

Tunik Curriculum Vitae

DATE: November 16, 2020

NAME: Eugene Tunik

PRESENT TITLE: Professor (Tenured), Associate Dean for Research and Innovation

OFFICE ADDRESS: 360 Huntington Ave, 404 RB
Northeastern University, Bouvé College of Health Sciences
Dept. of Physical Therapy, Movement, and Rehabilitation Science
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CITIZENSHIP: USA

LANGUAGE FLUENCY: English, Russian

EDUCATION: B.S. in Physical Therapy, Northeastern University, 1997
Ph.D. in Neuroscience, Center for Molecular and Behavioral
Neuroscience, Rutgers, 2003

POST DOCTORAL TRAINING:

Dept. of Psychology and Brain Science, Dartmouth College, Hanover, NH, 2003 – 2006

CLINICAL EMPLOYMENT/WORK EXPERIENCE:

Physical Therapist, Florida Institute for Neurological Rehabilitation (TBI), 1997 – 1998

Head Physical Therapist, Hudson PT, Hoboken, New Jersey (outpatient), 1998 – 1999

Physical Therapist, Fair Lawn, New Jersey (private practice), 1999 – 2004

Physical Therapist, School-based physical therapy (grade 1-9), Teaneck, NJ, 2008 – 2015

ACADEMIC APPOINTMENTS:

Assistant Professor, Department of Physical Therapy, NYU
09/2006 – 07/2008

Assistant Professor, Department of Rehabilitation and Movement Science, Rutgers
07/2008 – 06/2012

Associate Professor (Tenured), Dept. of Rehabilitation and Movement Science, Rutgers
07/2012 – 8/2015

Co-Developer and Track Coordinator, Dual Degree DPT-PhD Program
Department of Biomedical Sciences, Dept. Rehabilitation & Movement Science, Rutgers
9/2012 – 8/2015

Director of Research, Physical Therapy, Movement, & Rehab Science, Northeastern
09/2016 – 06/2017

Affiliated Faculty, Electrical & Computer Eng., BioEngineering, Northeastern
2015 – Present

Associate Professor (Tenured), Physical Therapy, Movement, & Rehab Sci., Northeastern
08/2015 – 07/2018

Associate Dean of Research and Innovation, Bouve College of Health Sciences, Northeastern University
07/2017 – Present

Professor (Tenured), Physical Therapy, Movement, & Rehab Sci., Northeastern
07/2018– Present

LICENSURE:

Licensed Physical Therapist, MA / #22046 / 2015 - *Present* (Currently Active)

Licensed Physical Therapist, NJ / #40QA00782000 / 1997 - *Present* (Currently Inactive)

HONORS AND AWARDS:

Dean's list, Golden Key National Honor Society, Northeastern University, *1993-1997*

Pre-Doctoral Johnson & Johnson Foundation Excellence Award (\$5,000), Rutgers, *1999*

Scientific Travel Award, Rutgers University, *2001 & 2002*

Best poster presentation, Neuroscience Minisymposium, Rutgers University, *2002*

Best teaching assistant award, Rutgers University, *2003*

Visiting Professor, Department of Psychology, UCSB, *07/2007*

Visiting Professor, Department of Rehabilitation Science, Rutgers, *08/2007*

Innovative, Development, Exploratory Award, (\$4,840), NYU, *2008-2009*

Graduate Fellowship to fund PhD Student Award (3-years), NYU, *2008-2011*

Excellence in Research Award, Rutgers, School of Health Related Professions, *2012*

APTA publication PT in Motion. "Virtual Realities: Visions of Science, Technology, and Physical Therapy". *June, 2012 Issue*

Career Development Award, NIH-NICHHD, *2009-2014*

Research Leadership Development Initiative Awardee (ReDI), Northeastern, *2016*

NIH Study Panel member, NIH-MFSR, *2018-2022*

MEMBERSHIPS AND POSITIONS HELD IN PROFESSIONAL SOCIETIES:

A. NATIONAL

1. American Physical Therapy Association (General, Neurology, Research sections), Member, *1997-Present*
2. Cognitive Neuroscience Society, Member, *2003-2008*
3. American Physiological Society, Member, *2015-Present*

