CURRICULUM VITAE

NAME
BIJAN NAJAFI, PhD

POSITION TITLE
Associate Professor of Surgery (with Tenure) and Director **i**nterdisciplinary **C**onsortium for **A**dvanced **M**otion **P**erformance (**iCAMP**)

Member of the University of Arizona Center on Aging

Associate Member of Arizona Cancer Center

Scientific Advisory Board Member of Arizona Arthritis Center

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Citizenship: U.S. Citizen

Chronology of Education

09/1990 - 05/1994:

Isfahan University of Technology- Isfahan (IRAN)
Bachelor of Science in Electrical Engineering
Department: Electrical Engineering and Computer Science
B.Sc. project title: Design and manufactory of PLC (Programmable Logic Controller) with Micro controller.
Project Advisor: Professor V. Tahani

09/1994 - 06/1997:

Sharif University of Technology- Tehran (IRAN)
Master of Science Degree in Medical Engineering
Department: Electrical Engineering
M.Sc. project title: Time Delay Calculation of Stress Waves Using Wavelet Analysis, Application in Canine Edematous Lungs.
Project Advisor: Professor A. Jahed

12/2002 - 10/2006:

Swiss Federal Institute of Technology-Lausanne (EPFL).
Post Doctoral Fellow, Senior Researcher, and Lecturer
Department: Electrical Engineering; Laboratory of Movement Analysis & Measurement (LMAM)
Field of Research: Applied Biomechanics & Bioinstrumentation
Advisor: Professor K. Aminian

10/1998 - 12/2002:

Swiss Federal Institute of Technology-Lausanne (EPFL).
PhD in Biomedical Engineering
Docteur ès science technique dans le domaine 'Génie biomédical'
Department: Electrical Engineering; Metrology Laboratory (MET)
Thesis title: Physical activity monitoring and risk of falling evaluation in elderly.
Project Advisor: Professor Ph. Robert

10/2006 - 01/2008:

Harvard University.
Post Doctoral Fellow & Senior Researcher
Department: School of Engineering and Applied Sciences & Center for Brain Science
Field of Research: Neuroscience & Motor Learning
Advisor: Professor M. Smith

Chronology of Employment/Appointment

10/1998 – 12/2002: Graduate Student, Student Instructor and Research Assistant, Swiss Federal Institute of Technology-Lausanne (EPFL-Switzerland), Metrology Lab.

01/2003 – 08/2003: Postdoctoral Fellow**,** Swiss Federal Institute of Technology-Lausanne (EPFL-Switzerland), Laboratory of Movement Analysis & Measurement.

08/2003 – 10/2006: Lecturer (faculty with Swiss Federal permanent position) and Senior Research Associate– Swiss Federal Institute of Technology- Lausanne (EPFL-Switzerland), Institute of translational Biomechanics- Laboratory of Movement Analysis & Measurement.

10/2006 – 01/2008: Research Associate, Harvard University –Cambridge, MA.

01/2008 – 03/2010: Associate of the School of Engineering and Applied Sciences, Harvard University –Cambridge, MA.

07/2008 – 04/2012: VA Research Appointment (WOC), VA Medical Center, North Chicago, IL

01/2008 – 03/2011: Assistant Professor and Director of Human Performance Laboratory**,** Rosalind Franklin University of Medicine and Science – North Chicago, IL.

03/2011 – 04/2012: Associate Professor of Applied Biomechanics and Director of Human Performance Laboratory, Rosalind Franklin University of Medicine and Science – North Chicago, IL.

06/2011– Member of Editorial Board of Gerontology, Regenerative and Technological Section, KARGER Medical and Scientific Publications.

04/2012– Associate Professor of Surgery and Director of interdisciplinary Consortium for Advanced Motion Performance (iCAMP)**,** Department of Surgery, College of Medicine, University of Arizona, department of Medicine – Tucson, Az.

06/2012– Associate Member of Arizona Cancer Center (UACC), College of Medicine**,** University of Arizona– Tucson, Az.

07/2012 – Member of Arizona Center on Aging (ACOA), Department of Medicine, College of Medicine, University of Arizona, Tucson, Az.

09/2012– Faculty, Biomedical Eng. Graduate Interdisciplinary Program (BME GIDP), University of Arizona – Tucson, Az.

