School Alumni Association
- National Ataxia Foundation
- International Restless Legs Syndrome Study Group
- Alois Society Member
- International Cannabinoid Research Society

#### **6. Major Committee and Service Responsibilities**

- **National/International**
  - NIH Committee for development of a research plan for Fragile X Syndrome and Associated Disorders for the US Congress, June - August 2008
  - Since 2005 wrote letters of recommendation for promotion applications for faculty for U.S. medical schools (9), and an international university (1)
  - NIH Exploratory Trials in Parkinson's disease Recruitment and Retention Committee, 2007 - present
  - FXTAS.org Advisory Group member, to develop a FXTAS website, 2009 - 2011
  - NIH Fragile X Research Coordinating Group, April - August 2012
  - NET-PD Writing Group, Gender Differences, March 2013
  - NET-PD Writing Group, Dopaminergic Therapy Associations, March 2013 - 2016
  - Citicoline for neurological signs in fragile X-associated tremor/ataxia syndrome (FXTAS), PI Deborah A. Hall, MD PhD: Safety Monitor June 2016 - 2018
  - NFXF Scientific and Clinical Advisory Committee, July 2016 - present
  - Task Force Member, NFXF FXTAS Task Force, 2015 - present
  - NIH Committee to update Research Plan on Fragile X and *FMR1*-Related Conditions, March 2018 - 2019
  - Facilitator for Parkinson's Foundation's Medical Marijuana in PD Workshop March 6-7, 2019
  - International FXTAS Consortium 2019 – present

- Institute of Cannabis Research Governing Board, Colorado State Board, August 2019 - present
- PSG Credentials Committee, January 2020 - January 2023
- Member, FXTAS Rating Scale Delphi Panel, March 2020 - present
- PSG Working Groups: PSG: Genetics and Environmental Risk, Cognitive/Psychiatric (Behavior), and Other Non-Motor Features of PD, September 2020 - present
- Zynerba Safety Assessment Committee, July 2020
- Founding Member, International Fragile X Premutation Registry, National Fragile X Foundation, January 2021 - present
  
- **Institutional**
  - Member, UCD Space committee, 1995 -1996
  - UCD School of Medicine Faculty Senator, 1996 - 1997
  - Member, Neurology Department Residency Selection Committee, 2003 - 2005
  - Search committee member, Charles C. Gates Regenerative Medicine & Stem Cell Biology recruitment committee, 2008 - 2010
  - School of Pharmacy Dean's Review Committee, 2009 - 2010
  - Neurology Department Clinical Research Space Planning committee, 2009 - 2013
  - Chief, Movement Disorders Division, Neurology Department, 2010-present
  - Neurology Clinical Affairs Task Force, 2010 - present
  - Neurology Department Promotions Committee, 2009 - present
  - Chair, Mid-term Review Committee, O. Klepitskaya, March 2013
  - CU Anschutz Technology Center, Neurology Department representative, 2012-2013
  - Neurology Department Project Improvement Committee, 2012 - 2016
  - Neurosciences Strategic Planning Committee, 2013 - 2016
  - Chair, Neurology Department Promotion Committee, B. Kluger, Assistant to Associate Professor, 2013
  - Chair, Neurology Department Promotion Committee, O. Klepitskaya, Assistant to Associate Professor, September 2013
  - Chair, Mid-term Review Committee, B. Berman, March 2014
  - Chair, Department Promotion Review Committee, B. Berman, November 2014
  - Chair, Department Promotion Review Committee, L. Seeberger, November 2015
  - Member, Department Promotion Review Committee, D. Ney, November 2015
  - Member, Department of Neurosurgery Obsessive Compulsive Disorder Ethics Panel, 2017-present
  - Chair, Department Promotion Review Committee, J. Tsai, November 2017
  - Member, Department Promotion Review Committee, L. Frey, October 2018
  - Colorado Cannabis Research Consortium, Steering Committee, 2018 - present
  - Member, Department Promotion Review Committee, C. Vaughan, October 2018
  - Chair, Department Mid-Term Review Committee, D. Kern, December 2018
  - Member, Department Promotion Review Committee, K. Darrow, March 2019
  - Member, Department Promotion Review Committee, L. Seeberger, September 2019
  - Member, Department Promotion Review Committee, B. Berman, October 2019
  - Member, Department Promotion Review Committee, A. Walczyk, October 2019
  - Member, Department Promotion Review Committee, R. Krause, November 2019
  - Chair, Department Promotion Review Committee, D. Kern, September 2020
  - Member, Department Promotion Review Committee, D. Damek, October 2020
  
- **Community**
  - Founder and Director, UCD Huntington's Disease Asymptomatic Gene Testing Program, provided comprehensive genetic testing program for ~60 persons at risk for HD, meeting an urgent need for persons in the Rocky Mountain area when the gene test became commercially available, 1994 - 2001

- Medical Director & Co-Founder, Denver Area Restless Legs Support Group, 1999 - 2007
- Parkinson Disease Global Community Conference Keystone 2014 Planning Committee member, July 2012 - 2014
- Master of Ceremonies, "The Michael J. Fox Foundation and the University of Colorado: "To the Future and Back- Parkinson's Disease Tomorrow and Today," September 2014
- Master of Ceremonies, University of Colorado: "To the Future and Back- Parkinson's Disease Tomorrow and Today," September 2015
- Master of Ceremonies, University of Colorado: "CU Movement Disorders Center 3<sup>rd</sup> Annual Parkinson's Disease Symposium," October 2016
- Master of Ceremonies, University of Colorado: "CU Movement Disorders Center 4<sup>th</sup> Annual Parkinson's Disease Symposium," September 2017
- Master of Ceremonies, University of Colorado: "CU Movement Disorders Center 3<sup>rd</sup> Annual Parkinson's Disease Symposium," October 2018
- Member, Institute of Cannabis Research Governing Board, September 2019–present, serving on Curriculum, Grant Review, Research, Budget, and Bylaws Committees
- Master of Ceremonies, University of Colorado: "CU Movement Disorders Center 7<sup>th</sup> Annual Parkinson's Disease Symposium," November 2020
- Master of Ceremonies, University of Colorado: "CU Movement Disorders Center 8<sup>th</sup> Annual Parkinson's Disease Symposium," September 2021