B. INTERNATIONAL

4. International Society of Motor Control, Member, *2015-Present, Vice President: 2018-Present*
5. Society for Neural Control of Movement, Member, *2003-2008 & 2013-Present*
6. Society for Neuroscience, Member, *1999-Present*
7. International Society of Virtual Reality
8. Organizing Committee Member and Workshops Chairperson for International Conference on Virtual Reality, Philadelphia, PA, *August, 2013*

BOARDS OF DIRECTORS/TRUSTEES POSITIONS:

Friends of Windham Hockey, Windham, NH: Board Member, *2016-2019*

Health Sciences Entrepreneurs, NU-BCHS, Director, *2019-Present*

SERVICE ON NATIONAL GRANT REVIEW PANELS, STUDY SECTIONS, COMMITTEES:

1. City University of New York (CUNY), External grant panel member, 2006
2. Michael J. Fox Foundation for Parkinson's Disease, Grant Review Member, 2008-Present
3. National Institute of Health - National Institute of Child Health and Human Development *NICHD's Scientific Vision: The Next Decade*, Panel Member, June 23-24, 2011
4. NIH-SMI Study Section Member, February 3, 2012
5. ICVR Organizing Member & Workshop Co-Chair, Philadelphia, PA, August, 2013
6. VA-Rehab Research & Development Service, Study Section Member, May 4, 2014
7. NIH-MFSR, Study Section Member, Feb 11-12, 2016
8. Belgium Research Grant Foundation-Flanders, Study Section Member, March 9, 2016
9. ICVR-REHAB-Tech & Rehab, Committee Member, Lisbon, Spain, October 13-14, 2016
10. Motor Learning & Motor Control Conf, Review Committee Member, 2014-Present
11. NIH-NINDS, NST-2 Study Section Member, Alexandria VA, March 13-14, 2017
12. NSF, Perception, Action, & Cognition Program, Study Section Member, March 15, 2017
13. United Kingdom Stroke Association, Grant Reviewer, April 26, 2017
14. NIH-MFSR Study Section Member, Washington DC, June 5-6, 2017
15. NIH-NINDS, NST-2 Study Section Member, June 19, 2017, Chicago, IL
16. NIH-NINDS, NST-2 Study Section Member, San Francisco, CA, March 12-13, 2018
17. AAAS/KACST Study Section Member, January 29, 2018
18. NIH-MFSR, Study Section Member, Permanent member 2018-2022
19. Research Grants Council (RGC) of Hong Kong reviewer, 2018-2019
20. Natural Sciences and Engineering Research Council of Canada reviewer, 2019

SERVICE ON JOURNALS/PUBLICATIONS:

A. EDITORIAL BOARDS

- a. Journal Restorative Neurology and Neuroscience, Associate Editor, 2011-Present
- b. Journal of Neurologic Physical Therapy, Board Member, 2011-Present
- c. Journal of Novel Physiotherapies, Board Member, 2011-Present
- d. Frontiers in Human Neuroscience, Review Editor, 2016-Present

B. ADHOC REVIEWER (2003-PRESENT)

Brain Res, Cerebral Cortex, EBR, J Cog Neurosci, Motor Control, Phys Ther, J Neuro Phys Ther, Neurosci, Neuroimage, J Neurosci, J Neurophysiol, Frontiers Journals

SERVICE ON INSTITUTIONAL COMMITTEES:

1. Faculty Professional Development Committee, NYU, 2006-2008
2. Research Advisory Council to the Dean of Research, NYU, 2006-2008
3. GSBS PhD Admissions Committee (interviewer), Rutgers, 2010-2011
4. Dean's Strategic Planning Committee Member – Neuroscience Group, Rutgers, 2014
5. Dean's Strategic Planning Committee Member – Biomed Imaging, Rutgers, 2014
6. Faculty Research Advisory Committee Member, RBHS Office of Research and Economic Development (ORED), Rutgers, 2014-2015
7. Faculty Council, RBHS-Rutgers University, 2014-2015
8. University Graduate Council (Elected), Northeastern (Bouve Rep), 2015-2017
9. NU dry space planning for ISEC-2 committee, 2018-present
10. NU core facilities development committee, 2019-present
11. Vice Provost for Research Admin International Search, Committee Chair, 2018-present

12. Global Resilience Institute Advisory Committee, *2018-present*

SERVICE ON SCHOOL COMMITTEES:

