

**Boris I. Prilutsky, Ph.D.**  
 Professor  
 School of Biological Sciences  
 Georgia Institute of Technology

**I. Earned Degrees**

B.S.	Physical Education	1974-1978	Institute of Physical Culture, Moscow, USSR
B.S.	Applied Math/Mechanics	1983-1987	Moscow Institute of Electronics & Mathematics, USSR
Ph.D.	Biomechanics/Biology	1991	Latvian Research Institute of Traumatology and Orthopedics, Riga, USSR (advisor: V.M. Zatsiorsky)

**II. Employment History**

1978-1984	Instructor, Depart. Biomechanics, Institute of Physical Culture, Moscow, former USSR
1984-1991	Junior Scientist, Biomechanics Lab, Institute of Physical Culture, Moscow, former USSR
1991-1992	Senior Scientist, Biomechanics Lab, Institute of Physical Culture, Moscow, former USSR
1992-1995	Postdoctoral Associate, Faculty of Kinesiology, University of Calgary AB, Canada (advisor: W. Herzog)
2/1994-4/1994	Consultant, Peak Performance Technology Inc., Englewood, CO
1995-1998	Postdoctoral Associate, Health and Performance Sciences, Georgia Institute of Technology (advisor: R.J. Gregor)
1998-2005	Senior Research Scientist, School of Applied Physiology, Georgia Institute of Technology
2005-2016	Associate Professor, School of Applied Physiology, Georgia Institute of Technology
2016-Present	Professor, School of Biological Sciences, Georgia Institute of Technology

**III. Honors and Awards**

2016	DOD grant MR150051 award
2015	NIH/NICHD grant R21 HD084188 award
2013	Rothschild Foundation grant award
2012	Two “Thank a Teacher” Certificates from former Applied Physiology students via the Center for Enhancement of Teaching and Learning, Georgia Tech
2012	NIH/NICHD grant R01 HD32571 award
2011	NSF Emerging Frontiers in Research and Innovation grant EFRI-1137172 award
2010	NIH/NIBIB grant R01 EB012855 award
2010	NIH/NICHD Administrative Supplement grant R01 HD32571 award
2009	NIH/NICHD grant R44 HD057492 award
2007	NIH/NICHD grant HD32571 award
2006	NIH/NINDS grant R01 NS048844 award
2004	Biography included in the 58th Edition of “Who’s Who in America”. MARQUIS Who’s Who.
1999	Biography included in the Millennium Edition of “Who’s Who in Science and Engineering”. MARQUIS Who’s Who.
1999	Ritsumeikan University (Japan) travel award
1995	American Society of Biomechanics postdoctoral young scientist award
1993	Alberta Heritage Foundation for Medical Research postdoctoral fellowship award
1992	University of Calgary postdoctoral fellowship award
1992	UNISPORT and the Organizing Committee of Olympic Scientific Congress (Malaga, Spain) travel award.
1977	USSR Ministry of Higher Education – Gold Medal for the best undergraduate research project in natural, technological, and social fields of study

#### **IV. Research, Scholarship, and Creative Activities**

(\* next to item number indicates work done at Georgia Tech)

(**boldfaced** names indicate Prilutsky group grad student/postdoc; \* indicates corresponding authorship)

Google Scholar profile at <http://scholar.google.com/citations?user=gE3DQUEAAAAJ&hl=en>

#### **A. Published Books, Parts of Books, and Edited Volumes**

##### **A1. Books**

1\*. Zatsiorsky VM, Prilutsky BI (2012) Biomechanics of Skeletal Muscles. 518 pages. Champaign IL: Human Kinetics.

*[Book translated and published in Japan: Kokkakukin no Baiomekanikusu: Kinsen'i kara undo Kyochosei Made (in Japanese), Tokyo: Nappu, 2014]*

##### **A2. Refereed Book Chapters**

16\*. Markin SN, **Klishko AN**, Shevtsova NA, Lemay MA, Prilutsky BI, Rybak IS (2016) A comprehensive neuromechanical model of spinal locomotion. In: Neuromechanical Modeling of Posture and Locomotion (Prilutsky BI, Edwards DH Jr, eds), pp. 21-68. New York, NY: Springer.

*[Collaborative research with Markin, Lemay and Rybak groups; Prilutsky group developed the hindlimb musculoskeletal model with afferent feedback, provided experimental locomotor data and analysis]*

15\*. Shevtsova NA, Hamade K, Chakrabarty S, Markin SN, Prilutsky BI, Rybak IS (2016) Modeling the organization of central neural circuits controlling two-joint leg muscles. In: Neuromechanical Modeling of Posture and Locomotion (Prilutsky BI, Edwards DH Jr, eds), pp. 121-162. New York, NY: Springer.

*[Collaborative research with Markin, Lemay and Rybak groups; Prilutsky contributed to developing the spinal circuitry model and to writing]*

14\*. Bondy B, **Klishko AN**, Edwards DH Jr, Prilutsky BI, Cymbalyuk G (2016) Control of cat walking and paw-shake by a multifunctional central pattern generator. In: Neuromechanical Modeling of Posture and Locomotion (Prilutsky BI, Edwards DH, eds), pp. 333-360. New York, NY: Springer.

*[Collaborative research with Cymbalyuk and Edwards groups; Prilutsky group developed the hindlimb neuromechanical model and conducted computer simulations]*

13\*. Prilutsky BI\*, **Klishko AN**, Weber DJ, Lemay MA (2016) Computing motion dependent afferent activity during cat locomotion using a forward dynamics musculoskeletal model. In: Neuromechanical Modeling of Posture and Locomotion (Prilutsky BI, Edwards DH Jr, eds), pp. 273-308. New York, NY: Springer.

*[Prilutsky group research in collaboration with Lemay and Weber groups who provided locomotor muscle and afferent activity data]*

12\*. Edwards DH, Prilutsky BI (in press) Sensory feedback in the control of posture and locomotion. In: Neurobiology of Motor Control: Fundamental Concepts and New Directions (Hooper SL and Büschges A, eds.). Hoboken, NJ: Wiley.

*[Book chapter written by Edwards and Prilutsky]*

11\*. Prilutsky BI\*, **Klishko AN** (2011) Control of locomotion: Lessons from whole-body biomechanical analysis. In: Motor Control – Theories, Experiments, and Applications (Latash M, Danion F Eds.), pp. 197-218. Oxford University Press.

*[Prilutsky group research]*

10\*. Prilutsky BI\*, **Klishko AN**, **Farrell B**, **Harley L**, **Philips G**, Bottasso CL (2009) Movement coordination in skilled tasks: Insights from optimization. In: Advances in Neuromuscular Physiology of Motor Skills and Muscle Fatigue (Shinohara M Ed.), pp. 139-171. Kerala, India: Research Signpost.

*[Prilutsky group research]*

9\*. Rybak IA, Ivashko DG, Prilutsky BI, Lewis MA, Chapin JK (2002) Modeling neural control of locomotion: Integration of reflex circuits with CPG. In: Lecture Notes in Computer Science 2415 (Dorransoro JR Ed.), pp. 99-104. Berlin: Springer-Verlag.

*[Collaborative research with Rybak group. Prilutsky contributed to development of the hindlimb musculoskeletal model and provided experimental cat locomotion data]*

8\*. Prilutsky BI\*. Introduction and endnotes to the paper by A. V. Hill, 1922 (2001) The maximum work and mechanical efficiency of human muscles, and their most economical speed. In Classical Papers in Movement Science (Latash ML, Zatsiorsky VM, Eds), pp. 243-248, 269-271. Human Kinetics.

7\*. Prilutsky BI\*. Eccentric muscle action in sport and exercise (2000) In: Encyclopedia of Sports Medicine. Biomechanics in Sport (Zatsiorsky VM, Ed), pp. 56-86. Oxford, UK: Blackwell Science Ltd.

6. Zatsiorsky VM, Prilutsky BI (1992) Prediction of forces of individual muscles in humans. In: Muscle biomechanics and movement structure. Modern problems of biomechanics. Vol. 7 (Zatsiorsky VM, Ed.), pp. 81-123. Nizhni Novgorod: Institute of Applied Physics, Russian Academy of Sciences (in Russian).

*[Prilutsky's PhD dissertation research; authors' names are in Russian alphabet order]*

5. Prilutsky BI\* (1989) Mathematical model and software for biomechanical analysis of sport movements. In: Mathematical and computer simulation in sport (Zatsiorsky VM, Utkin VL, Eds.), pp. 26-47. Moscow: All-Union Research Institute of Physical Culture (in Russian).

*[Prilutsky's research in Zatsiorsky's group]*

4. Raitsin LM, Prilutsky BI (1989) Method for estimation of quality of technique and diagnostics of technical mistakes. In Proceedings of International Society of Sport Biomechanics. Biomechanics in Sports V (Tsanouchas L, Ed.), pp. 499-505. Athens, Greece: Hellenic Sports Research Institute.

*[Collaborative research with Raitsin while Prilutsky was in Zatsiorsky's group]*

3. Aruin AS, Zatsiorsky VM, Prilutsky BI, Shakhnazarov AI (1987) The 'biomechanical' method used for determining the arms of muscular force. In International series on biomechanics, V.6B. Biomechanics X-B, pp.1117-1121. Champaign, IL: Human Kinetics.

*[Prilutsky's collaborative research in Zatsiorsky's group]*

2. Zatsiorsky VM, Prilutsky BI (1987) Soft and stiff landing. In International series on biomechanics, V.6B. Biomechanics X-B, pp.739-743. Champaign, IL: Human Kinetics.

*[Prilutsky's PhD dissertation research; authors' names are in Russian alphabet order]*

1. Zatsiorsky VM, Raitsin LM, Seluyanov VN, Aruin AS, Prilutsky BI (1983) Biomechanical characteristics of the human body. In: Biomechanics and Performance in Sport (Baumann W, Ed.), pp. 71-83. Köln, Germany: Bundeninstitut fur Sportwissenschaft.

*[Prilutsky's collaborative research in Zatsiorsky's group]*

### **A3. Other Parts of Books**

No data

### **A4. Edited Volumes**

1\*. Prilutsky BI, Edwards DH Jr (2016) Neuromechanical Modeling of Posture and Locomotion. New York NY: Springer.

## **B. Refereed Publications and Submitted Articles**

### **B1. Published and Accepted Journal Articles**

- 75\*. Lyle MA, Prilutsky BI, Gregor RJ, Abelew TA, Nichols TR (2016) Self-reinnervated muscles lose autogenic length feedback, but intermuscular feedback can recover functional connectivity. **J Neurophysiology** 116:1055-1067.  
*[Prilutsky group research in collaboration with Nichols group who performed terminal experiments]*
- 74\*. **Pantall A, Hodson-Tole EF**, Gregor RJ, Prilutsky BI\* (2016) Increased intensity and reduced frequency of EMG signals from feline self-reinnervated ankle extensors during walking do not normalize excessive lengthening. **J Neurophysiology** 115:2406-2420.  
*[Prilutsky group research]*
- 73\*. **Mehta R**, Maas H, Gregor RJ, Prilutsky BI\* (2015) Unexpected fascicle length changes in denervated feline soleus muscle during stance phase of walking. **Scientific Reports** 5:17619.  
*[Prilutsky group research]*
- 72\*. **Farrell BJ, Bulgakova MA**, Sirota MG, Prilutsky BI, Beloozerova IN (2015) Accurate stepping on a narrow path: mechanics, EMG, and motor cortex activity in the cat. **J Neurophysiology** 114(5):2682-2702.  
*[Prilutsky group research in collaboration with Beloozerova group who provided cortical activity data]*
- 71\*. **Mehta R**, Prilutsky BI\* (2014) Task-dependent inhibition of slow-twitch soleus and excitation of fast-twitch gastrocnemius do not require high movement speed and velocity-dependent sensory feedback. **Frontiers in Physiology** 5:410. doi: 10.3389/fphys.2014.00410.  
*[Prilutsky group research]*
- 70\*. **Klishko AN, Farrell BJ**, Beloozerova IN, Latash ML, Prilutsky BI\* (2014) Stabilization of cat paw trajectory during locomotion. **Journal of Neurophysiology** 112(6):1376-1391.  
*[Prilutsky group research in collaboration with Beloozerova group who provided additional data and Latash who contributed to data analysis]*
- 69\*. **Farrell BJ, Bulgakova MA**, Beloozerova IN, Sirota MG, and Prilutsky BI\* (2014) Body stability and muscle and motor cortex activity during walking with wide stance. **Journal of Neurophysiology** 112(3):504-24.  
*[Prilutsky group research in collaboration with Beloozerova group who provided cortical activity data]*
- 68\*. Childers LW, Prilutsky BI, Gregor RJ (2014) Motor adaptation to prosthetic cycling in people with trans-tibial amputation. **Journal of Biomechanics** 47(10):2306-2313.  
*[Research designed and performed by Gregor group; Prilutsky contributed to analysis and writing]*
- 67\*. **Farrell BJ**, Prilutsky BI\*, Kistenberg RS, Dalton JF 4th, Pitkin M (2014) An animal model to evaluate skin-implant-bone integration and gait with a prosthesis directly attached to the residual limb. **Clinical Biomechanics** 29(3):336-349.  
*[Prilutsky group research in collaboration with Pitkin group who supplied porous titanium implants]*
- 66\*. **Farrell BJ**, Prilutsky BI\*, Ritter JM, Kelley S, Popat K, Pitkin M (2014) Effects of pore size, implantation time, and nano-surface properties on rat skin ingrowth into percutaneous porous titanium implants. **Journal of Biomedical Materials Research Part A** 102(5):1305-1315.  
*[Prilutsky group research in collaboration with Pitkin and Popat group who supplied implants]*
- 65\*. Cronin NJ, Prilutsky BI, Lichtwark GA, Maas H (2013) Does ankle joint power reflect type of muscle action of soleus and gastrocnemius during walking in cats and humans? **Journal of Biomechanics** 46(7):1383-1386.  
*[Prilutsky's collaborative research with Lichtwark and Maas groups; Prilutsky group supplied data and contributed to writing]*
- 64\*. **Hodson-Tole EF, Pantall A**, Maas H, **Farrell B**, Gregor RJ, Prilutsky BI\* (2012) Task-dependent activity of motor unit populations in feline ankle extensor muscles. **Journal of Experimental Biology** 215:3711-3722.

