

Curriculum Vitae
Alexander Baumgartner

Current Position:

Assistant Professor
Department of Neurology, Movement Disorders Section
Department of Neurosurgery
University of Colorado Anschutz Medical Campus

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Date Prepared: November 15, 2023

Education:

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| 2011 | Bachelor of Arts <i>magna cum laude</i> | Gonzaga University | Mathematics, Biology |
| 2016 | Doctor of Medicine | The Warren Alpert Medical School of Brown University | |

Postdoctoral Training:

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| 2016 – 2017 | Intern | Internal Medicine | Beth Israel Deaconess Medical Center, Harvard Medical School |
| 2017 – 2020 | Resident | Neurology | Beth Israel Deaconess Medical Center, Harvard Medical School |
| 2020 – 2022 | Fellow | Movement Disorders | University of Colorado Anschutz Medical Campus |

Academic Appointments:

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| 2022 – present | Assistant Professor | Neurology | University of Colorado Anschutz Medical Campus |
| 2022 – present | Assistant Professor | Neurosurgery | University of Colorado Anschutz Medical Campus |

Hospital, Government, or Other Professional Positions:

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| 2022 – present | Attending Neurologist | UCHealth Hospital, Aurora, Colorado |
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Major Administrative Leadership Positions:

Local

2019 – 2020 Administrative Chief Resident in Neurology Beth Israel Deaconess Medical Center,
Harvard Medical School

Honors, Special Recognitions, and Awards:

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| 2011 | Honors Program | Gonzaga University |
| 2012 | Student Ambassador | Alpert Medical School, Brown University |
| 2014 | Excellence in Science Award | American Association for the Advancement of Science |
| 2016 | Dr. Stanley M. Aronson Prize for excellence in neuroscience | Alpert Medical School, Brown University |
| 2016 | Alpha Omega Alpha Medical Honor Society | Alpert Medical School, Brown University |

Membership in Professional Societies:

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| 2013 – 2016 | Physicians for a National Health Program | Member |
| 2014 – 2016 | American Association for the Advancement of Science | Member, Excellence in Science Program |
| 2015 – present | American Academy of Neurology | Member |
| 2020 – present | International Parkinson and Movement Disorder Society | Member |
| 2021 – present | Society for Neuroscience | Member |
| 2023 – present | Deep Brain Stimulation Society | Member |
| 2023 – present | American Academy of Sleep Medicine | Member |

Committee and Service Responsibilities:

Local

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| 2023 – present | Nurse-APP-Physician-Staff Engagement (syNAPSE) Committee | Member University of Colorado Anschutz Medical Campus |
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Education of Patients and Service to the Community:

No presentations below were sponsored by 3rd parties/outside entities

Activities

- 2013 Organized sports physicals at a local high school, where students who were unable to see a physician received physical exams to allow them to participate in sports
- 2013 – 2014 Certified HIV and Hepatitis C testing and counseling official in the state of Rhode Island
- February 2021 “Alternative Therapies in Parkinson Disease” presented at the Parkinson Association of the Rockies, online support group
- March 2021 “Sleep and Fatigue in Parkinson Disease” presented at the Parkinson Association of the Rockies, online support group
- September 2021 “Psychosis and Cognition in Parkinson Disease” presented at the Parkinson Association of the Rockies, Glenwood Springs support group
- September 2021 “Medications and Therapies Overview” presented at University of Colorado’s Annual Parkinson’s Disease Symposium
- March 2022 “Deep Brain Stimulation for Parkinson Disease” presented at the Parkinson Association of the Rockies, Castle Rock support group
- October 2022 “Deep Brain Stimulation and Advanced Therapies for Parkinson Disease” presented at University of Colorado’s Annual Parkinson’s Disease Symposium
- August 2023 “Medication Overview and Research Update” presented at the Parkinson Association of the Rockies, Durango support group
- September 2023 “Psychosis and Cognition in Parkinson Disease” presented at the Parkinson Association of the Rockies, Steamboat Springs support group
- October 2023 “Sleep and Fatigue in Parkinson Disease” presented at the Parkinson Association of the Rockies, Summit County support group
- October 2023 “Medication Overview and Research Update” presented at the Parkinson Association of the Rockies, online support group

Licensure:

- 2016 – 2020 Massachusetts
- 2020 – present Colorado
- 2023 – present Wyoming

Certification:

- 2020 Neurology; American Board of Psychiatry and Neurology

Practice Activities:

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| 2021 – present | Movement disorders clinic | UCHealth Hospital, Aurora, CO | Two half-day clinics per week |
| 2021 – present | Movement disorders clinic | UCHealth Lone Tree Medical Center, Lone Tree, CO | Two half-day clinics per week |
| 2022 – present | Intraoperative testing and monitoring during deep brain stimulator implantation | | One – two days per week |

Review and Referee Work:

Grant Review Activities:

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| 2022 – present | Movement Disorders Center Pilot Grant Program | University of Colorado Anschutz Medical Campus Grant Reviewer |
| May 2023 | Colorado Clinical and Translational Sciences Institute PreK Mock Study Section | University of Colorado Anschutz Medical Campus Grant Reviewer |

Editorial Activities:

- **Ad hoc Reviewer**

PLoS ONE (2021 – 2023)
 Neurosurgical Review (2021)
 Journal of Integrative Neuroscience (2022)
 Military Medical Research (2022)
 Brain and Behavior (2022)
 Journal of the Neurological Sciences (2023)
 Nature Communications (2023)
 Movement Disorders (2023)

- **Other Editorial Roles**

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| 2022 – present | Review Editor | Frontiers in Human Neuroscience, Brain Imaging and Stimulation section |
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Local Invited Presentations:

No presentations below were sponsored by 3rd parties/outside entities

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| May 2021 | “Novel modalities and techniques in the diagnosis of Parkinson disease and atypical Parkinsonian syndromes” Department of Neurology Grand Rounds University of Colorado Anschutz Medical Campus |
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Teaching Record

Teaching of Students in Courses:

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| 2013 – 2014 | Doctoring First year clinical skills course | Alpert Medical School, Brown University |
| 2018 – 2019 | Mind, Brain, and Behavior First year neuroanatomy course | Harvard Medical School |
| 2022 – present | Advanced Neurosciences Third year neuroscience rotation | University of Colorado Anschutz Medical Campus |
| 2023 – present | Developing Our Clinical Skills (DOCS) First year clinical skills course | University of Colorado Anschutz Medical Campus |

Formal Teaching of Residents, Clinical Fellows and Research Fellows (post-docs):

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| 2013 | Content tutor for first and second-year medical students | Alpert Medical School, Brown University |
| 2019 – 2020 | Gait Disturbances and Falls; Basic Concepts of Plasma Exchange; Introduction to the Neurologic Exam Lectures given to Neurology residents | Beth Israel Deaconess Medical Center Approximately 4 lectures per year |
| 2019 – 2020 | Clinical Evaluation Exercise, a structured patient encounter as part of the Neurology clerkship Supervisor | Beth Israel Deaconess Medical Center, Harvard Medical School Approximately 8 per year |
| 2021 – 2022 | Myoclonus; Dystonia; Wilson’s Disease Lectures given to Neurology residents | University of Colorado Anschutz Medical Campus Approximately 3 lectures per year |
| November 2022 | Stereotactic and Functional Neurosurgery Hands-On Workshop Faculty Instructor – DBS Programming, Troubleshooting | American Society for Stereotactic and Functional Neurosurgery |
| August 2022 | Basics of Deep Brain Stimulation Lecture given to Movement Disorders fellows | University of Colorado Anschutz Medical Campus |
| January 2023 | Botulinum toxin injection workshop for Neurology residents | University of Colorado Anschutz Medical Campus |
| February 2023 | Sensing with DBS: LFPs and BrainSense | University of Colorado Anschutz Medical Campus Lecture given to Movement Disorders fellows |
| July 2023 | Basics of Deep Brain Stimulation Lecture given to Movement Disorders fellows | University of Colorado Anschutz Medical Campus |

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| October 2023 | Introduction to DBS programming; Sensing with DBS: LFPs and BrainSense | University of Colorado Anschutz Medical Campus Lecture given to Movement Disorders fellows |
| November 2023 | Stereotactic and Functional Neurosurgery Hands-On Workshop Faculty Instructor – DBS Programming, Troubleshooting | American Society for Stereotactic and Functional Neurosurgery |
| November 2023 | “Ask the Expert” Neurology Resident Case Conference | University of Colorado Anschutz Medical Campus |

Clinical Supervisory and Training Responsibilities:

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| 2021 – present | Neurology resident continuity clinic Preceptor | UCHealth Hospital, Aurora, CO Approximately 4 clinics per year |
| 2022 – present | Clinical teaching and supervision of movement disorders fellows | UCHealth Hospital, Aurora, CO Three half-day clinics per month |
| 2022 – present | Clinical teaching and supervision of neurology residents during movement disorders elective | UCHealth Hospital, Aurora, CO One half-day clinic per month |