1. Research Committee Member, Dept. of Rehab & Movement Science, Rutgers, *2009-2012*
2. Research Committee Chair, Dept. of Rehab & Movement Science, Rutgers, *2010-2011*
3. Executive Council Member, Rutgers University-SHRP, *2012-2015*
4. Faculty Senate, Elected Member, Rutgers University-RBHS, *2014-2015*
5. RBHS Advisory Council (Invited Member), Rutgers University-RBHS, *2014-2015*
6. Faculty Search Committee, Member, Biology Dept, Northeastern, *2015 & 2017*
7. BioE PhD Track Co-Director (with D. Sternad), Northeastern, *2016-2017*
8. Bouve College Research Committee, Ex Officio, *2018-present*

SERVICE ON DEPARTMENT/PROGRAM COMMITTEE:

1. PhD Program Committee Member, Rehab & Movement Science, Rutgers, *2011-2015*
2. DPT-PhD Program Coordinator, GSBS / Rehab & Movement Sci., Rutgers, *2011-2015*
3. Faculty Merit Review Committee Member, PTMRS, Northeastern, *2015-2018*
4. PTMRS Research Committee Member, Northeastern, *2015-Present (2016, Chair)*
5. PTMRS Tenure and Promotion Committee Member, Northeastern, *2015-Present*
6. PTMRS Administrative Council Committee Member, Northeastern, *2016-2018*
7. PTMRS Graduate Admissions Committee Member, Northeastern, *2016-2018*
8. PTMRS Performance Review Committee Member, Northeastern, *2016-2018*
9. PTMRS Director of Research, *2016-2017*
10. PTMRS PhD program admission committee, *2019*

SERVICE TO THE COMMUNITY:

1. Intel Project Mentor, Bronx School of Science, *September 2007 - June 2008*
2. Friends of Windham Hockey, Board Member (503c1 organization), *2016-Present*

DIRECT SPONSORSHIP OF STUDENTS FOR UNDERGRADUATE RESEARCH:

1. Anna Adamovich (Rutgers), *July – August, 2010-2012*
2. Rita Palladino (Ramapo), *August – December, 2010*
3. Krisa Varghese (NJIT), *June – September, 2011*
4. Megan Guidry (NJIT), *November, 2012 – 2013*
5. Kevin Fan (NJIT), *October, 2012 – 2013*
6. Akriti Sharma (Rutgers), *September, 2012 – 2014*
7. Reem Salem (Rutgers), *September, 2013 – 2014*
8. Nailah Mubin (Teachers College of New Jersey), *July-August 2014*
9. Anita Albanese (University of Nevada-LV), *July-August 2014*
10. Prashant Naidu (Co-op student, ECE, Northeastern), *July-Dec 2016*
11. Jose Castillo (Co-op student, ECE, Northeastern), *July-Dec 2016*
12. Jonathon Stout (Research Engineer, BioE-2019), *Sept, 2016-2017*
13. Lauren Enright (Research Assistant, Neuroscience-2019), *Sept, 2016-2017*
14. Alberto Prieto (Research Assistant, Neuroscience-2017), *Sept, 2016-2017*
15. Samuel Berin (Co-op student, CCIS, Northeastern), *Jan-June 2017*
16. Alex Huntoon (Co-op student, CCIS, Northeastern), *Jan-June 2017*
17. Sofia Kirkman (Research Assistant, Neuroscience-2019), *Sept, 2017-Present*
18. Destinee Batson (Enabling Engineering student, ECE-2020), *Sept, 2017-Dec, 2017*
19. Vinishaa Shashi Kumar (Enabling Engineering student, ECE-2020), *Sept-Dec, 2017*
20. Yulu Sun (Enabling Engineering student, ECE-2020), *Sept-Dec, 2017*