*[Prilutsky group research]*

63\*. **Pantall A**, Gregor RJ, Prilutsky BI (2012) Stance and swing phase detection during level and slope walking in the cat: effects of slope, injury, subject and kinematic detection method. **Journal of Biomechanics** 45(8):1529-1533.

*[Prilutsky group research]*

62\*. Markin SN, Lemay MA, Prilutsky BI, Rybak IS (2012) Motoneuronal and muscle synergies involved in cat hindlimb control during fictive and real locomotion: a comparison study. **Journal of Neurophysiology** 107(8):2057-2071.

*[Prilutsky's collaborative research with Lemay, Markin and Rybak groups; Prilutsky group contributed to data collection, analysis and writing]*

61\*. Spardy LE, Markin SN, Shevtsova NA, Prilutsky BI, Rybak IA, Rubin JE (2011) A dynamical systems analysis of afferent control in a neuromechanical model of locomotion: II. Phase asymmetry. **Journal of Neural Engineering** 8(6):065004.

*[Research led by collaborator Jon Rubin; Prilutsky group contributed to model development and writing]*

60\*. Spardy LE, Markin SN, Shevtsova NA, Prilutsky BI, Rybak IA, Rubin JE (2011) A dynamical systems analysis of afferent control in a neuromechanical model of locomotion: I. Rhythm generation. **Journal of Neural Engineering** 8(6):065003.

*[Research led by collaborator Jon Rubin; Prilutsky group contributed to model development and writing]*

59\*. Prilutsky BI\*, Maas H, **Bulgakova M**, **Hodson-Tole EF**, Gregor RJ (2011) Short-term motor compensations to denervation of feline soleus and lateral gastrocnemius result in preservation of ankle mechanical output during locomotion. **Cells Tissues Organs** 193(5):310-324.

*[Prilutsky group research]*

58\*. Ollivier-Lanvin K, Krupka AJ, AuYong N, Miller K, Prilutsky BI, Lemay MA (2011) Electrical stimulation of the sural cutaneous afferent nerve controls the amplitude and onset of the swing phase of locomotion in the spinal cat. **Journal of Neurophysiology** 105(5):2297-2308.

*[Research led by collaborator Michel Lemay; Prilutsky group implanted animals, contributed to data collection and writing]*

57\*. Prilutsky BI\*, **Ashley D**, VanHiel L, **Harley L**, Tidwell JS, Backus D (2011) Motor control and motor redundancy in the upper extremity: Implications for Neurorehabilitation. **Topics in Spinal Cord Injury Rehabilitation** 17(1):7-15.

*[Collaborative research with Backus group; Prilutsky group conducted experiments and analyzed data]*

56\*. Markin SN, **Klishko AN**, Shevtsova NA, Lemay MA, Prilutsky BI, Rybak IS (2010) Afferent control of locomotor CPG: insights from a simple neuromechanical model. **Annals of the New York Academy of Science** 1198: 21-34.

*[Collaborative research with Lemay and Rybak groups; Prilutsky group provided the musculoskeletal model and analysis]*

55\*. Maas H, Gregor RJ, **Hodson-Tole EF**, **Farrell BJ**, English AW, Prilutsky BI\* (2010) Locomotor changes in length and EMG activity of feline medial gastrocnemius muscle following paralysis of two synergists. **Experimental Brain Research** 203(4): 681-692.

*[Prilutsky group research]*

54\*. Beloozerova IN, **Farrell BJ**, Sirota MG, Prilutsky BI (2010) Differences in movement mechanics, electromyographic, and motor cortex activity between accurate and non-accurate stepping. **Journal of Neurophysiology** 103: 2285-2300.

*[Collaborative research with Beloozerova group; Prilutsky group provided data and analysis of full-body cat locomotion]*

- 53\*. Lum PS, Mulroy S, Amdur RL, Requecjo P, Prilutsky BI, Dromerick AW (2009) Gains in upper extremity function after stroke via recovery or compensation: Potential differential effects on amount of real-world limb use. **Topics in Stroke Rehabilitation** 16(4): 237-253.  
*[Collaborative research with Lum, Mulroy and Dromerick groups; Prilutsky provided data and analysis of reaching arm movements in stroke survivors]*
- 52\*. Maas H, Gregor RJ, **Hodson-Tole EF, Farrell BJ**, Prilutsky BI\* (2009) Distinct muscle fascicle length changes in feline medial gastrocnemius and soleus during slope walking. **Journal of Applied Physiology** 106(4): 1169-1180.  
*[Prilutsky group research]*
- 51\*. Pitkin M, Raykhtsaum G, Pilling J, Shukeylou Yu, Moxson V, Duz V, Lewandowski J, Connolly R, Kistenberg RS, Dalton JF IV, Prilutsky BI, Jacobson S (2009) Mathematical modeling, mechanical and histopathology testing of the porous prosthetic pylon for direct skeletal attachment. **Journal of Rehabilitation Research & Development** 46(3): 315-330.  
*[Collaborative research with Pitkin group; Prilutsky group contributed data on implantation of porous titanium]*
- 50\*. Maas H, Prilutsky BI, Nichols TR, Gregor RJ (2007) The effects of self-reinnervation of cat medial and lateral gastrocnemius muscles on hindlimb kinematics in slope walking. **Experimental Brain Research** 181(2):377-393.  
*[Collaborative research with Gregor and Nichols groups; Prilutsky contributed data collection and analysis, computational algorithms and writing]*
- 49\*. Bottasso CL, Prilutsky BI, Croce A, Imberti E, Sartirana S (2006) A numerical procedure for inferring from experimental data the optimization cost functions using a multibody model of the neuro-musculoskeletal system. **Multibody System Dynamics** 16: 123-154.  
*[Collaborative research with Bottasso group; Bottasso and Prilutsky initiated this study; Prilutsky provided experimental data]*
- 48\*. Gregor RJ, Smith DW, Prilutsky BI (2006) Mechanics of slope walking in the cat: quantification of muscle load, length change, and ankle extensor EMG patterns. **Journal of Neurophysiology** 95: 1397-1409.  
*[Collaborative research with Gregor group; Prilutsky contributed data collection, analysis and writing]*
- 47\*. Prilutsky BI, Sirota MG, Gregor RJ, Beloozerova IN (2005) Quantification of motor cortex activity and full-body biomechanics during unconstrained locomotion. **Journal of Neurophysiology** 94: 2959-2969.  
*[Collaborative research with Beloozerova group; Prilutsky provided animal full-body mechanics data, analysis and computational algorithms for multivariate statistical analysis and wrote manuscript]*
- 46\*. Ivashko DG, Prilutsky, BI, Markin SN, Chapin JK, Rybak IA (2003) Modeling the spinal cord neural circuitry controlling cat hindlimb movement during locomotion. **Neurocomputing** 52-54:621-629.  
*[Collaborative research with Rybak group; Prilutsky provided modeling and experimental data]*
- 45\*. Prilutsky BI\*, Zatsiorsky VM (2002) Optimization-based models of muscle coordination. **Exercise and Sport Science Reviews** 30:32-38.  
*[Review paper based on Prilutsky group data]*
- 44\*. Gregor RJ, Smith JL, Smith DW, Oliver A, Prilutsky BI (2001) Hindlimb kinetics and neural control during slope walking in the cat: unexpected findings. **Journal of Applied Biomechanics** 17: 277-286.  
*[Collaborative research with Gregor group; Prilutsky contributed data collection, analysis and writing]*
- 43\*. Raikova RT, Prilutsky BI\* (2001) Sensitivity of predicted muscle forces to parameters of the optimization-based human leg model revealed by analytical and numerical analyses. **Journal of Biomechanics** 34: 1243-1255.

*[Collaborative research with Raikova; Raikova and Prilutsky initiated this study]*

42\*. Prilutsky BI\*, Gregor RJ (2001) Swing- and support-related muscle actions differentially trigger human walk-run and run-walk transitions. **Journal of Experimental Biology** 204: 2277-2287.

*[Collaborative research with Gregor group; study initiated and designed by Prilutsky]*

41\*. Prilutsky BI\*, Gregor RJ (2000) Analysis of muscle coordination strategies in cycling. **IEEE Transactions on Rehabilitation Engineering** 8: 362-370.

*[Collaborative research with Gregor group]*

40\*. Prilutsky BI\*. Muscle coordination: the discussion continues (2000) **Motor Control** 4: 97-116.

39\*. Prilutsky BI\*. Coordination of two- and one-joint muscles: functional consequences and implications for motor control (target article) (2000) **Motor Control** 4:1-44.

38\*. Prilutsky BI\*, Isaka T, Albrecht AM, Gregor RJ (1998) Coordination of two-joint leg muscles during load lifting. **Journal of Biomechanics** 31:1025-1034.

*[Prilutsky's collaborative postdoc research in Gregor's group]*

37\*. Prilutsky BI\*, Gregor RJ, Ryan MM (1998) Coordination of two-joint rectus femoris and hamstrings during the swing phase of human walking and running. **Experimental Brain Research** 120:479-486.

*[Prilutsky's collaborative postdoc research in Gregor's group]*

36\*. Prilutsky BI, Herzog W, Allinger TL (1997) Forces of individual cat ankle extensor muscles during locomotion predicted using static optimization. **Journal of Biomechanics** 30, 1025-1033.

*[Prilutsky's collaborative postdoc research initiated in Herzog's group and finished by Prilutsky at Georgia Tech; collaborators Herzog and Allinger acquired muscle force and kinematic data that were analyzed and interpreted by Prilutsky]*

35\*. Prilutsky BI\* (1997) Work, energy expenditure, and efficiency of the stretch-shortening cycle. **Journal of Applied Biomechanics** 13, 466-471.

*[Research conducted by Prilutsky while he was a postdoc in Gregor's group at Georgia Tech]*

34\*. Prilutsky BI\*, Gregor RJ (1997) Strategy of coordination of two- and one-joint leg muscles in controlling an external force. **Motor Control** 1, 91-115.

*[Prilutsky's collaborative postdoc research in Gregor's group]*

33. Prilutsky BI\*, Petrova LN, Raitsin LM (1996) Comparison of mechanical energy expenditure of joint moments and muscle forces during human locomotion. **Journal of Biomechanics** 29, 405-415.

*[Prilutsky's PhD dissertation research]*

32. Prilutsky BI, Herzog W, Leonard TR, Allinger TL (1996) Role of the muscle belly and tendon of soleus, gastrocnemius, and plantaris in mechanical energy absorption and generation during cat locomotion. **Journal of Biomechanics** 29, 417-434.

*[Prilutsky's collaborative postdoc research in Herzog group; Herzog, Leonard and Allinger acquired muscle force and kinematic data that were analyzed and interpreted by Prilutsky]*

31. Prilutsky BI, Herzog W, Leonard TR (1996) Transfer of mechanical energy between ankle and knee joints by gastrocnemius and plantaris muscles during cat locomotion. **Journal of Biomechanics** 29, 391-403.

*[Prilutsky's collaborative postdoc research in Herzog group; Herzog and Leonard acquired muscle force and kinematic data that were analyzed and interpreted by Prilutsky]*

30. Prilutsky BI, Herzog W, Allinger TL (1996) Mechanical power and work of cat soleus, gastrocnemius, and plantaris muscles during locomotion: possible functional significance of muscle design and force patterns. **Journal of Experimental Biology** 199, 801-814.

