

**Anat V. Lubetzky, PT, PhD**  
Department of Physical Therapy  
New York University  
380 Second Avenue – 4th Floor  
New York, NY 10010  
Email: anat@nyu.edu

**RESEARCH INTERESTS:**

Sensory Integration for Postural Control, Virtual Reality for Rehabilitation, Balance Training, Motor Control and Learning, Specificity in Orthopaedic Rehabilitation.

**APPOINTMENTS:**

August 2015–Present Tenure-Track Assistant Professor  
New York University, Department of Physical Therapy  
Sep 2014–July 2015 Visiting Assistant Professor,  
New York University, Department of Physical Therapy

**EDUCATION:**

2008–2014 PhD in Rehabilitation Science at the University of Washington under the supervision of Sarah Westcott McCoy, PT, PhD, FAPTA. Dissertation title: “Sensory Integration for Postural Control during Stance on Compliant Surfaces: from Theoretical Models to Balance Rehabilitation”  
2003–2006 MScPT, Tel Aviv University, Department of Physical Therapy under the supervision of Dr. Eli Carmeli and Dr. Michal Katz-Leurer. Thesis title: “Incidence of injuries among young adults in sports centers – relation to the type and pattern of activity”  
1999–2003 BPT (Magna Cum Laude), Tel Aviv University, Department of Physical Therapy

**HONORS AND AWARDS:**

- UW Commencement Gonaloniere: honor selection to represent the Graduate School for outstanding achievements at the University of Washington [2014]
- Nominated: UW Graduate School Distinguished Dissertation Award [2014]
- Walter C. and Anita C. Stolov Research Award, Department of Rehabilitation Medicine, University of Washington [2012, 2010]
- Nominated: UW Excellence in Teaching Award [2012]
- Lead instructor of the highest rated course in the University of Washington, School of Medicine for summer 2011, based on adjusted average students' ratings (REHAB 508) [2011]
- The annual Dean's list award, Department of Physical Therapy, Sackler School of Medicine, Tel Aviv University [2002, 2001, 2000]

- The annual Rector's list award for excellence, Sackler School of Medicine, Tel Aviv University. (Given to a student at the Department of Physical Therapy once every four years) [1999]

## **PUBLICATIONS**

1. **A.V. Lubetzky**, B. Hujsak, E. Kary, H. Darmanin, K. Perlin. An Oculus Platform to Measure Sensory Integration for Postural Control in Patients with Vestibular Dysfunction. *International Conference on Virtual Rehabilitation 2017*. To Appear.
2. **A.V. Lubetzky**, E. Kary, D. Harel, B. Hujsak, K. Perlin. A Virtual Reality Oculus Platform to Measure Sensory Integration for Postural Control. Submitted.
3. **A.V. Lubetzky**, D. Harel, H. Darmanin, K. Perlin. Assessment via the Oculus of Visual 'Weighting' and 'Re-weighting' in Young Adults. *Motor Control*. 2016. Epub Ahead of Print.
4. **A.V. Lubetzky**, S.W. McCoy, R. Price, D. Kartin. Response to Tendon Vibration Questions the Underlying Rationale of 'Proprioceptive Training'. *J Athl Train*. 2017: 52(2): 97-107
5. **A.V. Lubetzky**, R. Price, S.W. McCoy. Effects of Achilles Tendon Vibration Surface and Visual Conditions on Lower Leg Electromyography in Young Adults with and without Recurrent Ankle Sprain. *J Bodywork Mov Ther*. 2016: 20(3): 639-49
6. Y. Segal-Snir Yael, **A.V. Lubetzky**, Y. Masharawi. Rotation exercise classes did not improve function in women with non-specific chronic low back pain: a randomized single blind controlled study. *J Back Musculoskelet Rehabil*. 2016: 29(3): 467-75.
7. **A.V. Lubetzky**, S. Westcott-McCoy, R. Price, M. Ciol. Young Adults Largely Depend on Vision for Postural Control when Standing on a BOSU Ball but Not on Foam. *J Strength Cond Res*. 2015: 29: 2907-18.
8. **A.V. Lubetzky**, R. Price, V.E. Kelly, S.W. McCoy. Relationship between Multiscale Entropy, task difficulty and sway velocity in healthy young adults. *Somatosens Mot Res*. 2015: 32: 211-218.
9. **A.V. Lubetzky**, P.A. Kramer. The Association between Foot Morphology and Dynamic Balance Performance. *J Exercise Sports Ortho*. 2015: 2: 1-7
10. **A. Lubetzky-Vilnai**, M. Ciol, S. Westcott-McCoy. Statistical Analysis of Clinical Prediction Rules for Rehabilitation Interventions: Current State of the Literature. *Arch Phys Rehab Med*. 2014: 95: 188-96
11. T.L. Jirikowic, S. Westcott-McCoy, **A. Lubetzky-Vilnai**, R. Price, M. Ciol, D. Kartin, L. Hsu, B. Gendler, S.A. Astley. Sensory control of balance: A comparison of typically developing children to children with fetal alcohol spectrum disorders. *J Pop Ther Clin Pharm*. 2013: 20: e212-28