21. Bryce Winn (Enabling Engineering student, ECE-2020), *Sept-Dec, 2017*
22. Peter Dirksmeier (Research Assistant, ECE-2019), *Jan 2017-May 2019*
23. Sophia Maciel (Research Assistant, EE-2021), *Sept 2018-June 2019*
24. Yael Lissack (Research Assistant, BioE-2022), *Sept 2018-Present*
25. Bailey Uitz (Capsone project, PTMRS), *Sept 2018-May 2019*
26. Leila Kiernan (Capsone project, PTMRS), *Sept 2018-May 2019*
27. Dan Tsai (Capsone project, PTMRS), *Sept 2018-May 2019*
28. Nathaniel Pinkes (Research Assistant, Health Sciences), *Sept 2018-Present*
29. Sambina Anthony (Research Assistant, BNS), *Sept 2018-Present*
30. Sasha Ruszczyk (Research Assistant, PTMRS), *Sept 2017-Present*
31. Trisha Seth (Research Assistant, PTMRS), *Sept 2017-Present*
32. Gladys Romero (Research Assistant, BNS), *Sept 2017-Present*
33. Tessa Griffin (Research Assistant, BNS-2021), *Sept 2018-Present*
34. Andrea Smith (Research Assistant, BioE-2023), *Sept 2018-Present*
35. Kyle Weirether (Research Assistant, BioE-2023), *Sept 2018-Present*
36. Holden Lalor (Research Assistant, BioE-2021), *Sept 2018-Present*
37. Daniel Belmont (Research Assistant, BioE-2022), *Sept 2018-Present*
38. Jenna Pestonik (Research Assistant, BNS-2021), *Jan 2019-Present*
39. Zach Fagiani (Research Assistant, BioE-2022), *Jan 2019-Present*
40. Atharva Gawde (Research Assistant, BioE-2023), *Sept 2018-Present*
41. Spencer Jacobs-Skolik (Lake) (Research Assistant, EE-2022), *Sept 2018-Present*
42. Garrit Streng (Research Assistant, CS-2025), *Sept 2019-Present*
43. Caitlyn Celestino (PT Project, PTMRS-2023), *Sept 2019-Present*
44. Tyler Greffrath (PT Project, PTMRS-2023), *Sept 2019-Present*

DIRECT SPONSORSHIP of MASTER’S THESIS / HONORS PROJECTS:

1. Erik Johnson, BME, NJIT-Rutgers, M.S. Lab Rotation Supervisor, *2012 – 2013*
2. Greg Ames, BME, NJIT-Rutgers, M.S. Dissertation Co-Chair, *2012 – 2014*
3. Jared Paster, BME, NJIT-Rutgers, M.S. Lab Rotation Supervisor, *2014*
4. Neil Weiss, New Jersey Medical School, M.D. Student Lab Rotation Supervisor, *2014*
5. Yifei Wei, BME, NJIT-Rutgers, M.S. Lab Research Supervisor, *2014-2015*
6. Connor King, BME, NJIT-Rutgers, Post-Bac Research Engineer, *2016-2017*
7. Dan Tanis, BME, NJIT-Rutgers, Post-Bac Research Engineer, *2016-Present*
8. Regina DeGeorge (Research Assistant, DPT-2020), *Sept, 2016-2017*
9. Amanda Chan (Research Assistant, DPT-2021), *Jan, 2017 – June, 2017*
10. Kayla Gomes, PTMRS-Northeastern, (Honor’s Capstone), *Sept, 2016 – June, 2017*
11. Anna Rubakhina, PTMRS-Northeastern, (Honor’s Capstone), *Sept, 2016 - June, 2017*
12. Seth Gordon, PTMRS-Northeastern, (Honor’s Capstone), *Sept, 2016 - June, 2017*
13. Erin Whiteman, PTMRS-Northeastern, (Honor’s Capstone), *Sept, 2017 - Present*
14. Jordan Dubow, PTMRS-Northeastern, (Honor’s Capstone), *Sept, 2017 - Present*
15. Kristen Dupuis, PTMRS-Northeastern, (Honor’s Capstone), *Sept, 2017 – Present*
16. Shreya Sivakumar, BioE-Northeastern, *Sept 2017-Present*
17. Palig Mouradian, Mechatronics-Northeastern, *Sept 2017-Present*
18. Don Liang, BioE-Northeastern, *Sept 2018-Present*

DISSERTATION CHAIR, COMMITTEE MEMBER, REVIEWER:

A. COMMITTEE MEMBER

1. Ilan Dinstein, Psychology (NYU), *2006-2008*

- Currently: Associate Professor, Zlotowski Center for Neuroscience, Ben Gurion*
2. Katherine August, BME (Rutgers-NJIT), 2006-2011
Currently: Whitaker Foundation Fellow, ETH-Zurich
 3. Kai Chen, BME (Rutgers-NJIT), 2008-2010
 4. Gerry Fluet, Rehabilitation & Movement Science (Rutgers), 2008-2012
Currently: Assistant Professor, Movement & Rehabilitation Science, Rutgers
 5. Yi Guo, BME (Rutgers -NJIT), 2010-2014
 6. Soha Saleh, BME (Rutgers -NJIT), 2008-2012
Currently: Associate Research Professor, Kessler Institute of Rehabilitation
 7. Priyanka Shah, BME (Rutgers -NJIT), 2008-2012
 8. Yelda Alkan, BME (Rutgers -NJIT), 2008-2012
 9. Jony Sheynin, BME (Rutgers-NJIT), 2013-2014
Currently: Postdoctoral Research Fellow, Dept. of Psychiatry, U Michigan
 10. Inbal Maidan, Rehabilitation and Movement Science (Rutgers), 2013-2014
Currently: Associate Research Professor, Tel-Aviv Sourasky Medical Center
 11. Ian LaFond, BME (Rutgers-NJIT), 2013-2016
Currently: Medical School (New Jersey Medical School)
 12. Zhaoran Zhang, BioEngineering (Northeastern), 2015-2018
Currently: Postdoc at Columbia University
 13. Ian Zuzarte, BioEngineering (Northeastern), 2016-Present
 14. Jaimie Spahr, ECE (Northeastern), co-mentor, 2018-2019
 15. Jigna Patel, Rehabilitation Science (Rutgers), 2013-2019
Currently: postdoc Kessler Foundation
 16. Yagmur Urgun, ECE (Northeastern), 2015-Present
 17. Md Navid Akbar, ECE (Northeastern), 2017-Present

B. COMMITTEE CHAIR

1. Jean Timmerberg, Rehabilitation and Movement Science (Rutgers), 2008-2011
Currently: Associate Professor & Clin Ed Director, Dept of PT, Columbia U.
2. Hamid Bagce, BME (Rutgers-NJIT), 2008-2012
Currently: Medical Resident, Columbia University
3. Mathew Yarossi, BME (Rutgers-NJIT), 2011-2017
4. Thushini Manuweera, BME Science (Rutgers-NJIT), 2012-2018
5. Kyle Lockwood, BioE (Northeastern), 2019-Present

SPONSORSHIP OF POSTDOCTORAL FELLOWS:

1. Soha Saleh, PhD, June, 2012 – 2013
Currently: Associate Research Professor, Kessler Institute of Rehabilitation
2. Qinyin Qiu, PhD, June, 2012 – 2015
Currently: Associate Research Professor, BME, NJ Institute of Technology
3. Ge “Paul” Chen, MD, July, 2016 – Present
4. Mariusz Furmanek, PhD, March, 2017 – Present
5. Mathew Yarossi, PhD, October, 2017 – Present
6. Madhur Mangalam, PhD, January, 2019 – Present

EXTERNAL TENURE REVIEWER:

Since 2013, I served as a reviewer for 13 tenure, tenure/promotion, and promotion cases at Carnegie-designated R1 (10) and non-R1 (1) institutions, and two research intense non-US based universities.

MENTORSHIP OF JUNIOR / CLINICAL FACULTY IN RESEARCH AT NU:

1. Alicia Markowski, Associate Clinical Professor, Northeastern, 2016-2017
2. CJ Hasson, Assistant Professor (TT), Northeastern, 2015 – 2018
3. Steve Yen, Assistant Professor (TT), Northeastern, 2015 – 2018
4. Pei-Chun Kao Assistant Professor (TT), U-Mass Lowell, 2015 – 2017
I was a Sponsor on her K01 grant application, Fall 2017
5. Danielle Levac, Assistant Professor (TT), Northeastern, 2015 - Present
I am serving as Sponsor on her K01 grant, awarded in Fall 2017

TEACHING RESPONSIBILITIES:**A. CURRENT**

1. Motor Control Learning and Development, NU-PTMRS (PT5151)
2. PT Project 1 & 2, NU-PTMRS
3. Musculoskeletal Biomechanics, NU-ME (ME5665) [invited lecture]

B. PAST*Curriculum Design*

1. Literature Review-Basic (Rutgers, PTDR7450), 1 Credit
2. Literature Review-Advanced (Rutgers, PTDR7460), 1 Credit
3. Research Lab Rotation (Rutgers, PTDR7470), 2 Credits