*[Prilutsky's collaborative postdoc research in Herzog group; Herzog and Leonard acquired muscle force and kinematic data that were analyzed and interpreted by Prilutsky]*

29. Herzog W, Zatsiorsky V, Prilutsky BI, Leonard TR (1994) Variations in force-time histories of cat gastrocnemius, soleus, and plantaris muscles for consecutive walking steps. **Journal of Experimental Biology** 191, 19-36.

*[Prilutsky's collaborative postdoc research in Herzog group]*

28. Prilutsky BI, Herzog W, Allinger TL (1994) Force-sharing between cat soleus and gastrocnemius muscles during walking: explanations based on electrical activity, properties, and kinematics. **Journal of Biomechanics** 27, 1223-1235.

*[Prilutsky's collaborative postdoc research in Herzog group]*

27. Prilutsky BI\*, Zatsiorsky VM (1994) Tendon action of two-joint muscles: transfer of mechanical energy between joints during jumping, landing, and running. **Journal of Biomechanics** 27, 25-34.

*[Prilutsky's PhD dissertation research]*

26. Prilutsky BI\*, Zatsiorsky VM, Petrova LN (1993) 'Tendon action' of two-joint muscles during human locomotion: mechanical energy transfer between links in shock-absorbing and push-off phases. **Biophysics** 38, 565-570 (in Russian).

*[Prilutsky's PhD dissertation research]*

25. Prilutsky BI\*, Zatsiorsky VM, Petrova LN (1992) Mechanical energy expenditure of movement of anthropomorphic locomotor machine and human. **Biophysics** 37, 1107-1111 (in Russian).

*[Prilutsky's PhD dissertation research]*

24. Prilutsky BI\*, Zatsiorsky VM (1992) Mechanical energy expenditure and efficiency of walking and running. **Human Physiology** 18, 118-127 (in Russian).

*[Prilutsky's PhD dissertation research]*

23. Prilutsky BI\*, Zatsiorsky VM, Bravaya DY, Petrova LN (1992) Maximal power in extending knee joint in one-joint and natural movements. **Human Physiology** 18, 573-583 (in Russian).

*[Prilutsky's PhD dissertation research]*

22. Prilutsky BI\*, Raitsin LM, Poltorapavlov NV (1991) Biomechanical aspects of automation of motor skills. **Theory and Practice of Physical Culture** N3, 13-19 (in Russian).

*[Prilutsky's PhD dissertation research]*

21. Prilutsky BI\*. Eccentric muscle activity in sports locomotion (1991) **Theory and Practice of Physical Culture** N1, 53-61 (in Russian).

*[Prilutsky's PhD dissertation research]*

20. Prilutsky BI\*, Zatsiorsky VM (1991) Quantitative estimation of 'tendon action' of two-joint muscles. **Biophysics** 36, 154-156 (in Russian).

*[Prilutsky's PhD dissertation research]*

19. Prilutsky BI\*. Shafranov EI (1990) The use of MRI-tomography for determination of morphometric characteristics of human motor apparatus. **Human Physiology** 16, 103-107 (in Russian).

*[Prilutsky's collaborative research with Shafranov]*

18. Prilutsky BI\*, Vasilyev VA, Raitsin LM, Aktov AV (1989) Estimation of muscle forces on the basis of minimization of different objective functions in human natural movements. **Biophysics** 34, 1041-1045 (in Russian).

*[Prilutsky's PhD dissertation research]*

17. Zatsiorsky VM, Prilutsky BI (1991) A model for determination of muscle forces in a given human movement. **Biophysics** 34, 1036-1040 (in Russian).



*[Prilutsky's PhD dissertation research]*

16. Petrova LN, Prilutsky BI\* (1989) Methods of data filtering and obtaining time derivatives in studies of sports skills. **Theory and Practice of Physical Culture** N5, 6-12 (in Russian).  
*[Invited review article written by Prilutsky and his undergraduate student]*
15. Prilutsky BI\* (1989) Muscle pain caused by unusual exercises (a brief review). **Theory and Practice of Physical Culture** N2, 16-21 (in Russian).  
*[Invited review article]*
14. Seluyanov VN, Myakinchenko EB, Bikbaev IZ, Prilutsky BI, Tsirkov VN (1989) Methods of improving economy in middle-distance running. **Theory and Practice of Physical Culture** N2, 16-21 (in Russian).  
*[Research led by collaborator Victor Seluyanov; Prilutsky provided experimental data and analysis]*
13. Aruin AS, Prilutsky BI (1988) Human body simulation in computer-aided design of work space. **Biology of Sport** 5 (Suppl. 1), 199-206.  
*[Collaborative research with Alexander Aruin; Prilutsky contributed mathematical modelling and analysis]*
12. Aruin AS, Zatsiorsky VM, Prilutsky BI (1988) Moment arms and elongations of the lower extremity muscles at various values of the joint angles. **Archives of Anatomy, Histology and Embryology** 94(6), 52-55 (in Russian).  
*[Prilutsky's PhD dissertation research; authors' names are in Russian alphabet order]*
11. Petrova LN, Prilutsky BI\* (1988) Mechanical energy expenditure of 8-10 year old boys and girls running at maximum speed. **Theory and Practice of Physical Culture** N2, 29-30 (in Russian).  
*[Research conducted by Prilutsky and his undergraduate student while he was in Zatsiorsky's group]*
10. Prilutsky BI\*, Alexandrov AA, Grigoryev VA, Fedotkina OI (1986) Negative and positive mechanical expenditures of skiers. **Theory and Practice of Physical Culture** N4, 15 (in Russian).  
*[Prilutsky's PhD dissertation research]*
9. Prilutsky BI\*, Raitsin LM, Suslakov BA, Zukov IL (1986) Acceleration of the general center of mass in sprint running cycle. **Theory and Practice of Physical Culture** N11, 38-39 (in Russian).  
*[Prilutsky's PhD dissertation research]*
8. Aruin AS, Prilutsky BI (1986) Relation between lengthening of the triceps surae muscle and knee and ankle joint angles. **Human Physiology** 12, 244-248 (in Russian).  
*[Prilutsky's PhD dissertation research]*
7. Shalmanov AA, Prilutsky BI (1985) Determination of kinematics of human body general center of mass using ground reaction forces. **Theory and Practice of Physical Culture** N10, 7-9 (in Russian).  
*[Collaborative research with Alexander Shalmanov; Prilutsky contributed mathematical modelling and analysis]*
6. Zatsiorsky VM, Aruin AS, Prilutsky BI, Shakhnazarov AI (1985) Determination of moment arms of ankle extensors by "biomechanical" method. **Human Physiology** 11, 616-622 (in Russian).  
*[Prilutsky's collaborative research in Zatsiorsky's group]*
5. Zatsiorsky VM, Sirota MG, Prilutsky BI, Raitsin LM, Seluyanov VN, Chugunova LG (1985) Biomechanics of human body and movements after 120-day head-down tilt. **Space Biology and Aerospace Medicine** N5, 23-27 (in Russian).  
*[Prilutsky's collaborative research in Zatsiorsky's group]*
4. Aruin AS, Prilutsky BI (1985) Relation between the biomechanical properties of muscles and their ability to utilize elastic strain energy. **Human Physiology** 11, 12-16 (in Russian).  
*[Prilutsky's PhD dissertation research]*

3. Zhukov IL, Prilutsky BI, Raitsin LM (1983) Criteria of efficient sprint running technique. **Theory and Practice of Physical Culture** N9, 5-9 (in Russian).

*[Prilutsky's collaborative research in Zatsiorsky's group]*

2. Aruin AS, Prilutsky BI, Raitsin LM, Saveljev IS (1979) Biomechanical properties of muscles and efficiency of movement. **Human Physiology** 5, 589-599 (in Russian).

*[Prilutsky's collaborative research in Zatsiorsky's group]*

1. Oschepkov GG, Prilutsky BI (1979) Measurements of the ground reaction forces in alpine skiing. **Theory and Practice of Physical Culture** N2, 18-19 (in Russian).

*[Prilutsky's collaborative research in Zatsiorsky's group]*

## **B2. Conference Presentations with Proceedings (Refereed)**

9\*. **Park H, Oh K**, Prilutsky BI, DeWeerth SP (2016) A real-time closed-loop control system for modulating gait characteristics via electrical stimulation of peripheral nerves. IEEE Biomedical Circuits and Systems Conference (BioCAS), 95-98.

*[Prilutsky group research in collaboration with DeWeerth group who developed hardware and software for nerve stimulations]*

8\*. **Harley LR**, Prilutsky BI\* (2013) The effect of the direction of force-fields on transfer of learning between the arms during bimanual reaching. Conf Proc IEEE Eng Med Biol Soc., 2013:6889-6892.

*[Prilutsky group research]*

7\*. **Harley LR**, Prilutsky BI\* (2013) The effect of force feedback on transfer of learning between the arms during bimanual reaching. Conf Proc IEEE Eng Med Biol Soc., 2013:6885-6888.

*[Prilutsky group research]*

6\*. **Harley LR**, Prilutsky BI\* (2012) Transfer of learning between the arms during bimanual reaching. Conf Proc IEEE Eng Med Biol Soc. 2012:6785-6788.

*[Prilutsky group research]*

5\*. Sekimoto M, Arimoto S, Prilutsky BI, Isaka T, Kawamura S (2009) Observation of human multi-joint arm movement from the viewpoint of a Riemannian distance. Proceedings of the ICROS-SICE International Joint Conference 2009 (ICCAS-SICE2009), pp. 2664- 2669. Fukuoka, Japan, Aug. 18-21, 2009.

*[Research led by collaborator Suguru Arimoto; Prilutsky contributed experimental data and analysis]*

4\*. Bottasso CL, Croce A, Sartirana S, Prilutsky BI (2005) A method for inferring the optimization cost function of experimentally observed motor strategies. Proceedings of ASME International Design Engineering Conference / Computer and Information in Engineering Conference. Long Beach, California, USA, September 24-29. Technical Manuscript.

*[Collaborative research with Bottasso group; Bottasso and Prilutsky initiated this study; Prilutsky provided experimental data]*

3. Prilutsky BI, **Petrova LN**, Raitsin LM, Poltorapavlov NV (1990) Stochastic simulation for estimation of sensitivity of a human body model to errors in input parameters. In Proceedings of the 2nd All-Union Seminar-Clinics 'Perspectives of occupational biomechanics' (Aruin AS, Ed.), pp. 188-200. Sebastopol: Institute of Electronic Engineering, USSR Academy of Sciences (in Russian).

*[Prilutsky's research while in Zatsiorsky group]*

2. Raitsin LM, Prilutsky BI. Method for estimation of quality of technique and diagnostics of technical mistakes. In Proceedings of International Society of Sport Biomechanics. Biomechanics in Sports V (Tsanouchas L, Ed.), pp. 499-505. Athens, Greece: Hellenic Sports Research Institute.

*[Prilutsky's research in Zatsiorsky group]*

1. Prilutsky BI, Zatsiorsky VM (1986) Two ways of dissipation of mechanical energy and their correlation in human locomotion. In: Proceedings of the International Conference 'Biomechanics in Medicine' (Yanson HA, Ed.). Vol. 3, pp. 294-298. Riga: Zinatne (in Russian).  
*[Prilutsky's research in Zatsiorsky group]*

### **B3. Other Refereed Material**

No data

### **B4. Submitted Journal Articles (with date of submission)**

- 3\*. **Oh K**, Prilutsky BI\*. Contributions of geometric properties of the arm to non-uniform precision of arm position sense in normally sighted and visually impaired people. Neuroscience (original submission date February 2, 2017).
- 2\*. **Akyildiz A**, **Klishko AN**, **Mehta R**, Lemay MA, Prilutsky BI\*. Common muscle synergies during level and slope walking in the cat. Manuscript in revision after submission to Journal of Neurophysiology (original submission date January 7, 2016).
- 1\*. **Jarrell J**, **Farrell BJ**, Kistenberg RS, Dalton JF, Pitkin M, Prilutsky BI\*. Kinetics of individual limbs during level and slope walking with a unilateral transtibial bone-anchored prosthesis in the cat. Journal of Biomechanics (original submission date January 5, 2015; resubmission date February 14, 2017).  
*[Prilutsky group research in collaboration with Pitkin group who provided porous titanium implants]*

### **C. Other Publications**

12. Prilutsky BI (1991) Eccentric muscle actions during human locomotion. PhD dissertation, Latvian Research Institute of Traumatology and Orthopedics, Riga, former USSR.
11. Zatsiorsky VM, **Petrova LN**, Prilutsky BI (1991) Methods of data filtering and differentiation in biomechanics. Monograph, 64 pages. Moscow: Central Institute of Physical Culture (in Russian).  
*[Prilutsky's collaborative research in Zatsiorsky's group]*
10. Prilutsky BI\* (1991) Mathematical computer modeling of human movements (description of the model and software). Monograph, 50 pages. Moscow: Central Institute of Physical Culture (in Russian).
9. Zatsiorsky VM, Prilutsky BI (1991) Muscle forces in sports locomotion. Monograph, 68 pages. Moscow: Central Institute of Physical Culture (1991) (in Russian).  
*[Prilutsky's collaborative research in Zatsiorsky's group]*
8. Prilutsky BI\* (1991) BASIC programming (with examples of the use in sport). Monograph, 71 pages. Moscow: Central Institute of Physical Culture (in Russian).
7. Aruin AS, Zatsiorsky VM, Prilutsky BI (1988) Muscle Morphometry. Monograph, 92 pages. Moscow, Central Institute of Physical Culture (in Russian).  
*[Prilutsky's collaborative research in Zatsiorsky's group]*
6. Zatsiorsky VM, Prilutsky BI (1986) Biomechanics of negative work. Monograph, 64 pages. Moscow: Central Institute of Physical Culture (in Russian).  
*[Prilutsky's collaborative research in Zatsiorsky's group]*
5. Zatsiorsky VM, Prilutsky BI (1986) Physiology of negative work. Monograph, 52 pages. Moscow: Central Institute of Physical Culture (in Russian).  
*[Prilutsky's collaborative research in Zatsiorsky's group]*
4. Aruin AS, Zatsiorsky VM, Prilutsky BI (1986) Muscle morphometry in biomechanics of locomotion. Manuscript No 6530-B, 92 pages. Moscow, VINITI (in Russian).  
*[Prilutsky's collaborative research in Zatsiorsky's group]*

3. Zatsiorsky VM, Kaimin MA, Prilutsky BI, Mikchailov NG, Vershinskas R, Seluyanov VN (1985) Biomechanics of sports requiring endurance. Monograph, 36 pages. Moscow: Central Institute of Physical Culture (in Russian).