#### **7. Licensure and board certification**

- 7/90 M.D. Colorado license
- 1/93 Specialty Certification in Neurology, #3707, American Board of Psychiatry and Neurology

#### **8. Review and referee work**

- NIH site visit reviewer, Massachusetts General Hospital, "Receptor Mechanisms in Movement Disorder Pathophysiology," 1992 and 1993
- Ad hoc reviewer, United States Pharmacopeia, May, 1999
- Invited faculty, Huntington's Disease Society of America Annual Convention, chair and panel discussion speaker for large group forums on HD genetic testing, 1998
- Invited faculty, The National Fragile X Foundation 8<sup>th</sup> International Fragile X Conference, 2002, 2004
- Ad hoc reviewer, Movement Disorders 2003, 2004, 2005
- Ad hoc reviewer, Annals of Neurology 2004, 2005, 2012, 2013
- Ad hoc reviewer, Journal of Neurology, Neurosurgery and Psychiatry 2006
- Ad hoc reviewer, Archives of Pathology & Laboratory Medicine 2007
- Ad hoc reviewer, Journal of Medical Genetics, 2007, 2009
- Ad hoc reviewer, Neurology 2007, 2011, 2012
- Ad hoc reviewer, Journal of Neurology 2007
- Ad hoc reviewer, Acta Neurological Scandinavia 2008
- Abstract reviewer, American Neurological Association annual conference, 2008, 2009
- Grant reviewer, Association Francaise Contre les Myopathies (the French muscular dystrophy association), 2010
- Ad hoc reviewer, European Journal of Neurology 2010
- Reviewed high school senior paper, Jeff Johnston, "What is Free Will and Does It Exist?" San Francisco School District, 2010.
- Reviewed graduate project/manuscript, Xiu Shan Ge, M.D., "The Natural History of Spinal Muscular Atrophy in China: a Study of 237 Patients," Beijing, August 2010
- Ad hoc reviewer, Parkinsonism & Related Disorders, 2010, 2011 (x2), 2017 (x2)
- Ad hoc Reviewer, American Journal of Psychiatry, 2011
- Ad hoc Reviewer, Brain Disorders & Therapy 2012

- Ad hoc Reviewer, Clinical Rheumatology, 2012
- Ad hoc Reviewer, Gene, 2012 (x3)
- Ad hoc Reviewer, Clinical Genetics, 2012 (x2)
- Ad hoc Reviewer, The Lancet Neurology, 2013
- Ad hoc Reviewer, Fatigue: Biomedicine, Health and Behavior, 2013 (x2)
- Ad hoc Reviewer, American Journal of Medical Genetics: Part A, 2013, 2014
- Ad hoc Reviewer, Muscle & Nerve, 2014 (x2)
- Ad hoc Reviewer, Movement Disorders Clinical Practice, 2014.
- Ad hoc Reviewer, Movement Disorders Journal, 2014.
- Ad hoc Reviewer, The Journal of American Medical Association Neurology, 2015
- Ad hoc Reviewer, The Cerebellum, 2015 x2
- Ad hoc Reviewer, Clinical Psychologist, 2016
- Ad hoc Reviewer, The Clinical Neuropsychologist, 2016
- Ad hoc Reviewer, Basal Ganglia, 2016
- Ad hoc Reviewer, Complementary Therapies in Medicine, 2017
- Ad hoc Reviewer, American Journal of Medical Genetics Part B: Neuropsychiatric Genetics, 2017, 2018
- Ad hoc reviewer, ICR 2018 Conference Abstracts
- Ad hoc reviewer, Tremor and Other Hyperkinetic Movements, 2018
- Ad hoc reviewer, Practical Neurology, 2020

## 9. Selected Invited extramural lectures, presentations and visiting professorships

- **Local**
  - “Movement Disorders,” Clinical Neurosciences, IDPT 6004, 2<sup>nd</sup> year medical students, UCD, February 12, 2002.
  - “Parkinson’s Disease,” Applied Clinical Pharmacology Course (MED 8029), UCD 4<sup>th</sup> year medical students, UCD, February 28, 2002.
  - “Parkinsonism, Tremor, and Ataxia in a Female Fragile X Carrier,” UCD Neurology Grand Rounds, November 6, 2002.
  - Journal Club, UCD Neurology department residents, November 26, 2002.
  - “Fragile X Gene CGG Expansions Associated with Parkinsonism,” UCD Neurology Grand Rounds, November 7, 2003.
  - “Tremor and the new Fragile X-associated Tremor/Ataxia Syndrome. General Internal Medicine Department weekly conference, June 2004.
  - “Fragile X Associated Tremor/Ataxia Syndrome,” UCD Neurology Grand Rounds, November 5, 2004.
  - “Movement Disorders,” Neurology Residents Morning Report, Neurology Department, UCD, August 12, 2005.
  - “Update on the Management of Parkinson Disease,” Neurosurgery Department, UCD, January 2005.
  - “Parkinsonism Plus,” Parkinson’s Association of the Rockies, February 26, 2005.
  - “A novel neurodegenerative disorder: FXTAS,” Internal Medicine Department, UCD, June 21, 2005.
  - “The Differential Diagnosis of Tremor, including FXTAS,” Colorado Society of Clinical Neurology, September 2005.
  - “The Differential Diagnosis of Tremor,” UCD Neurology Grand Rounds, November 11, 2005.
  - Journal Club, UCD Neurology department residents, January 31, 2006.
  - “Fragile X-associated tremor/ataxia syndrome,” UCD Neurology Grand Rounds, December 1, 2006.
  - “Parkinsonism,” CU Anschutz neurology residents lecture series, September 5, 2007.
  - “Tremor, Toilets/Tic disorders,” CU Anschutz neurology residents lecture series, November 7, 2007