Primary Instructor

4. Clinical Inquiry 1 (Rutgers, PTDR5410), 3 Credits
5. Clinical Inquiry 2 (Rutgers, PTDR6420), 2 Credits
6. Literature Review-Basic (Rutgers, PTDR7450), 1 Credit
7. Literature Review-Advanced (Rutgers, PTDR7460), 1 Credit
8. Research Design & Applied Statistics (Rutgers, PTDR7311), 3 Credits (2008-09)

Co-Instructor

9. Functional NeuroAnat, NU-BIO (PT5410)
10. Functional NeuroAnat Lab, NU-BIO (PT5411)
11. Neurological Rehabilitation 1, NU-PTMRS (PT5209)
12. Neuroscience (Rutgers, PTDR5140), 4 Credits

CURRENT GRANT SUPPORT (Active extramural awards as PI: \$4,954,770)

1. NIH – National Institute of Neurological Disorders and Stroke
Mechanism: R01 (2 R01 NS085122-06)
Title: Planning and Updating in Frontoparietal Networks for Grasping
Funding Period: 12/01/2020 – 11/30/2025
Budget: \$2,469,262
Role: PI (NU is Prime), *competing Renewal, 7th Percentile on 1st review, payline 14%*
2. NIH – National Institute of Neurological Disorders and Stroke
Mechanism: R01 (2 R01 HD058301)
Title: Optimizing Hand Rehabilitation Post-Stroke Using Interactive Virtual Environments

Funding Period: 09/01/2017 – 05/31/2022

Budget: \$3,571,060

Role: MPI (Sub-award to NU: Total: \$706,262; Direct: \$449,848)

3. NSF

Mechanism: CBET-1804550

Title: Collaborative Proposal: Understanding Motor Cortical Organization through Engineering Innovation to TMS-Based Brain Mapping

Funding Period: 09/01/2018 – 08/31/2021

Budget: \$300,000

Role: PI (NU Prime)

4. NSF

Mechanism: CBET-1804550

Title: Collaborative Proposal: Understanding Motor Cortical Organization through Engineering Innovation to TMS-Based Brain Mapping

Funding Period: 09/01/2019 – 08/31/2021

Budget: \$198,048

Role: PI (MGH Prime and NU subaward)

5. NSF

Mechanism: CMMI-M3X-1935337

Title: Coordination of Dyadic Object Handover for Human-Robot Interactions

Funding Period: 10/01/2019 – 09/30/2022

Budget: \$760,262

Role: PI

6. NIH - National Institute of Child Health and Human Development

Mechanism: Career Development Award (K01)

Title: Enhancing Transfer of Motor Skill Learning from Virtual to Physical Environments in Children with Cerebral Palsy

Funding Period: 09/01/2017 – 08/31/2022

Budget: \$632,702

Role: KP (PI: Levac)

7. Marc Cinique

Mechanism: Private Donation for ALS Research

Title: Neuromotor Biomarkers to Improve Earlier Diagnosis of Amyotrophic Lateral Sclerosis

Funding Period: 1/1/2018 – 12/31/2022

Budget: \$125,000 (no IDC)

COMPLETED GRANT SUPPORT:

1. NIH – National Institute of Neurological Disorders and Stroke

Mechanism: R01 (NS085122)

Title: Planning and Updating in Frontoparietal Networks for Grasping

Funding Period: 02/01/2014 – 12/30/2017

Budget: \$1,299,108

Role: PI (NU is Prime)