*[Prilutsky's collaborative research in Zatsiorsky's group]*

2. Zatsiorsky VM, Kaimin MA, Lazarenko TP, Mikchailov NG, Prilutsky BI (1985) Applied calculations and graphics in biomechanics, and programmed quizzes for sports biomechanics. Supplemental teaching material, 36 pages. Moscow: Central Institute of Physical Culture (in Russian).

*[Prilutsky designed several labs and exam questions for undergraduate students]*

1. Zatsiorsky VM, Prilutsky BI (1984) Biomechanical aspects of balance in humans under external impact forces. Monograph, 49 pages. Moscow: Central Institute of Physical Culture (1984) (in Russian).

*[Prilutsky's collaborative research in Zatsiorsky's group]*

#### **D. Presentations**

##### **Invited presentations at conferences:**

21. Prilutsky BI (2017) Organization of neural control revealed by optimization. **Progress in Motor Control XI**. July 19-22, Miami, USA *[Invited speaker]*.
20. Prilutsky BI (2016) Strategies to maintain static and dynamic lateral stability during locomotion in the cat. Satellite Symposium "Neural mechanisms underlying falls and impaired balance: an introspective from animal to patient" at the **Congress of the International Society of Electrophysiology and Kinesiology**. July 5-8, Chicago, IL, USA *[Invited speaker]*.
19. Prilutsky BI, **Farrell BJ, Jarrell J**, Kistenberg RS, Dalton JF IV, Pitkin M (2015) Adaptation of bone-anchored limb prosthesis for locomotor behaviors. **Biomechanics and Implant Design. International Conference and Expo**. Florida, USA *[Invited speaker]*.
18. Prilutsky BI (2013) An animal model to study skin-implant-bone integration and gait with limb-integrated prostheses. **Research Symposium. Pennsylvania State University**, USA *[Invited speaker]*.
17. Prilutsky BI (2012) Effect of pore size, implantation time and nano-surface properties on rat skin. **Fourth International Conference: Advances in Orthopaedic Osseointegration**, San-Francisco, USA *[Invited speaker]*.
16. Prilutsky BI (2012) Evaluation of skin and bone integration with a porous titanium pylon after prosthetic gait and rehabilitation in the cat. **Fourth International Conference: Advances in Orthopaedic Osseointegration**, San-Francisco, USA *[Invited speaker]*.
15. Prilutsky BI, **Klishko AN**, Cofer D, Cymbalyuk G, Edwards DH Jr (2012) One CPG, two different rhythmic behaviors: Slow walking and fast paw shake. **Workshop 'Dynamics of rhythm generation', Computational Neuroscience Symposium**. Atlanta, USA *[Invited speaker]*.
14. Prilutsky BI, **Klishko AN**, Cofer D, Cymbalyuk G, Gregor RJ, Edwards DH Jr (2011) Mechanics and neural control of paw shake response. **Annual Meeting of Society for the Neural Control of Movement**. San Jose, Puerto Rico. *[Invited speaker]*.
13. Prilutsky BI, **Markin SN**, Lemay MA, McCrea MA, Rybak IA (2010) Motor synergies involved in cat hindlimb control during fictive and normal locomotion: A comparative study. **Satellite Symposium on Motor Systems. Annual Society for Neuroscience Meeting**. San Diego, USA *[Invited speaker]*.
12. Prilutsky BI (2010) Motor control in the upper extremity and its implications for neurorehabilitation. **North American Neurorehabilitation Symposium**. Shepherd Center, Atlanta, USA *[Invited speaker]*.

11. **Klishko AN, Bottasso CL, Prilutsky BP (2010)** Is movement strategy during cat paw shake response optimal? **Symposium ‘Motor Control – The Distribution Problem’. VI World Congress of Biomechanics.** Singapore [*Invited speaker*].
10. **Klishko AN, Prilutsky BI (2010)** Firing rates of cat muscle Ia, Ib, II and paw cutaneous afferents during walking computed using a musculoskeletal hindlimb model. **Atlanta Computational Neuroscience Conference.** Georgia State University, Atlanta, USA.
9. **Prilutsky BI, Klishko A, Coffey D, Cymbalyuk G, Edwards D (2008)** Role of spinal pattern generator, stretch reflex and muscle properties in the cat paw shake response: A simulation study. **Atlanta Computational Neuroscience Conference.** Georgia State University, Atlanta, USA [*Invited speaker*].
8. **Prilutsky BI, Rybak IA, McCrea D (2007)** Modeling the spinal CPG and neural control of locomotion. **Third Computational Motor Control Workshop.** Ben-Gurion University of the Negev. Israel [*Invited speaker*].
7. **Prilutsky BI, Gregor RJ (2005)** Effects of ankle extensor self-reinnervation on mechanics of walking. **International Mini-Symposium ‘New Advances in Neural Control of Locomotion’.** Atlanta, USA [*Invited speaker*].
6. **Ivashko D., Prilutsky BI, Chapin JK, Rybak IA (2002)** Modeling neural control of hindlimb movement during cat locomotion. **Satellite Symposium ‘Advances in Computational Motor Control’. Annual Society for Neuroscience Meeting.** Orlando, USA [*Presented by Prilutsky*].
5. **Prilutsky BI, Zatsiorsky VM (2002)** Mechanical energy transfer between adjacent joints by two-joint muscles. **Satellite Symposium on Mechanics and Energetics of Locomotion. IV World Congress of Biomechanics.** Calgary, Canada [*Invited speaker*].
4. **Prilutsky BI (2000)** Functional significance of muscle coordination in locomotion with submaximal speeds: Reduction of muscle stress, energy expenditure and fatigue. **Satellite Symposium ‘From Molecules to Muscles: Function of Muscle Systems during Movement’. Annual Meeting of Society for Experimental Biology.** Exeter, UK [*Invited speaker*].
3. **Prilutsky BI (1996)** Coordination of two- and one-joint muscles in static and dynamic tasks: functional consequences. **Satellite Symposium ‘Biarticular Muscles: Biomechanics and Neural Control’. Annual Meeting of the American Society of Biomechanics.** Atlanta, USA [*Invited speaker*].
2. **Prilutsky BI (1995)** Biomechanical features of the organization of highly skilled locomotor movements. **Annual Meeting of the American Society of Biomechanics.** Stanford University, USA [*Invited speaker*].
1. **Prilutsky BI, Poltorapavlov NV, Raitsin LM (1992)** Muscle activity and motor skills. **Olympic Scientific Congress.** Malaga, Spain [*Invited speaker*].

**Invited presentations at universities & institutes:**

17. **Prilutsky BI (2017)** Central and peripheral mechanisms of locomotor control. **MOVE Research Institute, VU University, Amsterdam, Netherlands.**
16. **Prilutsky BI (2009)** Biomechanics and control of locomotion. **Department of Kinesiology, Penn State University.**
15. **Prilutsky BI (2007)** Paw shake in the cat: mechanics and neural control. **Department of Biology, Northeastern University, USA**
14. **Prilutsky BI (2007)** What do we optimize when select activity of individual muscles to perform a skilled motor task? **Department of Mathematics, Georgia Institute of Technology, USA.**

13. Prilutsky BI (2006) Neural control of paw-shake in the cat. **Barrow Neurological Institute**, Phoenix, USA.
12. Prilutsky BI (2006) Mechanics of paw-shake in the cat. **Department of Kinesiology, Arizona State University**, Phoenix, USA.
11. Prilutsky BI (2002) Mechanisms of gait transitions in humans. **Department of Kinesiology, Pennsylvania State University**, USA.
10. Prilutsky BI (2002) Relationship between full-body mechanics and motor cortex activity. **Department of Movement Science. Free University of Amsterdam**, The Netherlands.
9. Prilutsky BI (2001) Functional significance of muscle coordination in human walking, running and cycling. **Department of Bioengineering, Drexel University**, USA.
8. Prilutsky BI (2000) Mechanical functions and functional significance of two-joint muscles. **Department of Robotics, Ritsumeikan University**, Japan.
7. Prilutsky BI (1998) Force-sharing among muscles in skilled tasks. **Department of Health, University of Bath**, UK.
6. Prilutsky BI (1995) Force-sharing among ankle extensors in the cat. **Department of Physiology, Emory University School of Medicine**, USA.
5. Prilutsky BI (1995) Biomechanical aspects of skilled motor performance. **Teachers College, Columbia University**, USA.
4. Prilutsky BI (1995) Force-sharing among muscles in skilled tasks. **Department of Kinesiology, Pennsylvania State University**, USA.
3. Prilutsky BI (1993) Stereotypic muscle force patterns in cat ankle extensors during locomotion. **Department of Physiology, Rush-Presbyterian St. Luke's Medical Center**, Chicago, USA
2. Prilutsky BI (1990) Mechanical actions of two-joint muscles during human locomotion. **Institute of Mechanics, Moscow State University**, Russia.
1. Prilutsky BI (1986) Eccentric muscle action and negative work in human movements. **Moscow Physiological Society**, Russia.

**Contributed presentations at conferences:**

101. Latash EM, **Park H**, Barnett W, **Klishko AN**, Prilutsky BI, Molkov Y (2017) Frontal plane dynamics of quadrupedal locomotion on a split-belt treadmill. **Annual Meeting of Society for Neuroscience**. Washington, DC: Society for Neuroscience.
100. Latash EM, **Park H**, Barnett W, **Klishko AN**, Prilutsky BI, Molkov Y (2017) Frontal plane dynamics of quadrupedal locomotion on a split-belt treadmill. **Progress in Motor Control XI Conference**. July 20-22 2017, Miami, FL.
99. Parker J, **Klishko AN**, Prilutsky BI, Cymbalyuk G (2017) Cat paw-shaking as a transient response to sensory input to locomotion CPG. **26<sup>th</sup> Annual Computational Neuroscience Meeting**. July 15-20, 2017. Antwerp, Belgium.
98. Farrell BJ, Hicks J, McCook K, Kistenberg R, Dalton J IV, Prilutsky BI (2017) Design considerations for a direct muscle actuated prosthesis. **Annual meeting of the American Academy of Orthotists and Prosthetists**. Chicago, IL.