- “PD Dementia” CU Anschutz Neurology department residents Journal Club, January 29, 2008
- “Parkinson Diseases: Molecules to Medicine,” CU Anschutz Neurology department Grand Rounds, March 5, 2008.
- “Parkinsonism” Lecture to Neurology Residents, University of Colorado Denver, May 13, 2009.
- “Ask the Doctor” Parkinson Action Network Rocky Mountain Region meeting of the 16<sup>th</sup> Annual Research & Policy Forum, CU Anschutz, December 4, 2009
- “Cerebellar Ataxia” CU Anschutz Neurology department residents Journal Club, March 30, 2010
- “The Diagnosis and Treatment of Tremor, Including the Fragile X-Associated Tremor/Ataxia Syndrome (FXTAS),” Yesterday, Today and Tomorrow: Understanding the Pathophysiology and Treatment of Neurologic Diseases, CU Anschutz, May 21, 2010
- “Clinical Involvement of the Fragile X Premutation,” Updates in Fragile X Clinical and Translational Research 2010 Denver Mini-Conference, TCH, July 1, 2010
- “The Differential Diagnosis of Parkinsonism,” Neurology CME Grand Rounds, CU Anschutz, July 7, 2010
- “FXTAS, Fibromyalgia, and the Female Pre,” Neurology CME Grand Rounds, CU Anschutz, November 12, 2010
- “The Differential Diagnosis of Tremor,” Neurology Movement Disorders Section, CU Anschutz, January 12, 2011
- “Tremor: Diagnosis and Treatment,” Neurology residents and medical students, CU Anschutz, February 9, 2011
- “Movement Disorders Case Presentations Professors Rounds,” Neurology residents and medical students, CU Anschutz, April 6, 2011
- “PI Pearls,” Movement Disorders Section, CU Anschutz, April 7, 2011.
- “Movement Disorders Section Research,” Department of Neurology Research Retreat, CU Anschutz, May 18, 2011
- “Is Levodopa Toxic?” Neurology CME Grand Rounds, CU Anschutz, November 14, 2011
- “Overview of Parkinson Disease,” Neurology residents and medical students, CU Anschutz, January 4, 2012
- “Overview of Movement Disorders Research Activity,” Department of Neurology Research Retreat, CU Anschutz, April 4, 2012.
- “Parkinson Disease: Pathophysiology, Diagnosis, DaTscan & Differential Diagnosis,” CME, Inverness Hotel and Conference Center, Centennial, CO, September 8, 2012
- “Overview of Parkinson Disease,” Neurology residents and medical students, CU Anschutz, September 12, 2012
- “Movement Disorders,” first year medical student class, CU Anschutz, September 14, 2012
- “Neurological Movement Disorders, Arapahoe High School Senior Students Medicine Class, December 5, 2012
- “Movement Disorders: Guess the Diagnosis,” Neurology Grand Rounds, March 6, 2013
- Movement Disorders Section Quality Improvement Project: Medication Adherence in Parkinson Disease,” Neurology Grand Rounds, CU Anschutz, May 1, 2013
- “How to do the Neurological Exam,” CU Anschutz 2<sup>nd</sup> year medical students, September 2006, 2008, 2009, 2011, 2013, 2016
- “Neurology and the neurological examination” Arapahoe High School Seniors, Psychology Class, May 10, 2013
- “Overview of Parkinson Disease,” Neurology residents and medical students, CU Anschutz, September 2, 2013
- “Movement Disorders,” first year medical student class, CU Anschutz, September 27, 2013

- Neurological Movement Disorders, Arapahoe High School Senior Students Medicine Class, October 21, 2013
- “Movement Disorders via YouTube,” Neurology Grand Rounds, CU Anschutz, February 19, 2014
- “Neurological Exam and Movement Disorders,” Arapahoe High School AP Psychology classes, May 9, 2014
- “Overview of Parkinson Disease,” Neurology residents and medical students, CU Anschutz, September 10, 2014
- Neurological Movement Disorders, Arapahoe High School Senior Students Medicine Class, November 21, 2014
- “Role of Genetics and Environment in Parkinson Disease.” Patients, family, and caregivers, CU Anschutz, July 25, 2015
- “Pharmacological Treatment of Essential Tremor.” Patients, family, and caregivers, CU Anschutz, July 25, 2015
- “Overview of Parkinson’s Disease,” Neurology residents and medical students, CU Anschutz, August 19, 2015
- “Parkinson Disease at the University of Colorado”, To the Future and Back II, Aurora, CO, September 26, 2015
- FXTAS Talk, University of Colorado Fertility Clinic, Stapleton, CO, October 7, 2015
- “Neurological Movement Disorders,” Arapahoe High School Senior Students Medicine Class, October 9, 2015
- “Fragile X Research Opportunities.” Fragile X Research Fair, Children’s Hospital Colorado, May 1, 2016.
- “Role of Genetic & Environment in Parkinson Disease.” Advances in Parkinson Disease and Essential Tremor, CU Anschutz Patient Educational Event, Pueblo, CO, June 4, 2016.
- “Pharmacological Treatments of Essential Tremor.” Advances in Parkinson Disease and Essential Tremor, CU Anschutz Patient Educational Event, Pueblo, CO, June 4, 2016.
- “Neurological Movement Disorders,” Arapahoe High School Senior Students Medicine Class, September 28, 2016.
- “Parkinson’s Disease 101.” CU Movement Disorders Center 3<sup>rd</sup> Annual Parkinson’s Disease Symposium, CU Anschutz, October 1, 2016.
- “Cannabis & Parkinson’s: Growing Like a Weed.” CU Movement Disorders Center 3<sup>rd</sup> Annual Parkinson’s Disease Symposium, CU Anschutz, October 1, 2016.
- “Efficacy of CBD on Tremor in Parkinson’s Disease.” Medical Marijuana Scientific Advisory Council Meeting, Denver CO, October 14, 2016.
- “Parkinson’s & cannabis,” Challenges in Cannabis Research Continuing Education Conference, Denver CO, October 29, 2016.
- “CBD in Parkinson’s Tremors,” Marijuana for Medical Professionals, Denver CO, November 14, 2016.
- “Cannabis in Parkinson’s Disease: Growing Like a Weed!” Neurology Grand Rounds, CU Anschutz, January 18, 2017.
- “Cannabis in Parkinson’s Disease: Growing Like a Weed!” 2017 Institute of Cannabis Research Conference, Colorado State University, Pueblo CO, April 29, 2017.
- “Neurological Movement Disorders,” Arapahoe High School Senior Students Medicine Class, September 27, 2017.
- “PD Etiology & Pathology” CU Movement Disorders Center 4<sup>th</sup> Annual Parkinson’s Disease Symposium, CU Anschutz, September 30, 2017.
- “Sex and PD” CU Movement Disorders Center 4<sup>th</sup> Annual Parkinson’s Disease Symposium, CU Anschutz, September 30, 2017.
- “Parkinson Disease” Movement Disorders Block teaching curriculum, CU Anschutz, October 11, 2017