2. NSF-ICORPS
 - Mechanism: NSF – I-CORPS (#16-539)
 - Funding Period: 03/01/2019 – 05/30/2019
 - Budget: \$3,000
 - Role: PI
3. Tier 2 Grant, Northeastern University
 - Mechanism: Federally Designated Centers / Major Programs Initiative
 - Title: Modeling muscle and synergy representations in M1
 - Funding Period: May 1, 2017
 - Budget: \$12,000 (split between Bouve, COE, Office of the Provost)
 - Role: PI
4. NSF
 - Mechanism: NSF – CMMI - M3X - Mind, Machine, and Motor (1830876)
 - Title: Student / Scientist Workshop: A Satellite session for Progress in Clinical Motor Control I: Neurorehabilitation
 - Funding Period: 05/01/2018 – 04/30/2019
 - Budget: \$19,770
 - Role: PI
5. NIH – National Institute of Neurological Disorders and Stroke
 - Mechanism: F31 (NS092268)
 - Title: Brain Circuits in Motor Learning
 - Funding Period: 03/01/2015 – 10/01/2017
 - Budget: \$94,009
 - Role: Sponsor/Mentor of PhD trainee Mathew Yarossi
6. NIH - National Institute of Child Health and Human Development
 - Mechanism: Career Development Award (1 K01 HD059983)
 - Title: Visual Augmentation through Virtual Reality to Rehabilitate the Hand after Stroke
 - Funding Period: 06/01/2009 – 08/31/2014
 - Budget: \$680,392
 - Role: PI
7. SHRP Education Research Award
 - Title: The use of biofeedback to augment the acquisition of skills in performing joint mobilization techniques among physical therapy students
 - Funding Period: 07/01/2009 – 07/01/2010
 - Budget: \$2,000
 - Role: PI
8. UMDNJ Foundation
 - Title: Non-invasive cortical stimulation to improve attention and language function in high functioning children with autism spectrum disorder (57-07)
 - Funding Period: 07/01/2009 – 07/01/2010
 - Budget: \$20,000
 - Role: PI

9. NIH - National Institute of Neurological Disorder and Stroke
 Mechanism: F30 NRSA (5 F30 NS071945)
 Title: Augmenting neuroplasticity through visual and proprioceptive feedback
 Funding Period: 07/01/2009 - 07/01/2012
 Budget: \$83,709
 Role: Sponsor/Mentor of Trainee (Trainee: Bagce)
10. NIH - National Institute of Neurological Disorder and Stroke
 Mechanism: F31 NRSA (HD067014)
 Title: Transcranial magnetic stimulation & virtual reality training in
 neurorehabilitation
 Funding Period: 07/01/2010 - 07/01/2014
 Budget: \$108,339
 Role: Co-Sponsor/Co-Mentor (Trainee: LaFond)

RESEARCH PUBLICATIONS:

A. REFEREED ORIGINAL ARTICLES IN JOURNALS (53)

1. Messier J, Adamovich S, Berkinblit M, **Tunik E**, Poizner H. (2003) Influence of movement speed on accuracy and coordination of pointing to memorized targets in 3-D space in a deafferented subject. *Exp Brain Res*, 150(4):399-416
2. **Tunik E**, Poizner H, Levin MF, Adamovich SV, Messier J, Lamarre Y, Feldman AG. (2003) Arm-trunk coordination in the absence of proprioception. *Exp Brain Res*, 153(3):343-355
3. **Tunik E**, Poizner H, Adamovich SV, Levin MF, Feldman AG. (2004) Deficits in adaptive upper limb control in response to trunk perturbations in Parkinson's disease. *Exp Brain Res*, 159(1):23-32
4. **Tunik E**, Adamovich SV, Poizner H, Feldman AG. (2004) Deficits in rapid adjustments of movements according to task constraints in Parkinson's disease. *Mov Disord*, 19(8):897-906
5. **Tunik E**, Johnson-Frey SH, Grafton ST. (2005) Virtual lesions of the human anterior intraparietal area disrupt goal-dependent online adjustments of grasp. *Nat Neurosci*, 8(4):505-511
6. Schettino LF, Adamovich SV, Hening W, **Tunik E**, Sage J, Poizner H. (2006) Hand preshaping in Parkinson's disease: effects of visual feedback and medication state. *Exp Brain Res*, 168(1-2):186-202
7. Rice N, **Tunik E**, Grafton ST. (2006) Role of the anterior intraparietal area in movement planning versus updating. *J Neurosci*, 26(31):8176-8182
8. **Tunik E**, Schmitt PJ, Grafton ST. (2007) BOLD coherence reveals segregated functional circuits subserving adaptation to distinct force perturbations. *J. Neurophysiol*, 97(3):2107-2120
9. **Tunik E**, Rice NJ, Hamilton A, Grafton ST. (2007) Beyond grasping: Representation of action in human anterior intraparietal sulcus. *NeuroImage*, 36(2):77-86
10. Rice NJ, **Tunik E**, Cross, ES, Grafton ST. (2007) On-line grasp control is mediated by the contralateral hemisphere. *Exp. Brain Res*. 1175C:76-84
11. **Tunik E**, Poizner H, Feldman AG. (2007) Effect of L-dopa replacement therapy on on-line adaptive motor control in Parkinson's disease. *Parkinson's Disease and Related Disorders*. 13(7):425-33