97. **Jarrell JR**, Farrell BJ, Kistenberg RS, Dalton JF, Pitkin M, Prilutsky BI (2017) Kinetics of quadrupedal level and slope walking in the cat with a unilateral transtibial prosthesis anchored to the bone via a porous titanium pylon. **7th International Conference Advances in Orthopaedic Osseointegration**. Coronado, CA.
96. **Jarrell JR**, Farrell BJ, Kistenberg RS, Dalton JF, Pitkin M, Prilutsky BI (2016) Cat Level and Slope Walking with a Transtibial Osseointegrated Prosthesis. **First International Symposium on Innovations in Amputation Surgery and Prosthetic Technologies**. May 12-13, Chicago, IL.
95. Green J, **Klishko AN**, Prilutsky BI, Cymbalyuk GS (2016) Temporal characteristics of paw shake response in the cat. In: **Annual Meeting of Society for Neuroscience**. San Diego, CA: Society for Neuroscience.
94. **Park H, Oh K**, Prilutsky BI, DeWeerth SP (2016) A real-time closed-loop control system for modulating gait characteristics via electrical stimulation of peripheral nerves. In: **IEEE 2016 Biomedical Circuits & Systems Conference**. Shanghai, China.
93. **Park H, Mehta R**, DeWeerth SP, Prilutsky BI (2016) Modulation of input from paw cutaneous afferents and quadriceps-sartorius stretch afferents differentially affects lateral static and dynamic stability during cat split-belt locomotion. In: **Annual Meeting of Society for Neuroscience**. San Diego, CA: Society for Neuroscience
92. **Oh K**, Prilutsky BI (2016) Accuracy of arm position sense in sighted and visually-impaired people. In: **Annual Meeting of Society for Neuroscience**. San Diego, CA: Society for Neuroscience. Online.
91. **Klishko AN**, Lemay MA, Beloozerova IN, Markin SN, Rybak IA, Prilutsky BI (2016) Planar covariation of hindlimb elevation angles is present during walking of intact and spinal cats and in simulated locomotion of a neuromechanical model. In: **Annual Meeting of Society for Neuroscience**. San Diego, CA.
90. **Oh K**, Prilutsky BI (2015) Proximal and distal coding of sensorimotor parameters in the control of arm movements. Poster presentation by Oh. **Annual Meeting of Society for Neuroscience**, Chicago, IL.
89. Regnery K, Natraj N, **Oh K**, Prilutsky BI, Wheaton L, Mizelle JC (2015) Proximal and distal coding of sensorimotor parameters in the control of arm movements. Poster presentation by Regnery. **Annual Meeting of Society for Neuroscience**, Chicago, IL.
88. **Klishko AN**, Markin SN, Shevtsova NA, Lemay MA, Rybak IA, Prilutsky BI (2015) Computer simulations of slope walking in the cat: Role of supraspinal input to extensor interneurons. Poster presentation by Klishko. **Annual Meeting of Society for Neuroscience**, Chicago, IL.
87. **Pantall A**, Kiupel M, Gregor RJ, Prilutsky BI (2015) Changes in muscle fiber type in plantar flexors after transection and repair of feline soleus and lateral gastrocnemius nerves. Poster presentation by Pantall. **Annual Meeting of Society for Neuroscience**, Chicago, IL.
86. Krupka AJ, Higgin D, Prilutsky BI, **Klishko NA**, Rybak IA, Lemay MA (2015) Comparing the contribution of length and force feedback to ankle extension during stance in the treadmill trained spinal cat. Poster presentation by Krupka. **Annual Meeting of Society for Neuroscience**, Chicago, IL.
85. **Park H, Mehta R**, DeWeerth SP, Prilutsky BI (October 2015) Modulation of afferent feedback from paw pad afferents affects interlimb coordination and adaptation to split-belt treadmill locomotion in the cat. Poster presentation by Park. **Annual Meeting of Society for Neuroscience**, Chicago, IL.
84. Prilutsky BI, Akyildiz A, **Mehta R, Klishko AN** (April 2015) Cat hindlimb muscle synergies during slope walking: Possible contributions of CPG and sensory feedback. Poster presentation by Prilutsky and Klishko, **Annual Meeting of Society for the Neural Control of Movement**, Charleston NC.

83. Bondy B, **Klishko AN**, Prilutsky BI, Cymbalyuk G (July 2014) Multifunctional central pattern generator controlling walking and paw shaking. Poster presentation by Bondy, **Twenty Third Annual Computational Neuroscience Meeting**, Québec City, Canada.
82. **Oh K**, Prilutsky BI (Oct 2014) Precision of arm position sense strongly depends on arm configuration. Poster presentation by Oh, **Annual Meeting of Society for Neuroscience**, Washington DC.
81. Markin SN, **Klishko AN**, Shevtsova NA, Lemay MA, Prilutsky BI, Rybak IA (Oct 2014) Removal of ankle extensors group Ia and Ib afferent feedback differentially affects walking mechanics and muscle activity in the cat: A computer simulation study. Poster presentation by Markin, **Annual Meeting of Society for Neuroscience**, Washington DC.
80. Bonby B, **Klishko AN**, Prilutsky BI, Cymbalyuk GS (Oct 2014) Multifunctional half-center oscillator controlling walking and paw-shake response in the cat. Poster presentation by Bondy, **Annual Meeting of Society for Neuroscience**, Washington DC.
79. **Mehta R, Kajtaz E**, Gregor RJ, Prilutsky BI (Oct 2014) Effects of stretch-reflex removal by self-reinnervation of one-joint vastii and two-joint rectus femoris on hindlimb muscle activity and mechanics during walking in the cat. Poster presentation by Mehta and Kajtaz, **Annual Meeting of Society for Neuroscience**, Washington DC.
78. **Pantall A**, Gregor RJ, **Mehta R**, Prilutsky BI (Oct 2014) Effects of 60-min sciatic nerve stimulation immediately after cut and repair of feline soleus and lateral gastrocnemius nerves on locomotor EMG activity of ankle muscles. Poster presentation by Pantall, **Annual Meeting of Society for Neuroscience**, Washington DC.
77. Gregor RJ, **Bulgakova M**, Maas H, Oliver A, Prilutsky BI (Oct 2014) Locomotor activity of feline ankle extensors and kinematics during level and slope walking after removal of stretch reflex from soleus and lateral gastrocnemius by self-reinnervation. Poster presentation by Gregor, **Annual Meeting of Society for Neuroscience**, Washington DC.
76. **Mehta R**, Maas H, Gregor RJ, Prilutsky BI (July 2014) Muscle fascicle shortening in denervated feline soleus muscle during stance phase of walking. Poster presentation by Mehta, **World Congress of Biomechanics**, Boston MA.
75. **Jarrell J, Farrell BJ**, Kistenberg R, Dalton JF, Pitkin M, Prilutsky BI (July 2014) Hindlimb kinetics of upslope, downslope, and level walking in the cat with a trans-tibial osseointegrated prosthesis. Poster presentation by Jarrell, **World Congress of Biomechanics**, Boston MA.
74. Prilutsky BI, **Klishko AN**, Weber DJ, and Lemay MA (Aug 2013) Activity of muscle and paw-skin afferents during cat locomotion computed using a forward dynamics neuromechanical model. Podium presentation by Prilutsky, **XXIV Congress of International Society of Biomechanics**, Natal, Brazil.
73. **Farrell BJ**, Prilutsky BI, Kistenberg RS, Dalton JF, IV, Strong A, Pitkin M (Aug 2013) An animal model to study skin-implant-bone integration and prosthetic gait with limb prostheses directly attached to the residual limb. Poster presentation by Prilutsky, **XXIV Congress of International Society of Biomechanics**, Natal, Brazil.
72. **Pantall A**, Gregor RJ, Prilutsky BI (Sept 2013) Feline soleus and lateral gastrocnemius self-reinnervation results in increased ankle extensor activity but no change in ankle extensor moment during upslope locomotion. Podium presentation by Pantall, **Annual Meeting of Meeting of American Society of Biomechanics**, Omaha, Nebraska.
71. **Klishko AN**, Lemay MA, Latash ML, Gregor RJ, and Prilutsky BI (Nov 2013) Stabilization of cat paw trajectory during locomotion after denervation and self-reinnervation of cat soleus and lateral



- gastrocnemius muscles. Poster presentation by Klishko, **Annual Meeting of Society for Neuroscience**, San Diego CA.
70. Natraj N, Borghi AM, Flumini A, Prilutsky BI, Pella YM, Wheaton L (Oct 2012) Throwing a spotlight on the perception of a human hand-object action via eye tracking. Poster presentation by Natraj, **Annual Meeting of Society for Neuroscience**, New Orleans LA.
  69. **Pantall A, Hodson-Tole EF**, Gregor RJ, Prilutsky BI (Oct 2012) Changes in relative activity of faster and slower motor unit populations in feline ankle extensors during locomotion following self-reinnervation. Poster presentation by Pantall, **Annual Meeting of Society for Neuroscience**, New Orleans LA.
  68. **Pantall A, Hodson-Tole EF**, Gregor RJ, Prilutsky BI (Nov 2011) Activity changes in motor unit populations in the feline ankle extensors during locomotion following self-reinnervation. Poster presentation by Pantall, **Annual Meeting of Society for Neuroscience**, Washington, DC.
  67. **Harley LR**, Prilutsky BI (Nov 2011) Does transfer of learning occur during bimanual goal oriented reaching tasks? Poster presentation by Harley, **Annual Meeting of Society for Neuroscience**, Washington, DC.
  66. **Farrell BJ, Bulgakova M**, Sirota MG, Prilutsky BI, Beloozerova IN (Nov 2011) Frontal plane mechanics and activity of motor cortex during locomotion tasks with challenging requirements for lateral stability. Poster presentation by Farrell and Bulgakova, **Annual Meeting of Society for Neuroscience**, Washington, DC.
  65. Markin SN, **Klishko NA**, Shevtsova NA, Lemay MA, Prilutsky BI, Rybak IA (Nov 2011) Neuromechanical model of spinal control of locomotion. Poster presentation by Markin and Klishko, **Annual Meeting of Society for Neuroscience**, Washington, DC.
  64. **Klishko AN**, Cofer D, Cymbalyuk G, Gregor RJ, Edwards DH, Prilutsky BI (Nov 2011) Contributions of proprioceptive feedback and CPG to coordination of two-joint muscles during a paw shake response: A computer simulation study. Poster presentation by Klishko, **Annual Meeting of Society for Neuroscience**, Washington, DC.
  63. **Klishko AN**, Lemay MA, Prilutsky BI (Nov 2010) Firing rates of cat hindlimb muscle afferents during walking computed using a musculoskeletal hindlimb model. Poster presentation by Klishko, **Satellite Symposium on Motor Systems. Annual Meeting of Society for Neuroscience**, San Diego, CA.
  62. **Klishko AN, Farrell BJ**, Latash ML and Prilutsky BI (Nov 2010) Paw trajectories of cat fore- and hindlimbs are stabilized during swing of walking on a flat surface and horizontal ladder. Poster presentation by Klishko, **Annual Meeting of Society for Neuroscience**, San Diego, CA.
  61. Spardy LE, Markin SN, **Klishko AN**, Shevtsova NA, Prilutsky BI, Rybak IA, Rubin JE (Nov 2010) A dynamical systems analysis of afferent control in a neuro-mechanical model of locomotion. Poster presentation by Spardy, **Annual Meeting of Society for Neuroscience**, San Diego, CA.
  60. **Bulgakova M, Farrell BJ**, Gregor RJ, Prilutsky BI (Nov 2010) Short-term motor adaptation to denervation of feline selected ankle extensor muscles results in preservation of ankle mechanical output during locomotion. Poster presentation by Bulgakova and Farrell, **Annual Meeting of Society for Neuroscience**, San Diego, CA
  59. **Klishko AN, Hodson-Tole EF**, Prilutsky BI (Aug 2010) Division of labor among limbs and joints of the cat during level and slope walking. Podium presentation by Klishko, **Annual Meeting of Meeting of American Society of Biomechanics**, Providence, RI.