12. **A. Lubetzky-Vilnai**, T.L. Jirikowic and S. Westcott McCoy. Investigation of the Dynamic Gait Index in Children: a Pilot study. *Pediatr Phys Ther.* 2011: 23(3): 268-73
13. **A. Lubetzky-Vilnai**, D. Kartin. The Effect of Balance Training On Balance Performance in Patients Post-Stroke: A Systematic Review. *J Neurol Phys Ther.* 2010: 34(3):127-37.
14. **A. Lubetzky-Vilnai**, E. Carmeli, M. Katz-Leurer. Incidence of injuries among young adults in sports centers- relation to the type and pattern of activity. *Scand J Med Sci Sports.* 2009: 19: 828–33

## **GRANTS**

1. Clinical, Morphological and Functional Success Predictors Following Lumbar Spinal Surgery in Patients with Chronic Low Back Pain and Degenerative Disorders Phase 1: a Pilot Study  
Agency: NYU, University Research Challenge Fund  
PI's: Anat Lubetzky & Marilyn Moffat  
Co-investigators: Dr. Youssef Masharawi, Dr. Daphna Harel, Dr. Thomas Errico  
Status: Funded June '15 – June 16  
Amount: \$11,000
2. Virtual Reality Clinical Assessment of Visumotor Function and Visual Integration for Postural Control for Patients with Vestibular Dysfunction  
Agency: NYU, Steinhardt School of Culture Education and Human Development  
PI's: Anat Lubetzky & Ken Perlin  
Co-investigators: Dr. Bryan Hujsak, Dr. Daphna Harel  
Status: Funded Sept 16 – August 17  
Amount: \$10,000

## **SELECTED PLATFORM PRESENTATIONS IN CONFERENCES AND SEMINARS:**

- A Virtual Reality Oculus Platform to measure Sensory Integration for Postural Control. World Confederation of Physical Therapy Congress, Cape Town, South Africa, July 2017.
- An Oculus Platform to Measure Sensory Integration for Postural Control in Patients with Vestibular Dysfunction.
  - International Conference on Virtual Rehabilitation, Montréal, Canada, June 2017.
  - Annual Conference of the Israeli Physiotherapy Society, Tel Aviv, Israel, May 2017