12. Farrer C, Frey SH, Van Horn J, **Tunik E**, Turk D, Inati S, Grafton ST. (2008) The angular gyrus computes action awareness representations. *Cerebral Cortex*. 18(2):254-61
13. **Tunik E**, Lo OY, Adamovich SV. (2008) TMS to the Frontal Operculum and Supramarginal Gyrus Disrupts Planning of Outcome Based Hand-Object Interactions, *J Neurosci*. 28(53):14422-7
14. **Tunik E**, Ortigue S, Adamovich SV, Grafton ST. (2008) Differential recruitment of anterior intraparietal sulcus and superior parietal lobule during visually guided grasping revealed by electrical neuroimaging, *J Neurosci*. 28(50):13615-20
15. Moisello C, Crupi D, **Tunik E**, Quartarone A, Bove, M, Tononi G, Ghilardi MF. (2009) The Serial Reaction Time Task Revisited: a Study On Motor Sequence Learning With Arm-Reaching Tasks, *Exp Brain Res*. 194(1):143-55
16. Rice NJ, Cross ES, **Tunik E**, Grafton ST, Culham JC. (2009) Ventral and Dorsal Stream Contributions to Immediate and Delayed Grasping: A TMS Approach, *Neuropsychologia* 47(6):1553-1562
17. Merians AS, **Tunik E**, Fluet GG, Qiu Q, Adamovich SV. (2009) Innovative Approaches to the Rehabilitation of Upper Extremity Hemiparesis using Virtual Environments. *Eur J Phys Rehabil Med* 45:123-33
18. Adamovich SV, August K, Merians A, **Tunik E**. (2009) A Virtual Reality-Based System Integrated with fMRI to Study Neural Mechanisms of Action Observation-Execution: A Proof of Concept Study, *Restor Neurol Neurosci*. 27:209–223
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B. CONFERENCE PROCEEDINGS

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B. BOOKS, MONOGRAPHS AND CHAPTERS

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C. OTHER ARTICLES (REVIEWS, EDITORIALS, ETC.)

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D. ABSTRACTS

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2. Yarossi M, Patel J, Qui Q, Fluet GG, Merians A, Adamovich S, **Tunik E**. Effect Of Early Intensive Hand Rehabilitation On Reorganization Of M1 Topography Following Stroke. Clinical Progress in Motor Control Conference I, State College, PA, July 2018.
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SCIENTIFIC PLATFORM PRESENTATIONS:

A. NATIONAL

1. **Tunik E**. Motor control, learning, and the clinic. April 2000, UMDNJ, Newark, NJ.
2. **Tunik E**. Attention fingers! Telling your muscles what to do. November 2001, Rutgers University, Newark, NJ.
3. **Tunik E**. fMRI and TMS investigations of on-line and trial-to-trial adaptation. March, 2005, Haskins Institute. New Haven, CT.
4. **Tunik E**. Grasp wide shut: virtual lesions of the human anterior intraparietal area disrupt rapid online adjustments of grasp. August, 2005. Rehabilitation Institute of Chicago. Chicago, IL.
5. **Tunik E**, Role of the parietal cortex in the updating of goal-depended grasp." Vision Sciences Society Symposium: *From Eye to Hand: The Role of Vision in Grasping*. April 2005, Sarasota, FL.
6. **Tunik E**. TMS explorations of parietal involvement in online and trial-to-trial motor performance. Cognition and Perception Seminar Series. October 15, 2006. Department of Neural Science, NYU. New York, NY.
7. **Tunik E**. Neural circuits underlying adaptive control of reach and grasp. March 23, 2005. Depts. of Psychology and Neural Science. NYU. New York, NY.
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9. **Tunik E**. Ask not what your brain can do for you. Ask what you can do for your brain. Lessons from neuroscience and perspectives for neurorehabilitation, April 2006, Dept. of Physical Therapy. University of Connecticut. Hartford, CT.
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11. **Tunik E**. Bridging the gap between neuroscience and therapeutic intervention. March 8, 2008. Department of Rehabilitation and Movement Science. UMDNJ. Newark, NJ.
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PATENTS HELD:

Provisional Patent: Methods for Mapping Cortical Physiology and Methods of Use Thereof