Formally Mentored Medical and Graduate Students:

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| 2022 – present | Woro George, medical student, University of Colorado Anschutz Medical Campus |
| 2022 – present | Matt Kennis, medical student, University of Colorado Anschutz Medical Campus |
| 2022 – present | Lisa Hirt, PhD student, University of Colorado Anschutz Medical Campus; recipient of travel grant to attend 3 rd Joint Congress of the INS European Chapters (e-INS 2023). |

Teaching and Education Innovations

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| Alpert Medical School, Brown University 2013 | I designed and implemented a new learning module for incorporation into the medical school’s cardiology curriculum. |
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Grant Support

Current

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| 12/2022 – 11/2025 | A Multi-center, Noninterventional Study Evaluating Variability, Reliability, and Compliance for the Parkinson’s Disease Diary BlueRock Therapeutics, BRT-DA01-NIS-001 |
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Role: Principal Investigator (total funding \$30,000)

The primary objective of the study is to assess the impact of the frequency of assessments on the variability over time, reliability, and compliance for the PD diary in patients with PD in whom medications do not provide adequate control of symptoms.

09/2022 – 06/2024 Electrophysiological biomarkers of parkinsonian symptoms progression

Mowry Family Philanthropic Fund

Role: Principal Investigator (total funding \$59,000)

This project will examine the utility electrophysiological parameters recorded from surface electroencephalogram, called event-related potentials, as potential biomarkers of cognitive impairment and freezing of gait in patients with Parkinson disease.

Past

09/2020 – 08/2021 Sleep assessed by actigraphy and direct recordings of the subthalamic nucleus in Parkinson's Disease

University of Colorado Movement Disorders Center Pilot Grant

Role: Principal Investigator (total funding \$10,000)

This project sought to obtain a robust assessment of sleep in patients with Parkinson's Disease using patient-worn actigraphy monitors in combination with recordings of local field potentials from subthalamic nucleus deep brain stimulators.

05/2022 – 04/2023 Naturalistic sleep assessed by wearable devices and direct recordings of the subthalamic nucleus in Parkinson's Disease

Colorado Clinical and Translational Sciences Institute CO-Pilot Grant, CO-M-22-90

Role: Principal Investigator (total funding \$30,000)

This project seeks to provide a robust evaluation of the effect of subthalamic nucleus deep brain stimulation on sleep dysfunction in patients with Parkinson disease. We are using a combination of wearable devices to obtain in-home assessments of sleep both before and after DBS implantation.

Bibliography

Papers Published in Peer-Reviewed Journals:

1. **Baumgartner A**, Coleman S, Swanson B. The cost of the sword: escape performance in male Swordtails. *PLoS ONE*. 2011; 6(1):e15837. doi:10.1371/journal.pone.0015837
2. **Baumgartner A**, Anthony D. The decline of the autopsy in Rhode Island and nationwide: Past trends and future directions. *R I Med J*. 2016; 99(10):36-38.
3. **Baumgartner A**, Quesenberry PJ. A unique neuropsychiatric syndrome in variant Hereditary Coproporphyrria: Case report and review of the literature. *J Hematol*. 2017; 6(1):21-24. doi:10.14740/jh315w
4. **Baumgartner AJ**, Ahrendsen JT, Varma H, Ward A, Frank S. Cardiac angiosarcoma presenting as a solitary brain metastasis. *Neurol Clin Neurosci*. 2020; 8(6):426–427. doi:10.1111/ncn3.12439