- MIT Enterprise Forum of NYC Panel: The Reality in Virtual Reality: A Conversation with Practitioners. Microsoft Technology Center, New York, December 2016.
- Assessment of Visual Dependence for Postural Control in Young Adults using the Oculus Development Kit. APTA Combined Sections Meeting, Research Section, San Antonio, February 2017.
- Effects of Achilles Tendon Vibration of Lower Leg Electromyography during Balance Tasks in Young Adults with and without Recurrent Ankle Sprains. APTA Combined Sections Meeting, Sports Physical Therapy section, Anaheim, February 2016. Published Abstract: *JOSPT*, 2016; 46 (1) A45
- Critical Inquiry of Clinical Prediction Rules in Physical Therapy Research. Invited talk. Tel Aviv University, Department of Physical Therapy, January 2016
- Vibration Induced Falling or Stability: Effects during Stance on Challenging Compliant Surfaces in Young Adults with and without history of repeated ankle sprains. APTA Combined Sections Meeting, Sports Physical Therapy section, Indianapolis, February 2015. Published Abstract: *JOSPT*, 2015; 45 (1) A55
- Sensory Integration for Postural Control: from theoretical models to balance rehabilitation. Invited online talk, Tel Aviv University, Department of Physical Therapy, Conference on Updates in Orthopaedic Rehabilitation, January 2015
- Research and Scientific Inquiry Presentation “‘Rehabilitation Gaming’ for Improvement of Neurological Function & Adherence with Movement Practice in Children with Cerebral Palsy”, UW Department of Rehabilitation Medicine Research Seminar, November 2010.
- The Annual Meeting of the Israel Society of Sports Medicine, Tel Aviv, April 2007.
- The 57<sup>th</sup> Annual Convention of the Israeli Organization of Physical Medicine and Rehabilitation, Airport City, Israel, November 2006.

## **POSTER PRESENTATIONS**

1. A.V Lubetzky, Y. Masharawi, D. Harel, J. Burr, T. Errico, J. Bendo, M. Moffat  
**Body Functions, Activity Limitations and Participation Restrictions in patients with chronic low back pain who choose to undergo lumbar spine surgery.**  
APTA Combined Sections Meeting, San Antonio, February 2017
2. A. Lubetzky-Vilnai, S. Westcott McCoy, R. Price, V. Kelly, M. Ciol  
**Measurement of postural-sway complexity in young adults with and without history of repeated ankle sprains.**

APTA Combined Sections Meeting, Indianapolis, February 2015

3. S. Kreisman, A. Lubetzky-Vilnai, S. Westcott McCoy  
**Relationship of single-limb Balance Error Scoring System and postural sway on stable and compliant surfaces in young adults with and without history of ankle sprains.**  
APTA Combined Sections Meeting, Indianapolis, February 2015
4. A. Lubetzky-Vilnai, S. Westcott McCoy, R. Price, A. Bennett, D. Kartin  
**The Role of Compliant Surfaces in Somatosensory Evaluation and Rehabilitation: a Pilot Study.**  
APTA Combined Sections Meeting, San Diego, January 2013
5. A. Lubetzky-Vilnai, PA. Kramer.  
**The Role of Foot Type in Dynamic Balance Performance.**  
ACSM Annual Meeting, San Francisco, May 2012
6. A. Lubetzky-Vilnai, T. Jirikowic, R. Price, B. Dellon, M. Ciol, D. Rios, D. Kartin, S. Westcott McCoy.  
**Comparison of sensorimotor and postural control in children with and without fetal alcohol spectrum disorders.**  
APTA Combined Sections Meeting, Chicago, February 2012
7. S. Westcott McCoy, A. Lubetzky-Vilnai, T. Gilbertson, R. Price, D Rios, C. Moritz.  
**Exploration of Technology use for Enjoyable Task-Specific Practice to Improve Selective Volitional Muscle Activation in Children with Cerebral Palsy.**  
World Conference of Physical Therapy, Amsterdam, Netherlands, June 2011
8. S. Griffith, A. Lubetzky Vilnai, T. Jirikowic, S. Westcott McCoy.  
**Test Re-Test Reliability of the Multimodal Balance Entrainment Response System (MuMBER).**  
Annual Medical Student Poster Session, University of Washington, November 2010
9. S. Westcott McCoy, T. Jirikowic, R. Price, B. Dellon, A. Lubetzky Vilnai, M. Ciol, B. Gendler, S. Astley, D. Kartin.  
**Sensorimotor Training for Balance to Effect Engagement and Learning (STABEL). Taking the Next Step: Innovative Interventions for Fetal Alcohol Spectrum Disorders,** Emory University School of Medicine, Atlanta, October 2010
10. B. Dellon, D. Kartin, A. Lubetzky-Vilnai, S. Westcott McCoy, R. Price, K. Washington, M. Ciol.  
**Developing a Multi-Modal Balance Entrainment Response (MuMBER) System: A Comparison of Goggle vs. Screen Delivery.**  
25th Annual Justus F. Lehmann Day Symposium, Center for Urban Horticulture, University of Washington, May 2010
11. A. Lubetzky-Vilnai, D. Kartin.  
**The Effect of Balance Training On Balance Performance in Patients Post-Stroke: A Systematic Review.**