58. Spardy L, Markin M, Prilutsky B, Rybak I, Rubin J (July 2010) A dynamical systems analysis of afferent control in a neuro–mechanical model of locomotion. Podium presentation by Spardy, **Nineteenth Annual Computational Neuroscience Meeting**, San Antonio, TX.
57. Lemay MA, Markin SN, Klishko AN, Shevtsova NA, Ollivier-Lanvin K, Prilutsky BI, Rybak IA (Oct 2009) Afferent neuroplasticity as a possible mechanism for the locomotor recovery seen with neurotrophin transplants: computer simulations. Podium presentation by Lemay, **Biomedical Engineering Society Annual Meeting**, Pittsburgh, PA.
56. **Klishko AN**, Markin S, Shevtsova N, Lemay M, Rybak IA, Prilutsky BI (Aug 2009) Afferent regulation of locomotor CPG contributes to movement stabilization: a simulation study. Podium presentation by Klishko, **Annual Meeting of Meeting of American Society of Biomechanics**, College Park, PA.
55. **Hodson-Tole EF**, Maas H, Gregor RJ, **Farrell BJ**, Prilutsky BI (June-July 2009) Patterns of motor unit recruitment in feline ankle extensor muscles during different motor tasks, Podium presentation by Hodson-Tole, **Annual Meeting of Society of Experimental Biology**, Glasgow, UK.
54. **Farrell BJ**, **Bulgakova M**, **Hodson-Tole EF**, **Shah S**, Gregor RJ, Prilutsky BI (Oct 2009) Short-term locomotor adaptations to denervation of lateral gastrocnemius and soleus muscles in the cat. Poster presentation by Farrell, **Annual Meeting of Society for Neuroscience**, Chicago, IL.
53. Markin SN., **Klishko AN**, Shevtsova NA, Lemay M, Ollivier-Lanvin K, Prilutsky BI, Rybak IA (Oct 2009) Role of afferent feedback in the recovery of locomotor activity after SCI: Insights from a simple neuromechanical model. Poster presentation by Markin, **Annual Meeting of Society for Neuroscience**, Chicago, IL.
52. Ollivier-Lanvin K, Krupka AJ, Yong NAu, Prilutsky BI, Lemay MA (Oct 2009) Electrical stimulation of the sural cutaneous afferent nerve to control the timing and amplitude of the swing phase in locomotor trained spinal cats. Poster presentation by Ollivier-Lanvin, **Annual Meeting of Society for Neuroscience**, Chicago, IL.
51. **Hodson-Tole EF**, Gregor RJ, Maas H, Prilutsky BI (Nov 2008) Time varying motor unit recruitment patterns in feline ankle extensor muscles during level and slope walking. Poster presentation by Hodson-Tole, **Annual Meeting of Society for Neuroscience**, Washington, DC.
50. **Farrell BJ**, Stout EE, Sirota MG, Beloozerova IN, Prilutsky BI (Nov 2008) Accurate target stepping in the cat: the full-body mechanics and activity of limb muscles. Poster presentation by Farrell, **Annual Meeting of Society for Neuroscience**, Washington, DC.
49. **Klishko AN**, Prilutsky BI, Cofer D, Cymbalyuk G, Edwards DH (Nov 2008) Interaction of CPG, spinal reflexes and hindlimb properties in cat paw shake: A computer simulation study. Poster presentation by Klishko, **Annual Meeting of Society for Neuroscience**, Washington, DC.
48. Markin SN, Lemay MA, Ollivier-Lanvin K, Prilutsky BI, McCrea DA, Rybak IA (Nov 2008) Comparison of hindlimb motoneuron activities during fictive and normal locomotion in the cat. Poster presentation by Markin, **Annual Meeting of Society for Neuroscience**, Washington, DC.
47. **Klishko A**, Cofer D, Edwards D, Prilutsky BI (March 2008) Extremely high paw accelerations during paw shake in the cat: A mechanism revealed by computer simulations. Podium presentation by Klishko, **American Physical Society Meeting**, New Orleans, LA.
46. Prilutsky BI, **Klishko AN** (March 2008) Is movement organization in cat paw shake response optimal? Podium presentation by Prilutsky, **American Physical Society Meeting**, New Orleans, LA.

45. Ollivier-Lanvin K, Au Yong N, Prilutsky BI, Lemay MA (Nov 2007) Effects of electrical stimulation of cutaneous afferent nerves on the hindlimb locomotion of spinal cats. Poster presentation by Ollivier-Lanvin, **Annual Meeting of Society for Neuroscience**, San Diego, CA.
44. Prilutsky BI, Klishko AN (Nov 2007) Activity of muscle spindle and tendon organ afferents during cat locomotion computed using a musculoskeletal model. Poster presentation by Prilutsky, **Annual Meeting of Society for Neuroscience**, San Diego, CA.
43. Markin SN, Griffel B, Lemay MA, Prilutsky BI, McCrea DA, Rybak IA (Nov 2007) Analysis of hindlimb motoneuron activity during fictive locomotion in cat and identification of possible motor synergies controlled by locomotor CPG. Poster presentation by Markin, **Annual Meeting of Society for Neuroscience**, San Diego, CA.
42. Klishko AN, Prilutsky BI (Sept 2007) Stabilization of locomotion by a musculoskeletal model of cat hindlimbs with Hill-type actuators. Poster presentation by Klishko, **Annual Meeting of American Society of Biomechanics**, Palo Alto, CA.
41. Larkins D, Prilutsky BI, Maas H, Gregor RJ (Apr 2007) Slope locomotion and activity of cat gastrocnemius muscle after peripheral nerve injury. Poster presentation by Larkins, **South East Regional Conference of American Society of Biomechanics**, Duke University, NC.
40. Farrell BJ, Beloozerova I, Prilutsky BI (Apr 2007) Full-body kinematics during precise stepping in the cat. Poster presentation by Farrell, **South East Regional Conference of American Society of Biomechanics**, Duke University, NC.
39. Prilutsky BI, Klishko AN, Ivashko DG (June 2007) A musculoskeletal model of the cat hindlimbs for computing proprioceptive signals during cat locomotion. Poster presentation by Prilutsky, **Third Computational Motor Control Workshop**. Ben-Gurion University of the Negev. Israel.
38. Prilutsky BI, Maas H, Gregor RJ (Sept 2006) Stabilization of locomotion by a musculoskeletal model of cat hindlimbs with Hill-type actuators. Poster presentation by Prilutsky, **Annual Meeting of American Society of Biomechanics**, Blacksburg, VA.
37. Prilutsky BI, Maas H, Nichols TR, Gregor RJ (Oct 2006) Effects of self-reinnervation of selected cat ankle extensors on their activity and hindlimb mechanics in slope walking. Poster presentation by Prilutsky, **Annual Meeting of Society for Neuroscience**, Atlanta, GA.
36. Bottasso CL, Croce A, Sartirana S, Prilutsky BI (June 2005) A numerical procedure for identifying from experimental data the optimization cost function of the neuro-musculoskeletal system. Podium presentation by Bottasso, **European Conference on Multibody Dynamics**, Madrid, Spain.
35. Gregor RJ, Prilutsky BI, Smith W (Apr 2005) Mechanics of slope walking in the cat: insights into afferent control of activity pattern generation. Poster presentation by Prilutsky, **Society of Experimental Biology Meeting**, San Diego, CA.
34. Prilutsky BI, Maas H, Gregor RJ (Sept 2005) In vivo fascicle velocity of cat gastrocnemius and soleus muscles during the paw-shake. Podium presentation by Prilutsky, **XX Congress of International Society of Biomechanics**, Cleveland, OH.
33. Maas H, Prilutsky BI, Gregor RJ (Sept 2005) In vivo fascicle velocity of cat gastrocnemius and soleus muscles during the paw-shake. Podium presentation by Prilutsky, **XX Congress of International Society of Biomechanics**, Cleveland, OH.
32. Sirota MG, Prilutsky BI, Gregor RJ, Beloozerova IN (Nov 2005) Full-body kinematics and activity of the motor cortex during precise stepping with different accuracy demands in the cat. Poster presentation by Sirota, **Annual Meeting of Society for Neuroscience**, Washington, DC.

31. Prilutsky BI, Sirota MG, Gregor RJ, Beloozerova IN (Nov 2005) Comparison of motor cortex activity and full-body biomechanics in unconstrained cat locomotion using principal component and multivariate regression analyses. Poster presentation by Prilutsky, **Annual Meeting of Society for Neuroscience**, Washington, DC.
30. Maas H, Prilutsky BI, Welch T, Gregor RJ (Oct 2004) Reinnervation of the gastrocnemius muscle in the cat: immediate and long-term effects in interjoint coordination. Poster presentation by Maas, **Annual Meeting of Society for Neuroscience**, San Diego, CA.
29. Prilutsky BI, Gregor RJ, Nichols TR (Oct 2004) Coordination of cat ankle extensors during the paw-shake before and after self-reinnervation of medial and lateral gastrocnemius muscles. Poster presentation by Prilutsky, **Annual Meeting of Society for Neuroscience**, San Diego, CA.
28. Prilutsky BI, **Ashley D, Fukuda T**, VanHiel L, Gregor RJ, Isaka T (Nov 2003) Control of end-point forces of the arm in individuals with C6-C7 spinal cord injury. Poster presentation by Prilutsky, **Annual Meeting of Society for Neuroscience**, New Orleans, LA.
27. Gregor RJ, Prilutsky BI, Nichols TR, Smith W (Nov 2003) EMG output in reinnervated medial gastrocnemius muscle during locomotion in the cat. Poster presentation by Gregor, **Annual Meeting of Society for Neuroscience**, New Orleans, LA.
26. Prilutsky BI., Beloozerova, I, Sirota MG, Gregor RJ (Nov 2002) Whole-body mechanics and activity of pyramidal tract neurons during locomotion in the cat. Poster presentation by Gregor, **Annual Meeting of Society for Neuroscience**, Orlando, FL.
25. Ivashko DG, Rybak IA, Prilutsky BI, Chapin JK (Nov 2002) Modeling CPG-based neural control of hindlimbs during locomotion in cat. Poster presentation by Ivashko, **Annual Meeting of Society for Neuroscience**, Orlando, FL.
24. Rybak IA, Markin SN, Prilutsky BI, Giszter S, Chapin JK (Nov 2001) Modeling neural control of locomotion. Poster presentation by Rybak, **Annual Meeting of Society for Neuroscience**, San Diego, CA.
23. Prilutsky BI, Gregor RJ (August 1999) High relative activation may trigger gait transition in humans. Podium presentation by Prilutsky, **XVII Congress of International Society of Biomechanics**, Calgary, Canada.
22. Prilutsky BI, Gregor RJ (July 1999) The selection of gait – a new paradigm to study motor redundancy. Poster presentation by Prilutsky, **Second International Conference Bernstein's Traditions in Motor Control**, Pennsylvania State University, PA.
21. Prilutsky BI (Nov 1998) Strategy of muscle coordination during the maintenance of an equilibrium arm posture. Poster presentation by Prilutsky, **Annual Meeting of Society for Neuroscience**, Los Angeles, CA.
20. Prilutsky BI, Gregor RJ, Ryan MM (Aug 1998) Activation of rectus femoris and hamstrings in the swing phase of locomotion as a determinant of the gait transition in humans. Poster presentation by Prilutsky, **Third North American Congress on Biomechanics**, University of Waterloo, Canada.
19. Prilutsky B I, Herzog W, Allinger TL (July 1997) Forces of individual cat ankle extensor muscles during locomotion predicted using static optimization. Podium presentation by Prilutsky, **XVI Congress of International Society of Biomechanics**. Tokyo, Japan.
18. Prilutsky BI., Isaka T, Albrecht A, Ryan MM, Gregor RJ (July 1997) Strategy of muscle coordination in a multi-joint dynamic task. Podium presentation by Prilutsky, **XVI Congress of International Society of Biomechanics**. Tokyo, Japan.

17. Prilutsky BI, Gregor RJ, Albrecht AM, Ryan MM (Oct 1997) Rules of muscle coordination in cycling. Poster presentation by Prilutsky, **Annual Meeting of Society for Neuroscience**, New Orleans, LA.
16. Prilutsky BI, Gregor RJ (June 1996) Role of two- and one-joint muscles in control of an external force. Poster presentation by Prilutsky, **First International Conference Bernstein's Traditions in Motor Control**, Pennsylvania State University, PA.
15. Prilutsky BI, Gregor RJ (Nov 1996) Strategy of co-ordination of two-joint rectus femoris and hamstrings muscles during the swing phase in running. Poster presentation by Prilutsky, **Annual Meeting of Society for Neuroscience**, Washington, DC.
14. Prilutsky BI, Gregor RJ (Aug 1996) Strategy of muscle co-ordination during the control of an external force. Poster presentation by Prilutsky, **Annual Meeting of American Society of Biomechanics**, Atlanta, GA.
13. Prilutsky BI, Herzog W, Leonard TR (Jun 1995) Mechanical work and peak forces of cat ankle extensor muscles as possible determinants of the gait transition from walking to trotting. Podium presentation by Prilutsky, **XV Congress of International Society of Biomechanics**. Jyvaskyla, Finland.
12. Prilutsky BI, Herzog W, Leonard TR (Jul 1994) Transfer of mechanical energy between ankle and knee joints by cat gastrocnemius and plantaris muscles during walking and trotting. Podium presentation by Prilutsky, **Second World Congress on Biomechanics**. Amsterdam, The Netherlands.
11. Prilutsky BI, Petrova LN (Jul 1994) Prediction of muscle forces in humans during running using an elimination of redundancy approach. Podium presentation by Prilutsky, **VIII Biennial Conference of Canadian Society for Biomechanics**. Calgary, Canada.
10. Prilutsky BI, Herzog W, Leonard TR, Allinger TL (Jul 1994) Role of the muscle belly and tendon of cat soleus, gastrocnemius, and plantaris in mechanical energy absorption and generation. Podium presentation by Prilutsky, **VIII Biennial Conference of Canadian Society for Biomechanics**. Calgary, Canada.
9. Prilutsky BI, Herzog TR, Leonard TR (Aug 1994) Mechanical power and work of cat soleus, gastrocnemius, and plantaris muscles during locomotion: functional significance of muscle design, force and activity patterns. Podium presentation by Prilutsky, **XVIII Annual Meeting of American Society of Biomechanics**. Columbus, OH.
8. Prilutsky BI, Petrova LM, Raitsin LM (Aug 1994) Comparison of mechanical energy expenditure of different sources of mechanical energy during human locomotion: joint moments vs. muscle forces. Podium presentation by Prilutsky, **XVIII Annual Meeting of American Society of Biomechanics**. Columbus, OH.
7. Prilutsky BI (Jul 1993) Comparison of mechanical energy expenditure of anthropomorphic locomotion machine and human. Poster presentation by Prilutsky, **XIV Congress of International Society of Biomechanics**. Paris, France.
6. Prilutsky BI (Jul 1993) Comparison of maximal knee extension power during one-joint isokinetic movement and running long jump. Poster presentation by Prilutsky, **XIV Congress of International Society of Biomechanics**. Paris, France.
5. Herzog W, Leonard T, Prilutsky BI (Jul 1993) Why is peak soleus force in the cat almost constant at different speeds of locomotion? Poster presentation by Prilutsky, **XIV Congress of International Society of Biomechanics**. Paris, France.
4. Prilutsky BI (Jul 1993) Biomechanical model of musculoskeletal system for analysis of human movements. Podium presentation by Prilutsky, **XIV Congress of International Society of Biomechanics**. Paris, France.