- “Talking With Your Parkinson’s Patients,” 3<sup>rd</sup> Annual CORE Conference, CU Anschutz, November 11, 2017
  - “The Use of Cannabidiol in Parkinson’s Disease,” 3<sup>rd</sup> Annual CORE Conference, CU Anschutz, November 11, 2017
  - “CBD and Parkinson’s Disease,” Boulder Parkinson’s Support Group, November 28, 2017
  - “Non-Motor Symptoms,” Parkinson’s Disease Self-Efficacy Learning Forum, Denver CO, March 22, 2018
  - “Open Label, Dose Escalation Study of Cannabidiol in Parkinson’s Disease,” 2018 Institute of Cannabis Research Conference, Colorado State University, Pueblo CO, April 28, 2018
  - “What We Know Today,” Parkinson Association of the Rockies Colorado Community Conference, Aurora CO, May 12, 2018
  - “Pain in Parkinson’s Disease,” Parkinson Association of the Rockies e3 Conference, Aurora CO, September 15, 2018
  - “Neurological Movement Disorders,” Arapahoe High School Senior Students Medicine Class, October 5, 2018
  - “PD Etiology, Pathology, & Treatment,” CU Movement Disorders Center 5<sup>th</sup> Annual Parkinson’s Disease Symposium, CU Anschutz, October 27, 2018
  - “Challenges & Findings of Studying Cannabis in Parkinson Disease,” 4<sup>th</sup> Annual CORE Conference, UC Boulder, November 3, 2018
  - “Medical Marijuana: The Art of Practice & Challenges of Research,” Neurology Grand Rounds, CU Anschutz, November 14, 2018
  - “A Light at the End of the Tunnel: What’s Going on in PD Research,” CU Movement Disorders Center 6<sup>th</sup> Annual Parkinson’s Disease Symposium, CU Anschutz, October 26, 2019.
  - “Does Marijuana Help Parkinson Disease? Information for Persons with Parkinson’s in Colorado,” presented via Zoom to Parkinson’s Support Group, Pueblo CO on behalf of ICR, February 20, 2020.
  - “Challenges of Cannabis Research: Parkinson Disease as a Case in Point,” CU Anschutz Neurology Grand Rounds, October 21, 2020
  - “Who We Are and Where we came From,” CU Movement Disorders Center 7<sup>th</sup> Annual Parkinson’s Disease Symposium, CU Anschutz, November 4, 2020.
  - “Clinical Involvement of the Fragile X Permutation,” Natera Virtual Learning Program, April 28, 2021.
- **National**
    - “The Clinical Course of Fragile X-Associated Tremor/Ataxia Syndrome (FXTAS),” 18<sup>th</sup> Annual Symposia on Etiology, Pathogenesis and Treatment of Parkinson’s disease and Other Movement Disorders, October 2004.
    - “Parkinson disease is not just tremor” Featured Presentation of the Annual Louisiana State University Parkinson Resource Symposium, October 3, 2008.
    - “Fragile X-associated Tremor/Ataxia Syndrome” Neurology Grand Rounds, Louisiana State University, Shreveport, LA, October 6, 2008.
    - “Psychogenic movement disorders in female fragile X carriers.” University of California at Davis, NTRI consortium meeting, February 13, 2009
    - “FXTAS: Phenotype, clinical presentation and therapy” Fragile X-associated Tremor/Ataxia Syndrome - genotype, animal models, phenotype and intervention Symposium, Experimental Biology 2009 Meeting, New Orleans, LA, April 20, 2009
    - “What ails the female premutation carriers: fibromyalgia+” MIND institute, Sacramento, CA, May 11, 2010
    - “Fragile X tremor/ataxia syndrome and the female pre” University of Texas School of Medicine at Houston, Neurology Grand Rounds, August 5, 2011

- “Preliminary Findings of the use of cannabis in Parkinson Disease”, 32<sup>nd</sup> Annual Symposium on Etiology, Pathogenesis, and Treatment of Parkinson Disease and Other Movement Disorders, Phoenix AZ, April 6, 2019
- “Fragile X-associated Tremor/Ataxia Syndrome (FXTAS): 101” 17th NFXF International Fragile X Conference Virtual Series Premutation Carrier event, June 27, 2020.
- “Fragile X-Associated Tremor Ataxia Syndrome Panel” 17th NFXF International Fragile X Conference Virtual Series Premutation Carrier event, June 27, 2020.
- “A randomized, double-blind, placebo-controlled, parallel study of the efficacy and tolerability of cannabidiol on motor symptoms of Parkinson disease,” Institute of Cannabis Research annual conference (virtual), August 12, 2020.
- “Cannabis in PD: State of the Art,” Parkinson’s and Movement Disorders Center, Virginia Commonwealth University, March 24, 2021.
- **International**
  - Misdiagnosis of fragile X-associated tremor/ataxia syndrome (FXTAS)” 8<sup>th</sup> International Congress of Parkinson’s Disease and Movement Disorders, Rome, Italy, June, 2004.
  - “FXTAS overview: *FMR1* genotypes, clinical scope and presentation, natural history and videos of patients” Chair and speaker, FXTAS parallel session, 12<sup>th</sup> International Congress of Parkinson Disease and Movement Disorders, June 24, 2008
  - “Fragile X-associated Tremor/Ataxia Syndrome (FXTAS)” BIT Life Sciences’ 2<sup>nd</sup> Annual Congress and Expo of Molecular Diagnostiecs-2009, Beijing, China, November 20, 2009.
  - “FXTAS visiting professorship at the Dalian Municipal Friendship Hospital” plenary lecture for opening of FXTAS clinic in Dalian, China, August 26, 2011.
  - “Association of Metabolic Syndrome and Change in Unified Parkinson Disease Rating Scale Scores,” poster presentation, Movement Disorders Society International Congress, June 2017.
  - “Open Label Study of Cannabidiol (CBD) in Parkinson disease,” poster presentation, Movement Disorders Society International Congress, June 2017.
  - “Challenges & Findings of Studying Cannabis in Parkinson Disease,” 2021 Virtual Cannabis Research Conference, Colorado State University, Pueblo CO August 3, 2021. “Clinical Trial Considerations,” Medical Marijuana in PD, Parkinson’s Foundation, Denver CO, March 7, 2019.
  - “Challenges & Findings of Studying Cannabis in Parkinson Disease,” 2019 Institute of Cannabis Research Conference, Colorado State University, Pueblo CO, March 24, 2019.
  - “CBD for Tremor” MJFF Cannabis Workshop, Current Cannabis Trials for PD Patients, Michael J Fox Foundation (virtual), June 25, 2020.
  - Cannabis Use in People with Parkinson’s Disease: Reported Patterns of Use, Symptomatic Benefits, and Adverse Effects Via Fox Insight,” 2021 Virtual Cannabis Research Conference, Colorado State University, Pueblo CO August 3, 2021.