25th Annual Justus F. Lehmann Day Symposium, Center for Urban Horticulture,  
University of Washington, May 2010

## **TEACHING:**

New York University (2014 – present):

- Critical Inquiry and Clinical Decision Making I – PT-GE 2286 (CH 2)
- Critical Inquiry and Clinical Decision Making II – PT-GE 2287 (CH 2)
- Principles of Exercise – PTGE.2227 (CH 3)

University of Washington (2009 – 2014)

- Therapeutic exercise REHAB 508 (Summer '12, Summer '11, Summer '10)  
[Instructor]
- Patient Evaluation and Clinical Decision Making REHAB 536 (Spring '14, Spring '12, Spring '09)
- Procedures II: Basic Physical Examination of the Spine REHAB 506 (Winter '13)  
[TA]
- Physical Therapy Seminar REHAB 517 (Winter '13, Fall '12) [TA]
- Neuroscience for Rehabilitation Professionals REHAB 551 (Winter '12, Winter '10, Winter '09) [Teaching Lab Assistant, guest lectures]
- Functional Anatomy of the Spine, Trunk, Abdomen & Pelvis REHAB 545 (Winter '12) [Teaching Lab Assistant including full responsibility for some of the labs]
- Functional Anatomy of the Upper & Lower Extremities REHAB 544 (Fall '11)  
[Teaching Lab Assistant including full responsibility for some of the labs]
- Applied Neurology REHAB 523 (Fall '09) [TA]
- Physical Therapy Procedures: Functional Skills Assessment REHAB 509 (Fall '09) [TA]
- Functional Mobility Skills REHAB 537 (Summer '09) [TA]

## **WORK EXPERIENCE:**

10/07-09/08 Aerobics and Core conditioning instructor at the Pro Sports Club (Bellevue), and

All Star Fitness (Seattle).

10/04-05/07 Physical Therapist at "Meuhedet Sport"- The sports clinic of HMO Meuhedet.

08/06-05/07 Physical Therapist of the Israeli Handball Premier League team "Asa Tel Aviv".

05/05-05/07 Physical Therapist and Advisor at "APOS"- medical and sports technologies Ltd.

03/99-07/07 Aerobics, Conditioning and Fit-Ball Instructor in the following studios: Studio B (Tel Aviv), Great Shape (Tel Aviv, Herzliya), Tel Aviv University Sports-center.

- 12/01-07/06 Coordinator of Aerobics and Conditioning Certification Program, Wingate Institute, Israel's National Center for Physical Education and Sport.
- 09/03-05/05 Physical Therapist at "Hashla", a clinic of HMO "Maccabi Health Services".
- 05/05-07/07 Lecturer in Anatomy and Sports Injuries courses in the following institutions:  
The Wingate Institute (Israel's National Center for Physical Education and Sport),  
Tel Aviv University Sports-center, Holmes Place Academy.

**PROFESSIONAL LICENSURE AND CERTIFICATES:**

- 2016 Physical Therapist License (PT 040776), New York State Department of Education
- 2013 Physical Therapist License (PT 60077739), Washington State Department of Health
- 2008 Certificate program in Sports medicine and Human Performance, University of Washington Extension
- 2003 Physical Therapist License (PT 25843), Israeli Ministry of Health.
- 2000 Spinning Instructor Certificate, Mad Dog Athletic & Schwinn.
- 1999 Aerobics and Conditioning Instructor Certificate (with distinction), Wingate Institute, Israel's National Center for Physical Education and Sport.