3. Prilutsky BI, Herzog W, Allinger TL, Leonard TR (Aug 1993) Factors responsible for force-sharing between soleus and gastrocnemius muscles during cat locomotion. Podium presentation by Prilutsky, **XVII Annual Meeting of American Society of Biomechanics**. Iowa City, Iowa.
2. Prilutsky BI, Raitsin LM (Aug 1993) Is the pattern of muscle activity in humans optimal during walking? Podium presentation by Prilutsky, **XVII Annual Meeting of American Society of Biomechanics**. Iowa City, Iowa.
1. Prilutsky BI (Oct 1991) Tendon action of two-joint muscles during sports locomotion. Podium presentation by Prilutsky, **Second International Olympic Committee World Congress on Sport Sciences**. Barcelona, Spain.

## **E. Grants and Contracts**

### **E1. As Principal Investigator**

#### Currently funded:

- 04/01/12-03/31/2017 NIH/NICHD P01 HD32571 (\$1,145,313 direct costs budgeted for Prilutsky, as 1 of 4 PIs (with Project Director Arthur English) “Sensory mechanisms of functional compensation after peripheral nerve injury”
- 04/01/15-03/31/2017 NIH/NICHD R21 HD084188 (\$275,000 direct costs) “Development of novel muscle actuated prostheses”

#### Previous funding:

No data

#### Pending:

- 11/01/17-10/31/2022 NIH/NINDS R01 NS100928 (\$2,953,119 direct costs) “Neural mechanisms of locomotion evoked by epidural stimulation of the spinal cord”

### **E2. As Co-Principal Investigator**

#### Currently funded:

- 10/01/16-03/31/2018 DOD MR150051 (\$464,839 total costs budgeted for Prilutsky, as 1 of 2 Co-PIs (with Project Director Mark Pitkin) “Integration of the Residual Limb with Prostheses via Direct Skin-Bone-Peripheral Nerve Interface”

#### Previous funding:

- 01/1/2016-12/31/2016 The Health Innovation Program and the Atlanta Clinical & Translational Science Institute Seed Grant Program (\$25000, 1 of 3 co-PIs with Project Director Maysam Ghovanloo) “A Tongue Operated Robotic Rehabilitation System for Upper Extremities”
- 09/1/2011-08/31/2015 NSF EFRI-1137172 (\$316,520 direct costs budgeted for Prilutsky, as 1 of 5 co-PIs with Project Director Zhigang Zhu) “Mobility skill acquisition and learning through alternative and multimodal perception for visually impaired people”
- 08/01/2013-07/31/2014 Rothschild Foundation 48366DU (\$38,677 direct costs budgeted for Prilutsky; Project PI Jon Sanford) “Determination of grab bar specifications for independent and assisted transfers in residential care settings”
- 11/01/2010-10/31/2014 NIH/NIBIB, R01 EB012855 (\$421,397 direct costs budgeted for Prilutsky as 1 of 3 co-PIs with Project Director Michel Lemay) “Role of sensory feedback in locomotor recovery after spinal cord injury”
- 09/01/2007-08/31/2012 NIH/NICHD, P01 HD032571 (\$936,770 direct costs budgeted for Prilutsky as 1 of 4 co-PIs with Project Director Arthur English) “Sensorimotor control of locomotion after peripheral nerve injury”
- 09/01/2010-08/31/2011 NIH/NICHD, P01 HD032571 - Administrative supplement (\$75,433 direct costs budgeted for Prilutsky as 1 of 4 co-PIs with Project Director Arthur English) “Evaluation of motor unit recruitment before and after nerve injury”

08/01/2009-07/31/2011 NIH/NICHD, R44 HD057492 (\$143,263 direct costs budgeted for Prilutsky; Project PI Mark Pitkin) “Manufacturing technology for skin integrated composite prosthetic pylon”

05/01/2006-04/30/2011 NIH/NINDS, R01 NS048844 (\$515,773 direct costs budgeted for Prilutsky as 1 of 4 co-PIs with Project Director Ilya Rybak) “Spinal control of locomotion: Studies and applications”

### **E3. As Senior Personnel or Contributor**

No data

### **F. Other Scholarly Accomplishments**

U.S. Patent Application filed in 2011 by Georgia Tech (U.S. Provisional Patent #61,430,747): “Direct skeletal and muscle prosthesis attachment device”.

*[Design of a prosthetic device is proposed by Farrell and Prilutsky that allows for transmission of forces and motion from residual muscles to the prosthesis joints via implant integrated with the residual limb]*

USSR/Russia Patent No 1754065 (Russia, MKI 4, A 61 B 5/11, 1991) issued in 1991 to Prilutsky BI: “Method for determination of mass and inertia parameters of human body segments” (in Russian).  
*[Proposed a novel method of MRI measurements and computations for determining in vivo mass and inertia parameters of human body segments]*

USSR/Russia Patent No 1586680 (USSR, MKI 4, A 61 B 5/103, 1990) issued in 1990 to Aruin AS and Prilutsky BI: “Method for determination of stiffness and viscosity of human muscles” (in Russian).  
*[Proposed a novel method to determine stiffness and viscosity of human muscles in vivo using kinematic measurements and a mechanical model]*

USSR/Russia Patent No 1801354 (USSR, MKI 4, A 61 B 5/103, 1990) issued in 1990 to Prilutsky BI, Shafranova EI and Voronov AV: “Method for determination of moment arm of a muscle” (in Russian).  
*[Proposed a novel method to determine muscle moment arm in vivo using 3D MRI images]*

USSR/Russia Patent No 1258377 (USSR, MKI 4, A 61 B 5/10, 1986) issued in 1986 to Aruin AS and Prilutsky BI: “Apparatus for determination of muscle length change” (in Russian).  
*[Proposed a novel device to measure muscle length changes as a function of joint angles in a cadaver]*

USSR/Russia Patent No 1168193 (USSR, MKI 4, A 61 B 5/15, 1985) issued in 1985 to Aruin AS, Raitsin LM and Prilutsky BI: “Method for estimation of biomechanical properties of muscles” (in Russian).  
*[Proposed a novel method to measure stiffness and viscosity of human ankle extensor muscles in vivo]*

USSR/Russia Patent No 1222247 (USSR, MKI 4, A 61 B 5/15, 1985) issued in 1985 to Aruin AS and Prilutsky BI: “Method for determination of muscle length change” (in Russian).  
*[Proposed a novel method to determine muscle length changes as a function of joint angles in a cadaver]*

### **G. Societal and Policy Impacts**

No data

### **H. Other Professional Activities**

No data

### **V. Teaching**

#### **A. Courses Taught (last 6 years)**

Fall 2016	APPH 6231/4803 Human Motor Control	6 students
Fall 2015	APPH 6231/3803 Human Motor Control	2 students
Fall 2014	APPH 6231/3803 Human Motor Control	7 students
<i>[Prilutsky created APPH 6231 course from scratch in 2008]</i>		
Fall 2014	NEUR 4340 Neurophysics / Georgia State University	15 students
<i>[Prilutsky created and taught 3 lectures on Muscle Biomechanics for GSU students]</i>		
Fall 2013	APPH 6231/3803	4 students
Spring 2013	NEUR 4340 Neurophysics / Georgia State University	12 students
Spring 2013	APPH 6231	3 students
Spring 2012	APPH 6231	2 students
Fall 2011	PHT 540b Adult Neurorehabilitation / Emory University	~20 students
<i>[Prilutsky created a 3-hour lecture and lab session for Emory PT students]</i>		
Fall 2011	APPH 6203	4 students
<i>[Prilutsky created APPH 6203 from scratch in 2005 for MS program in Prosthetics and Orthotics (MSPO); after change of MS curriculum in fall 2011 this course is offered to Applied Physiology PhD students and other graduate students at Georgia Tech]</i>		
Spring 2011	APPH 6231	7 students
Fall 2010	APPH 6203	11 students
Fall 2010	PHT 540b Adult Neurorehabilitation	~20 students
Spring 2010	APPH 6231	1 student
Fall 2009	PHT 540b Adult Neurorehabilitation	~20 students
Spring 2009	BMED 8813 Hybrid Neural Microsystems (Lecture)	~50 students
	(Program learning laboratory)	4 students
Fall 2009	APPH 6203	14 students

## **B. Individual Student Guidance**

### **B1. PhD Students**

10. Zhenxuan "James" Zhang Ph.D. student (Georgia Tech Electrical & Comp Eng, 2015-present)
9. Min Li Ph.D. student (Georgia Tech Mechanical Engineering, 2014-present)
8. Chun-Yeon Lin Ph.D. student (Georgia Tech Mechanical Engineering, 2014-present)
7. Hangue Park Ph.D. student (Georgia Tech Electrical & Comp Eng, 2014-present)  
Received Best Poster Award from Korean Society for Neuroscience, 2016.
6. Kyunggeune (Ted) Oh Ph.D. student (Georgia Tech AP, fall 2011-present)  
Passed comprehensive exam in spring 2014
5. Joshua Jarrell Ph.D. student (Georgia Tech AP, fall 2011-present)  
NIH training grant fellow, fall 2011-summer 2011  
NSF graduate research fellow, fall 2012-present  
Passed comprehensive exam in spring 2014  
Keynote speaker at NSF annual Saluting Veterans in STEM symposium, November 5, 2014  
Annual graduate fellowships program report selected as an NSF Highlight, June 2014
4. Ricky Mehta Ph.D. student (Georgia Tech AP, graduated 2016)
3. Zhengqin Fan Ph.D. student (Georgia Tech AP, 2006-2009)  
Passed comprehensive exam in spring 2008  
Took several semesters of Robotics at Georgia Tech and left program in summer 2009  
Founded and currently managing company Fellow Robots producing consumer robots
2. Brad Farrell Ph.D. student (Georgia Tech AP, graduated 2013)  
Thesis title: "Dynamic stability of quadrupedal locomotion: animal model, cortical control and prosthetic gait"  
Winner of Georgia Tech Graduate Student Research Symposium travel award, spring 2011



NIH training grant fellow, 2009-2012

Currently postdoctoral researcher at Shepherd Center, Atlanta, 2013-2015

Accepted Assistant Professor tenure-track position at Georgia State University, August 2015

1. Linda Harley            Ph.D. student (Georgia Tech AP, graduated 2011)  
Thesis title: "Motor learning and its transfer during bilateral arm reaching"  
Vice President of Georgia Tech Graduate Student Government, 2008-2009  
President of Georgia Tech Graduate Student Government, 2009-2010  
Research Scientist II at Georgia Tech Research Institute, fall 2011- spring 2014  
Currently Physiology Lecturer in Georgia Tech Department of Biomedical Engineering