## 10. Teaching Record

Dr. Leehey teaches movement disorders to many groups, from local patients and their families to other neurologists and movement disorders specialists throughout the world. Specific teaching activities are:

- Movement Disorder Clinic attending, teaching medical students, neurology and other residents, 3 half day clinics/week
- Publications, as listed in this CV, teach colleagues around the world, especially about the disorder that she recently helped identify and characterize, fragile X- associated tremor/ataxia syndrome (FXTAS).
- Lay literature publications, Dr. Leehey writes articles for lay organization newsletters, especially the Parkinson Association of the Rockies and the National Fragile X Foundation.

- Formal lectures, Dr. Leehey has given over 100 lectures to varied UCD, CU Anschutz, and regional audiences and many lectures to colleagues throughout the US and world since 1990.
- **Mentoring Record**
  - Royce (Peterman) Bargas, MD; served as Dr. Leehey's research assistant; Dr. Leehey assisted her entry into medical school in 2000; now employed in cardiology by Alliance Health Midwest, Midwest City OK
  - Tania Peterson Kraai, MD; served as Dr. Leehey's research assistant; Dr. Leehey assisted her entry into medical school in 2001; now employed in otolaryngology in Albuquerque NM
  - Deborah Hall, MD; 2003-2005 University of Colorado Movement Disorders Fellowship; Clinical Investigation PhD program committee, 2004-2009; K23 training grant, 2004-2009; Dr. Leehey mentored her; now employed in neurology at Rush University in Chicago IL
  - Heather (Ene) Baer, MD; 2008-2009 University of Colorado Movement Disorders Fellow; Dr. Leehey served as mentor; now employed at University of Colorado School of Medicine in Neurology; Dr. Ene was provisionally approved as a Parkinson Study Group (PSG) member; with the expectation that Dr. Leehey, as an experienced PSG investigator, would be her mentor; Dr. Leehey was responsible for supervising Dr. Ene in all aspects of her participation in PSG clinical trials until she gained the experience that enabled her to become a full PSG member; 2009-present
  - Olga Klepitskaya, MD; Dr. Leehey served as designated Neurology Department mentor; was provisionally approved as a Parkinson Study Group (PSG) member; with the expectation that Dr. Leehey, as an experienced PSG investigator, will be her mentor; Dr. Leehey was responsible for supervising Dr. Klepitskaya in all aspects of her participation in PSG clinical trials until she gained the experience that enabled her to become a full PSG member; 2009-present
  - Daniel Kuyper, MD; 2009-2010 University of Colorado Movement Disorders Fellow; Dr. Leehey served as mentor; now employed at Allina Health, Park Nicollet Clinic, Minneapolis MN; affiliated with Fairview Southdale Hospital and Park Nicollet Methodist Hospital
  - Benzi Kluger, MD; Dr. Leehey served as designated Neurology Department mentor; KL2 Research Scholar Award, Colorado Clinical & Translational Sciences Institute, 'A Novel Approach to Cognitive Dysfunction in Parkinson's Disease,' awarded; Acupuncture as a Symptomatic Treatment for Fatigue in Parkinson's Disease, Michael J Fox Foundation, awarded; Transcranial Magnetic Stimulation to Improve Gait and Balance in Parkinson's Disease (PD) for 2010 NINDS Clinical Trials Course, awarded
  - Ying Xiu Shan Ge; 2010, mentored by Dr. Leehey; Children's Hospital of Capital Institute of Pediatrics, Beijing; graduate school paper; the natural history of spinal muscular atrophy in China: a study of 237 patients
  - Brian Berman, MD; University of Colorado Movement Disorders Neurologist; Dr. Leehey mentored when he was a new faculty member; 2010-present
  - Rajesh Sadasivuni, MD; 2010-2011 University of Colorado Movement Disorders Fellow; Dr. Leehey served as mentor; now employed at St John's Hospital, Southern Illinois University, Springfield IL
  - Jessica Hedeman, DO; University of Colorado Movement Disorders Fellow 2012-2013; Dr. Leehey served as mentor; now employed in neurology at Mercy Health Hauenstein Neurosurgical and Spine Clinic in Grand Rapids MI
  - Samantha Holden, MD; 2013-2014 University of Colorado Movement Disorders Fellow; 2016-2017 Behavioral Neurology & Neuropsychiatry Fellow; Dr. Leehey served as mentor; currently Assistant Professor at University of Colorado
  - Ying Liu, MD; 2014-present visiting Chinese Research Scholar from Dalian China; supervising research on FXTAS, Parkinson disease, and CBD; promoted to Senior PRA, then Project Coordinator for Movement Disorders, obtained Green Card