5. Rossi KC, **Baumgartner AJ**, Goldenholz SR, Goldenholz DM. Recognizing and refuting the myth of tongue swallowing during a seizure. *Seizure*. 2020; 83:32–37. doi:10.1016/j.seizure.2020.09.023
6. **Baumgartner AJ**, Press DZ, Simon DK. The relationship between olfactory dysfunction and constipation in early Parkinson's disease. *Mov Disord*. 2021;36(3):781-782. doi:10.1002/mds.28483
7. **Baumgartner AJ**, Kushida CA, Summers MO, Kern DS, Abosch A, Thompson JA. Basal ganglia local field potentials as a potential biomarker for sleep disturbance in Parkinson's disease. *Front Neurol*. 2021; 12:765203. doi:10.3389/fneur.2021.765203
8. Kern D, Korsmo M, **Baumgartner AJ**, Kramer D, Ojemann S, Case M, Holt-Becker AB, Raike R, Thompson JA. Methylphenidate effects on a clinically informative oscillatory signal within the subthalamic nucleus in Parkinson's disease during deep brain stimulation programming. *Brain Stimul*. 2022; 15(3):747-749. doi: 10.1016/j.brs.2022.04.019.
9. **Baumgartner AJ**, Thompson JA, Kern DS, Ojemann SG. Novel targets in deep brain stimulation for movement disorders. *Neurosurg Rev*. 2022; 45(4):2593-2613. doi: 10.1007/s10143-022-01770-y.
10. **Baumgartner AJ**, Adkins M, Bainbridge J, Leehey MA. Acute akathisia following initiation of opicapone: A case report. *Clin Parkinsonism Relat Disord*. 2022; 7:100154, doi: 10.1016/j.prdoa.2022.100154.
11. Radcliffe EM, **Baumgartner AJ**, Kern DS, Al Borno M, Ojemann S, Kramer DR, Thompson JA. Oscillatory beta dynamics inform biomarker-driven treatment optimization for Parkinson's disease. *J Neurophysiol*. 2023;129(6):1492-1504. doi: 10.1152/jn.00055.2023.
12. Memon AA, Edney BS, **Baumgartner AJ**, Gardner AJ, Catiul C, Irwin ZT, Joop A, Miocinovic S, Amara AW. Effects of deep brain stimulation on quantitative sleep electroencephalogram during non-rapid eye movement in Parkinson's disease. *Front Hum Neurosci*. 2023; 17, doi: 10.3389/fnhum.2023.1269864.
13. Baker S, Fenstermacher E, Davis RA, Kern DS, Thompson JA, Felsen F, **Baumgartner AJ**. Ethical considerations in closed loop deep brain stimulation. *Deep Brain Stimulation*. 2023; doi: 10.1016/j.jdbs.2023.11.001

Professional Educational Materials or Reports, in Print or Other Media:

1. Reznickova N, Buslovich S, Seeberger L, Overstreet N, **Baumgartner A**, Korsmo M, Smith D. Parkinson's Disease & Psychosis in the Post-Acute and Long-Term Care Setting. AMDA – The Society for Post-Acute and Long-Term Care Medicine. Clinical Practice Pocket Guide Series. June 2021.

Abstracts, Poster Presentations and Exhibits Presented at Professional Meetings:

Competitive

1. **Baumgartner AJ**, Hirt L, Kern DS, Thompson JA. Naturalistic sleep in Parkinson's disease assessed by actigraphy and direct recordings of the subthalamic nucleus. Poster presented at: Neuroscience 2021. 50th Annual Meeting of the Society for Neuroscience. 2021 November 8-11.
2. Thompson JA, Ojemann SG, Kramer DR, Hirt L, Radcliffe E, Case M, Zarns C, Holt-Becker A, Raike R, **Baumgartner AJ**, Kern DS. Pilot study to investigate the use of monopolar sensing to improve the efficiency of DBS programming in Parkinson's disease. Poster presented at: International Congress of Parkinson's Disease and Movement Disorders. 2023 August 29; Copenhagen, DK.
3. Thompson JA, Hirt L, Kern DS, **Baumgartner AJ**. Characterization of at-home sleep macrostructure in Parkinson disease using a wearable sleep monitoring device. Poster presented at: International Congress of Parkinson's Disease and Movement Disorders. 2023 August 28; Copenhagen, DK.

4. Hirt L, Kern DS, Thompson JA, **Baumgartner AJ**. The association between sleep quality and subthalamic nucleus volume of tissue activation in Parkinson's disease. Poster presented at: 3rd Joint Congress of the International Neuromodulation Society European Chapters (e-INS 2023). 2023 September 1; Hamburg, DE.
5. Baker S, Radcliffe EM, Kramer DR, Ojeman S, Case M, Zarns C, Holt-Becker A, Raike RS, **Baumgartner AJ**, Kern DS, Thompson JA. Towards an objective beta frequency peak detection algorithm to inform DBS programming in Parkinson's disease. Poster presented at: North American Neuromodulation Society Annual Meeting (NANS 2024). 2024 January 19; Las Vegas, NV.

Non-competitive

1. **Baumgartner AJ**, Roberts TJ. Dissecting the determinants of active and passive force enhancement in skeletal muscle. Poster presented at: Brown University Annual Research Symposium; 2013 December 4-5; Providence, RI.
2. Hirt L, **Baumgartner AJ**, Kern DS, Kramer D, Ojemann SG, Thompson JA. Targeted versus actual stimulated areas in deep brain stimulation surgery for essential tremor. Poster presented at: University of Colorado Neurosurgery Research Symposium. 2022 May 3; Aurora, CO.