## **B2. M.S. students**

No data

## **B3. Undergraduate Students**

29. Daniel Zuniga            Georgia Tech Biomedical Engineering major, 2017
28. Rucha Gadre            Georgia Tech Biomedical Engineering major, 2016-present
27. Bharathimuru Saravanabhavan            Georgia Tech Biomedical Engineering major, 2016-present  
(received a prototype award for the 2017 InVenture Prize)
26. Sindhu Pusulri            Georgia Tech Biomedical Engineering major, 2016-present  
(received a prototype award for the 2017 InVenture Prize)
25. Anthony De Filippo            Georgia Tech Biomedical Engineering major, 2016-present  
(received a prototype award for the 2017 InVenture Prize)
24. Muhammad Islam            Georgia Tech Biomedical Engineering major, 2016-present
23. Levon Sahakian            University of Twente Biomedical Engineering major (The Netherlands), 2015  
Summer International Student
22. Chunghee Kim            Georgia Tech Biomedical Engineering major, 2015
21. Joanna Gochuico            Georgia Tech Biomedical Engineering major, 2015-present  
Research Option
20. Nihir Patel            Georgia Tech Biomedical Engineering major, 2014-2015
19. Margaret Hyde            Georgia Tech Mechanical Engineering major, 2015
18. Vikram Kumar            Georgia Tech Biomedical Engineering major, 2015-2016
17. Kayelynn Bernier            Georgia Tech Biomedical Engineering major, 2014
16. Shushmita Hoque            Georgia Tech Biomedical Engineering major, 2014
15. Ty'Quish Keyes            Morehouse University Physics major, 2013-2014  
Presented a poster at 8th Annual Innovation Expo at Morehouse College, April 2014  
Buick Scholarship, 2014
14. Fariha Alam            Georgia Tech Biomedical Engineering major, 2013  
Presented a poster at Georgia Tech Undergraduate Research Symposium, spring 2013
13. Wendy Wang            Georgia Tech Biomedical Engineering major, 2012-2013  
Research Option  
Presented a poster at Georgia Tech Undergraduate Research Symposium, spring 2013  
Currently a medical student at Boston University School of Medicine
12. Camille Johnson            Georgia Tech Biomedical Engineering major, 2013-2014  
Presented a poster at Georgia Tech Undergraduate Research Symposium, spring 2014  
Starting PhD at Georgia Tech, fall 2015
11. Priya Patel            Georgia Tech Mechanical Engineering major, 2012
10. Patrick Peters            Georgia Tech Biomedical Engineering major, 2012
9. Allison Cerutti            University of Missouri Biomedical Engineering major, 2012  
Presidential Undergraduate Research Award, 2012  
Presented her work at Georgia Tech PURA Symposium

- Currently Orthotics Resident with Orthotic & Prosthetic Lab, Inc., Saint Louis, MO
8. Briana Shay Georgia Tech Biomedical Engineering major, 2011
  7. Juan Cave II Georgia Tech Biomedical Engineering major, 2010-2011  
Presented a poster at Rocky Mountain American Society of Biomechanics Meeting, 2011  
Currently a MS student in Orthotics & Prosthetics at California State University, Dominguez Hills
  6. Gunan Ganju Georgia Tech Biomedical Engineering major, 2010-2011  
Currently a medical student at Emory University School of Medicine
  5. Shivani Shah Georgia Tech Biology major, 2007-2009  
Presented a poster at Georgia Tech Undergraduate Research Symposium, spring 2009  
Co-authored a poster at Annual Meeting of Society for Neuroscience, Chicago IL, 2009
  4. Lisa Shah Georgia Tech Management major, 2007
  3. Denise Larkins Georgia Tech Psychology major, 2004-2006  
Presidential Undergraduate Research Award, 2006  
Presented a poster at South East American Society Biomechanics Meeting, Duke University, 2007  
Presented a poster at Undergrad Poster Session in CoS advisory board meeting at GA Tech, 2006  
Received MS degree in Prosthetics and Orthotics from Georgia Tech  
Currently certified Orthotist with Children's Meridian Mark, Children's Healthcare of Atlanta
  2. Brad Farrell Georgia Tech Biomedical Engineering major, 2005-2006  
Presented a poster at South East American Society Biomechanics Meeting, Duke University, 2007  
Winner of Georgia Tech Graduate Student Research Symposium travel award, 2011  
NIH training grant fellow, 2009-2012  
Received PhD from Prilutsky lab  
Currently postdoctoral researcher at Shepherd Center, Atlanta, 2013-2015  
Accepted Assistant Professor tenure-track position at Georgia State University, August 2015  
Received NIH R21 grant HD084188 as a PI, 2015-2017
  1. David Ashley Georgia Tech Biomedical Engineering major, 2002-2003  
Presented a poster at Annual Meeting of Society for Neuroscience, New Orleans LA, 2003  
NSF graduate research fellow, 2004-2007 at Cornell University  
Received MS in Chemical Engineering from Cornell University  
Currently Project Manager II with Nexant Inc.

#### **B4. Service on Thesis Committees**

21. Brian Selgrade Ph.D. student (Georgia Tech Applied Physiology, 2010-2016)
20. Elizabeth Latash Ph.D. student (Georgia State University, Neuroscience Institute, 2015-present)
19. Regan Lawson Ph.D. student (Georgia Tech Applied Physiology, 2013-present)
18. Chris Tuthill Ph.D. student (Georgia Tech/Emory Biomedical Engineering, 2014-present)
17. Gareth Guvanasen Ph.D. student (Georgia Tech/Emory Biomedical Engineering, 2013-2015)
16. Rachel Kelly Ph.D. student (Georgia Tech Applied Physiology, 2013-2015)
15. Dwight Jahbuay Ph.D. student (Drexel College of Medicine, Neurobiology, 2012-2015)
14. Irrum Fawad Niazi Ph.D. student (Georgia Tech Applied Physiology, 2012-2015)
13. Jason White Ph.D. student (Georgia Tech/Emory Biomedical Engineering, 2012-2016)
12. Ellenor Brown Ph.D. student (Georgia Tech Applied Physiology, 2011-present)
11. Nikhilesh Nataj Ph.D. student (Georgia Tech Applied Physiology, 2011-2015)
10. Jasper Tong-Biau Yen Ph.D. student (Georgia Tech/Emory Biomedical Engineering, 2010-2011)
9. William Cusack Ph.D. student (Georgia Tech Applied Physiology, 2010-2014)
8. Tracy Norman Ph.D. student (Georgia Institute of Technology, 2010-2015)
7. Megan Toney Ph.D. student (Georgia Institute of Technology, 2010-2014)
6. Lee Childers Ph.D. student (Georgia Tech Applied Physiology, 2008-2012)
5. Karolyn Babalola Ph.D. student (Georgia Tech Electrical & Computer Engineering, 2008-2012)
4. Vasiliy Bukharin Ph.D. student (Georgia Tech Applied Physiology, 2009-2013)

3. Heather Hayes            Ph.D. student (Georgia Tech/Emory Biomedical Engineering, 2008-2010)
2. Jay Baumann Ph.D. student (Georgia Tech Applied Physiology, 2006-2013)
1. Arick Auyang            Ph.D. student (Georgia Tech Applied Physiology, 2005-2010)

#### **B5. Mentorship of Postdoctoral Fellows and Visiting Scholars**

4. Dr. Annette Pantall            2010-2013  
Currently a Research Faculty at Newcastle University, UK
3. Dr. Margarita Bulgakova    2009-2012  
Currently a private complementary medicine and wellness specialist
2. Dr. Emma Hodson-Tole        2007  
Awarded Sir Henry Wellcome Postdoctoral Research Fellowship from The Wellcome Trust, 2007  
Currently a faculty member (Reader) at Manchester Metropolitan University, UK
1. Dr. Alexander N. Klishko    2006-2015  
Co-Organizer of workshop at International Computational Neuroscience Meeting, Atlanta, 2012  
Currently a Research Scientist I in Georgia Tech School of Biological Sciences
1. Dr. Huub Maas                2004-2005  
Currently an Associate Professor at VU University Amsterdam, The Netherlands

#### **C. Other Teaching Activities**

No data

#### **VI. Service**

##### **A. Professional Contributions**

##### ***Conference Organizing:***

- Member of International Program Committee for IASTED International Conference on Biomedical Engineering (BioMed 2016), Innsbruck, Austria, February 2016
- Co-Organizer of workshop ‘Neuromechanical modeling of posture and locomotion’, International Computational Neuroscience Symposium, Atlanta/Decatur, USA, July 2012
- Co-chair of session ‘Jumping’, XXIVth Congress of International Society of Biomechanics, Nala, Brazil, August 2013
- Organizer and Chair of Symposium ‘Motor Control – The Distribution Problem’, 6<sup>th</sup> World Congress of Biomechanics, Singapore, August, 2010.
- Chair of session ‘Motor Control’, XXXth American Society of Biomechanics Meeting, Stanford University, August 2007
- Member of International Program Committee for IASTED International Conference on Biomechanics (BioMech 2007), Honolulu, USA, August 2007
- Member of International Program Committee for IASTED International Conference on Biomechanics (BioMech 2006), Palma De Mallorca, Spain, August 2006
- Member of International Program Committee for IASTED International Conference on Biomechanics (BioMech 2005), Benidorm, Spain, September 2005
- Member of jury for Young Investigator Poster Presentations Award, XXth Congress of International Society of Biomechanics, Cleveland, USA, August 2005
- Chair of Session ‘Animal Mechanics’, XXth Congress of International Society of Biomechanics, Cleveland, USA, August 2005
- Co-Organizer and Co-Chair of mini-Symposium ‘New Developments in Neural Control of Locomotion’, Georgia Tech, Atlanta, June 2005
- Member of International Program Committee for IASTED International Conference on Biomechanics (BioMech 2004), Honolulu, USA, August 2004
- Co-Chair of session ‘Locomotion’, XVIIth Congress of International Society of Biomechanics, Calgary, Canada, July 1999

***Advisory Committees:***

No data

***Professional Societies:***

No data

***Membership in Professional and Honor Societies:***

American Physiological Society  
Society for Neural Control of Movement  
Society for Neuroscience  
American Society for Biomechanics  
International Society of Biomechanics

***Editorial Board Memberships:***

Nature Scientific Reports (U.K), impact factor 5.2 (2013-2016)  
Journal of Neurophysiology (USA), impact factor 2.887 (2017-present)

***Peer Reviewing:***

Manuscripts reviewed (~20 per year total) for:

Journal of Biomechanics, Journal of Applied Biomechanics, Journal of Biomechanical Engineering, Mathematical Biosciences, Robotica, Computer Methods in Applied Mechanics and Engineering, Motor Control, Gait and Posture, IEEE Transaction of Mechatronics, IEEE Transactions on Biomedical Engineering, IEEE Transactions on Neural Systems & Rehabilitation Engineering, Journal of NeuroEngineering and Rehabilitation, Journal of Rehabilitation Research and Development, Journal of Hand Therapy, Prosthetics and Orthotics International, Journal of Neurotrauma, Biological Cybernetics, Annals of Biomedical Engineering, Journal of Biomedical Materials Research Part A, Experimental Brain Research, PLOS Computational Biology, Frontiers in Physiology, Frontiers in Computational Neuroscience, PLOS One, Journal of Applied Physiology, Journal of Neurophysiology, Neuroscience, Behavioural Brain Research, Journal of Computational Neuroscience, Journal of Motor Behavior, Journal of Experimental Biology, Journal of the Royal Society Interface, Biology Letters, Cells Tissues Organs, Exercise and Sport Sciences Reviews, British Journal of Sport Medicine, Journal of Sport Sciences, Medicine & Science in Sports & Exercise.

Proposals reviewed for:

The Netherlands Organization for Scientific Research, 2017  
NIH Musculoskeletal Rehabilitation Small Business program, 2016  
DOD Orthotics and Prosthetics Outcomes Research Program, review panel member, 2016  
Foundation for Polish Science, 2013, 2016  
PhD Thesis examiner for the School of Human Movements and Nutritional Sciences at the University of Queensland, Australia  
NIH Bioengineering Research Partnerships program, review panel member, 2015  
NSERC Discovery Grant Program – Biological Systems and Functions, Canada, review panel member, 2013-2016  
Air Force Office of Scientific Research, 2012  
NSF/NIH Program in Collaborative Research in Computational Neuroscience, review panel member, 2011-2013  
South Carolina Space Grant Consortium, 2010  
Oklahoma Health Research Program, review panel member, 2010  
NIH Modeling and Analysis of Biological Systems Study Section, ad hoc member, 2010.  
European Science Foundation, European Young Investigator competition, 2007

Austrian Science Foundation, 2006  
NSF, 2003, 2007  
VU University of Amsterdam, external PhD thesis examiner, 2000, 2017

## **B. Public and Community Service**

### ***Government Workshops:***

No data

## **C. Institute Contributions**

Member of Tenure and Promotion Committee, School of Biological Sciences, 2016-present  
Member of Academic Faculty Senate, 2016-present  
Member of Organizing Committee for Research Seminar Series, School of Biological Sciences, 2016-present  
Participant of Workshop on Interface Science and Engineering Grand Challenges, College of Sciences, May, 2015  
Member of Georgia Tech Prosthetics, Orthotics, Robotics steering committee, 2015-present  
Jury Member for Georgia Tech Annual Graduate/Undergraduate Research Symposia, 2010-present  
Team member, NSF Integrative Graduate Education & Research Traineeship grant development, 2009  
Organizer of Applied Physiology Brownbag Research Seminar series, 2007-present  
Member of Applied Physiology School Chair Search Committee, 2006  
Organizer of Applied Physiology Neural Control and Biomechanics Seminar series, 2005-2007.  
Provide training and expert advice to Georgia Tech graduate and undergraduate students using facilities of Prilutsky's lab, 2005-present