- Maya Viavant, MD; 2nd year Medical Student, UC Davis; Medical Student Research Fellowship, May-June, 2014 during which Dr. Leehey provided career advice; now employed as Primary Care Physicians at Alameda County Medical Center in Sacramento CA
- Lauren Seeberger, MD; 2014-2021 University of Colorado Movement Disorders Neurologist; Dr. Leehey mentors academic career development
- Andreas Michas-Martin, MD; 2014-2015 University of Colorado Movement Disorders Fellow; Dr. Leehey served as mentor; now employed at Peninsula Primary Care, Carmel, CA
- Taylor Finseth, MD; 2015-2016 University of Colorado Movement Disorders Fellow; Dr. Leehey served as mentor; now employed at Aurora Health Care, a private practice in Milwaukee WI
- Ari Magill, MD; 2015-2016 University of Colorado Movement Disorders Fellow; Dr. Leehey served as mentor; now employed at University of Arizona Medical Center, Tucson AZ
- Attended Leadership 101 Series: Strategic Planning training session, Jan 21, 2015
- Drew Kern, MD; 2015-present University of Colorado Movement Disorders Neurologist; Dr. Leehey mentors for career development as he is junior faculty
- Christopher Groth, MD; 2016-2018 University of Colorado Movement Disorders Fellow; Dr. Leehey served, as mentor; now employed at University of Iowa
- Trevor Hawkins, MD; 2016-present University of Colorado Movement Disorders Fellow; Dr. Leehey served as mentor; now employed at University of Colorado and Dr. Leehey continues to mentor him as junior faculty
- Michelle Fullard, MD; 2018-present University of Colorado Movement Disorders junior faculty; Dr. Leehey serves as career mentor
- Stephanie Garcia, BS; 2017-present University of Colorado Human Medical Genetics and Genomics Graduate Research Assistant; Dr. Leehey serves as clinical research mentor
- Kristin Mitrovich, MD; 2017-2018 University of Colorado Movement Disorders Fellow; Dr. Leehey served as mentor; now employed at the University of Utah.
- Kristin King, MD; 2017-2018 University of Colorado Movement Disorders Fellow; Dr. Leehey served as mentor; now employed in private practice.
- Lisa Deuel, MD; 2018-present University of Colorado Movement Disorders Fellow; Dr. Leehey served as mentor, now employed by University of Vermont.
- Jeanne Feuerstein, MD; 2018-present University of Colorado Movement Disorders Fellow, Dr. Leehey served as mentor; now employed by University of Colorado, Dr. Leehey serves as career mentor.
- Teresa Lee, MD; 2019-present University of Colorado Movement Disorders Fellow; Dr. Leehey serves as mentor; now employed by University of Colorado, Dr. Leehey serves as career mentor.
- Caroline Goldin, MD; 2019-2020 University of Colorado Movement Disorders Fellow; Dr. Leehey served as mentor.
- Christina Vaughan, MD; 2019-present University of Colorado Neuro-Palliative Neurologist; Dr. Leehey serves as career mentor
- Michael Korsmo, MD; 2020-present University of Colorado Movement Disorders Fellow; Dr. Leehey serves as mentor.
- Andrew Baumgartner MD; 2020-present University of Colorado Movement Disorders Fellow; Dr. Leehey serves as mentor.
- Tristan Seawalt; 2018-2021 research and career mentor, accepted to UC SOM August 2021; Dr. Leehey serves as mentor.
- Emily Forbes, MD; 2020-present University of Colorado Movement Disorders junior faculty; Dr. Leehey serves as career mentor.
- Heather Heiser, MD; 2021-present University of Colorado Movement Disorders Fellow; Dr. Leehey serves as mentor.

- Antonia Pusso, MD; 2021-present University of Colorado Movement Disorders Fellow; Dr. Leehey serves as mentor.

## 11. Grant support

### Current

Parkinson's Progression Markers Initiatives (PI: Leehey M)

**Title:** *The Parkinson's Progression Markers Initiative (PPMI) 2.0 Clinical - Establishing a Deeply Phenotyped PD Cohort*

**Performance Period:** 10/1/2020-6/30/2030

**Project Goals:** The Parkinson Progression Marker Initiative 2.0 (PPMI 2.0) is a longitudinal, observational, multi-center natural history study to assess progression of clinical features, digital outcomes, and imaging, biologic and genetic markers of Parkinson's disease (PD) progression in study participants with manifest PD, prodromal PD, and healthy controls. The overall goal of PPMI 2.0 is to identify markers of disease progression for use in clinical trials of therapies to reduce progression of PD disability.

**Role:** Site PI

Neuraly, Inc.

**Title:** *Multicenter, Randomized, Double-blind, Placebo-controlled Study to evaluate the efficacy, safety and tolerability of 36 weeks of treatment with NLY01 in Early-stage Parkinson disease.*

**Performance Period:** 08/10/2020- 07/31/2024

**Project Goals:** Phase II study examining whether an extended formulation of exenatide, a GLP-1R agonist, slows PD.

**Role:** Site- PI

R01HD036071 NIH/NICHD

(PI: Hagerman)

**Title:** *Genotype-Phenotype Relationships in Fragile X Families*

**Performance Period:** 6/15/1998-2/28/2022

**Project Goals:** The purpose of this prospective study of individuals with FXTAS is to quantify (with clinical, radiological, and molecular/bioenergetic measures) our understanding of progression, elucidate those co-morbid conditions that modulate progression, and identify the most informative biomarkers of severity and progression.

**Role:** Consultant

17 FHHA 107819 Colorado Department of Public Health and Environment (CDPHE) (PI: Leehey)

**Title:** *A randomized, double-blind, placebo-controlled crossover study of tolerability and efficacy of Cannabidiol (CBD) on tremor in Parkinson's disease*

**Performance Period:** 01/01/15-06/30/21

**Project Goals:** The purpose of this randomized, double blind, placebo-controlled crossover study is to look at the tolerability and efficacy of cannabidiol on tremor and others aspects of Parkinson's disease.

**Role:** PI

Biogen

**Title:** *A Multicenter, Randomized, Double-Blind, Placebo-Controlled Study of the Safety, Pharmacokinetics, and Pharmacodynamics of BIIB054 in Subjects with Parkinson's Disease*

**Performance Period:** 10/1/2017-9/30/2022

**Project Goals:** The primary objective of the study is to evaluate the dose-related safety of BIIB054. The endpoints associated with this objective are: (1) Incidence of adverse events (AEs) and serious adverse events (SAEs); (2) Incidence of abnormalities or change from baseline in clinical laboratory test data, vital sign measurements, neurological and physical

examination findings, electrocardiograms (ECGs), and brain magnetic resonance imaging (MRI) safety findings (may include T1, fluid-attenuated inversion recovery, and gradient echo).

**Role:** Site PI

US WorldMeds LLC

(PI: LeWitt)

**Title:** *A Phase 3, Open-Label Study of the Safety, Efficacy, and Tolerability of Apomorphine Administered by Continuous Subcutaneous Infusion in Advanced Parkinson's Disease Patients with Unsatisfactory Control on Available Therapy*

**Performance Period:** 2/01/15 – 11/30/2021

**Project Goals:** The primary objective of this study was to assess the long-term safety of continuous infusion apomorphine in advanced PD patients who are unable to achieve adequate control despite optimized noninvasive therapy.

**Role:** Site PI

Voyager

**Title:** *A Randomized, Placebo Surgery Controlled, Double-blinded, Multi-center, Phase 2 Clinical Trial, Evaluating the Efficacy and Safety of VY-AADC02 in Advanced Parkinson's Disease with Motor Fluctuations*

**Performance Period:** 1/1/2019 - 1/1/2022

**Project Goals:** The overall objectives of this Phase 2 study are to assess 1) the delivery and resulting enzyme activity of VY-AADC02 administered to the putamen, bilaterally, using CED with MRI guidance and 2) the efficacy and safety of VY-AADC02.

**Role:** Sub-Investigator

#### **Completed (selected studies)**

Michael J. Fox Foundation

(PI: Leehey M)

**Title:** *Cannabis Use in PD: Patient Reports of Efficacy and Adverse Effects Via Fox Insight*

**Performance Period:** 10/1/2019-10/1/2020

**Project Goals:** The purpose of this project is to (1) develop a concise survey, compatible with the Fox Insight platform on the effects of cannabis use in PD; (2) determine a sampling strategy and statistical analysis plan for the survey; (3) implement and analyze the survey; (4) publicly disseminate the results of the survey via publication or other route in partnership with MJFF.

**Role:** PI

Vtesse

(PI: Porter & Berry-Kravis)

**Title:** *A Phase 2b/3 Prospective, Randomized, Double-Blind, Sham-Controlled Trial of VTS-270 (2-hydroxypropyl- $\beta$  cyclodextrin) in Subjects with Neurologic Manifestations of Niemann-Pick Type C1 (NPC1)*

**Performance Period:** 8/1/2018 – 7/31/2021

**Project Goals:** The primary study objective in Part A was to select the dose of VTS-270 to be used in Part B and Part C. Dose selection criteria included safety and tolerability including a thorough audiologic evaluation. Preliminary efficacy data was provided to the Dose Selection Committee (DSC) to assist, if necessary, in dose selection. The primary study objective in Part B is to evaluate, in a double-blind sham-controlled design, the progression of the neurologic manifestations of NPC1 disease following 52 weeks of treatment for subjects treated with VTS-270 compared to sham control, using the following assessments: (1) The NPC-SS composite which consists of the sum of 4 components of the Niemann Pick Type C Severity Scale (NPC-SS): ambulation, fine motor, cognition, and swallowing; and (2) The blinded Clinician-Global Impression of Change (CGIC). The primary study objective in Part C is to evaluate the long-term safety, tolerability, and efficacy of VTS-270.

**Role:** Site PI

Prilennia

**Title:** *A 14-Week, Double-Blind, Randomized, Three-Arm, Parallel Group Study to Assess the Efficacy and Safety of Two Doses of Pridopidine versus Placebo for the Treatment of Levodopa-Induced Dyskinesia in Patients with Parkinson's Disease (gLIDe)*

**Performance Period:** 10/1/2019 - 10/1/2022

**Project Goals:** To evaluate the efficacy of 2 dosages of pridopidine (100 mg BID and 150 mg BID) vs placebo for the treatment of PD-LID

**Role:** Sub-Investigator

BeyoND NeuroDerm

**Title:** *A multicenter, international, open-label, safety study of ND0612, a solution of levodopa/carbidopa delivered via a pump system as a continuous subcutaneous infusion in subjects with advanced Parkinson's disease.*

**Performance Period:** 8/7/2017-7/7/2020

**Project Goals:** The primary objective of this multicenter, international, open-label, safety study is to assess the efficacy of ND0612, a solution of levodopa/carbidopa delivered via a pump system as a continuous subcutaneous infusion in subjects with advanced Parkinson's disease.

**Role:** Sub- Investigator, then site PI

Denali

(PI: LeWitt)

**Title:** *A phase 1b, multicenter, randomized, placebo-controlled, double-blind study to determine the safety, tolerability, pharmacokinetics, and pharmacodynamics of dnl201 in subjects with Parkinson's disease.*

**Performance Period:** 1/1/2019 – 12/31/2022

**Project Goals:** The primary objective of the study is to evaluate the safety and tolerability of multiple oral doses of DNL201 in subjects with Parkinson's disease.

**Role:** Sub-Investigator

ADS-AMT-PD302 (PI: Leehey M)

07/01/2014 - 07/01/2017

Adamas Pharmaceuticals

**ADS-5102 (Amantadine HCl) Extending Release Efficacy and Safety Study in Parkinson's Disease Patients with Levodopa-induced Dyskinesia (EASE LID 3 Study)**

This is a multi-center, randomized, double-blind, placebo-controlled, 2-arm, parallel group study to evaluate the efficacy and safety of ADS-5102 extended release (ER) capsules

Role: Site PI

RO1 MH078041-06 (PI: Hessler D & Rivera S)

07/01/2013 - 06/30/2018

**Trajectories and Markers of Neurodegeneration in Fragile X Premutation Carriers**

The purpose is to perform longitudinal studies on male carriers of the fragile X premutation examining how several *FMR1* molecular measures play a role in the progression of neurological signs.

Role: Site PI

SURE-PD (PI: Boyd)

9/1/2015 - 6/30/2019

The National Institute of Neurological Disorders and Stroke (NINDS)

**A randomized, double-blind, placebo-controlled trial of urate-elevating inosine treatment to slow clinical decline in early Parkinson's disease.**

Role: Site PI

MYSTICOL

11/14/2013 - 07/31/2018

US World Meds LLC

**Efficacy and Safety Study of MYOBLOC® Followed by Open-Label Multiple-Treatment with MYOBLOC® in the Treatment of Troublesome Sialorrhea in Adult Subjects (MYSTICOL)**

This study will evaluate the efficacy and safety of MYOBLOC in the treatment of Sialorrhea (drooling), which can be a symptom of many disease conditions.

Role: Site Co-I

Allergan (PI: Leehey M) 07/01/2014 - 06/30/2016  
 \$32,000 grant to support CU Anschutz movement disorders fellowship.  
 Role: PI

ADS-AMT-PD301 10/22/2014 - 01/01/2016  
 Adamas Pharmaceuticals  
*Efficacy and Safety of ADS-5102 (Amantadine Hcl) Extended Release Capsules for the Treatment of Levodopa Induced Dyskinesia in Parkinson's Disease Patients (Ease Lid Study)*  
 This is a multi-center, randomized, double-blind, placebo-controlled, 2-arm, parallel group study to evaluate the efficacy and safety of ADS-5102 extended release (ER) capsules.  
 Role: Site PI

Medtronics (PI: Leehey M) 07/01/2013 - 06/30/2016  
 \$75,000 grant to support CU Anschutz movement disorders fellowship.  
 Role: PI

P2B001 10/15/2013 - 08/01/2015  
 Pharma Two B  
*A Phase 2B, Twelve-week Multi-center, Randomized, Double-Blind, Placebo-Controlled, Parallel Group Study to Determine the Safety, Tolerability and Efficacy of Doses of Once Daily P2B001 in Subjects With Early Parkinson's Disease.*  
 This study will evaluate an oral fixed-dose, once daily product that combines pramipexole and rasagiline for the treatment of early Parkinson's disease.  
 Role: Site Co-I

(PI: Freed C) 07/01/2013 - 06/30/2015  
 Michael J. Fox Foundation  
*Phenylbutyrate response as a biomarker for alpha-synuclein clearance from the brain*  
 This is a Phase I, investigator-initiated trial to establish the relationship between phenylbutyrate dose and increase in plasma alpha-synuclein levels in Parkinson's disease.  
 Role: Dr. Leehey is a co-Investigator and supervises the clinical trial methodology and recruitment and management of subjects.

TEVA (PI: Leehey M) 07/01/2013 - 06/30/2015  
 \$20,000 grant to support CU Anschutz movement disorders fellowship.  
 Role: PI

1U10NS44479-01 (PI: Leehey) 12/01/00 - 11/30/14  
 NIH/NINDS  
*University of Colorado Parkinson's Disease Clinical Research Program*  
 The purpose of this multi-center study, NIH Exploratory Trials in Parkinson disease (NET-PD), is to find agents that slow the progression of PD. Dr. Leehey received this grant as a result of a competitive submission to the NINDS (RFA-NS-02-010). The organizational structure consists of clinical site PIs, a Coordination Center PI (Kiebertz K), a Statistical Center PI (Tilley B) and NINDS oversight (Galpern W). Three separate trials were conducted: two involved all 50 sites in the program; and one only 15 sites which were competitively selected, included the UCD site.  
 Role: PI

SP921 (PI: Whitesides J) 03/1/08 - 02/28/12  
 Schwartz Biosciences, Inc.  
*A multicenter, randomized, double-blind, placebo-controlled, five arm, parallel-group trial to assess rotigotine transdermal system dose response in subjects with advanced-stage Parkinson's disease.*



This is a multi-center trial.  
Role: Site PI

RL1 AG032115 (PI: Hagerman RJ) 09/30/07 - 06/30/12  
NIH/NIA

*Characterization and treatment of CNS abnormalities in premutation carriers.*  
The overall goal of this project is to develop and utilize quantitative measures of CNS dysfunction in premutation carriers as outcome measures for targeted treatment studies of FXTAS.  
Role: Site PI

GAD-LTFU (PI: During M) 04/1/10 - 03/31/11  
Neurologix, Inc.

*Long term follow-up study for Raav-GAD treated Subjects*  
This is a multi-center trial (six sites).  
Role: Site PI

GAD2 (PI: During M) 03/1/08 - 10/31/11  
Neurologix, Inc.

Phase 2 safety and efficacy study evaluating glutamic acid decarboxylase gene transfer to the subthalamic nuclei in subjects with advanced Parkinson's disease.  
This is a multi-center trial (six sites).  
Role: Site PI

IPX066-B09-02 (PI: Kleptiskaya, O) 03/1/10 - 12/31/11  
IMPAX Pharmaceuticals

*A Study to Evaluate the Safety and Efficacy of IPX066 in Advanced Parkinson's disease*  
This is a multi-center trial.  
Role: Site Co-I

R01 NS050324-01A1 (PI: Beal F) 3/1/08 - 2/31/11  
NIH/NINDS (Parkinson Study Group)

*Effects of Coenzyme Q10 in Parkinson Disease (QE3)*  
This is a multi-center trial.  
Role: Site PI

(PI: Freed C.) 7/1/09 - 6/30/10  
Michael J. Fox Foundation

*Phenylbutyrate to prevent progression of Parkinson's disease.*  
This is a Phase I, investigator-initiated trial to establish the relationship between phenylbutyrate dose and increase in plasma DJ-1 levels in Parkinson's disease.  
Role: Dr. Leehey is a co-Investigator and supervises the clinical trial methodology and recruitment and management of subjects.

RO1 (PI: Shoulson I) 5/1/06 - 4/30/11  
NINDS (Parkinson Study Group)

*A longitudinal observational follow-up study of the PRECEPT study cohort (PostCEPT)*  
The major goal of this project is to enroll a cohort of former clinical trial participants into a follow-up observational study to be used to develop biomarkers and assess the treated natural history of Parkinson disease.  
This is a multi-center trial.  
Role: Site PI

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- **Peer Reviewed Journal Articles**

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- clinical, and neuroimaging correlates. *Am J Hum Genet* 2003; 72:869-878. PMID: 12638084
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