10/2012– Adjunct Faculty, Department of Biomedical Eng. (BME), College of Engineering, University of Arizona – Tucson, Az.

10/2012– Scientific Advisory Board Member, Arizona Arthritis Center (UAAC), University of Arizona – Tucson, Az.

01/2013 – Editor of Gerontology, Regenerative and Technological Section, KARGER Medical and Scientific Publications.

03/2014 – Adjunct Faculty, Department of Electrical & Computer Engineering, University of Arizona – Tucson, Az.

06/2014 – Member of Arizona Fall Prevention Coalition Steering Committee, State of Arizona, Phoenix, Az.

Honors and Awards

1994 Awarded As **The Most Distinguished Student Of The Country** In 1994 Bachelor of Science Programs In Iran, 1994.

1995 Graduated with **1st top GPA** in class (Bsc.), Isfahan University of Technology.

2003 **Best Study** In Field Of Sport & Biomechanics Awarded By DISS (Département Interfacultaire De Sport Et Santé) & Pfizer, Lausanne, Switzerland, 2003.

2006 **Best Investigation** In Field of Weight Management Using Kinematic Sensor Awarded By 'Association Romande En Sciences Du Sport', Geneva, Switzerland 2006.

2009 Awarded for **outstanding oral abstract** presentation, in the American Podiatric Medicine Association (APMA) meeting, Toronto, Canada, 2009.

2010 Mentor for winner of **NSF-Sponsored Student Poster Award** (travel grant) at ASME-IMECE (International Mechanical Engineering Congress and Exposition) in Vancouver, Canada, Nov. 2010, (Ms. Lydia Regis).

2010 Mentor for winner of **best poster presentation award** in the Midwest Student Biomedical Research Forum (MSBRF), Nebraska, USA, 2010 (Ms Deena Horn).

2010 **Marvin Levin Travel Scholarship Award** (selected as one of the top two abstracts in lower extremity research), The American Diabetes Association's Interest Group on Foot Care –ADA 2010

2010 **Best Research report** in field of neurology selected by the American Physical Therapy Association (APTA – PT2010) – Annual Conference and Exhibition of the APTA – 2010.

2010 **Invited application** in Nature Colloquium on Biomedicine - Frailty – Boston – Only ten young investigators from US were chosen to participate on the basis of their application for admission. (http://www.nature.com/natureconferences/frailty/index.html)

2010 American Diabetes Association's **Young Investigator Award** (Travel Grant), 70th ADA Scientific Sessions, Orlando, USA.

2010 Awarded as **outstanding poster** abstract at the American Podiatric Medical Association (APMA) Annual meeting (2010), Seattle, USA.

2010 **Award of Excellence** in recognition of outstanding service to the Dr. William M. Scholl College of Podiatric Medicine, Dec. 2010.

2011 **First Prize** for the best Oral Presentation, 6th International Symposium on the Diabetic Foot, Noordwijkerhout, Netherlands.

2011 **Silver prize** for the outstanding poster presentation in the 'Larger Research studies/Clinical trials' abstracts category, American Podiatric Medical Association (APMA) National meeting (2011), Boston, USA

2013 Winner of **Second Prize** for he 'Outstanding Oral Abstract Presentation' at the American Podiatric Medical Association, Annual meeting (APMA), 2013, Las Vegas, USA. Title: *A Randomized Controlled Trial of Custom Foot Orthoses for the Treatment of Plantar Heel Pain: A Return to Spontaneous Physical Activity*

2014 American Heart Association's 2014 CVSN Stroke **Article of the Year Award**, Title of Article: The Effect of Tai Chi on Physical Function, Fall Rates and Quality of Life among Older Stroke Survivors", published this year in Archives of Physical Medicine and Rehabilitation (APMR) [Taylor-Piliae, R.E., Hoke, T., Hepworth, J.T., Latt, L.D., **Najafi, B.**, & Coull, B.M. The Effect of Tai Chi on Physical Function, Fall Rates, and Quality of Life Among Older Stroke Survivors. Archives of Physical Medicine and Rehabilitation, 95(5): 816-24, 2014.]

Mentored Student/Fellow Awards

2010 Daniel Miller (Medical Student) Mentor for winner of **outstanding student or resident abstract** award presented at APMA 2010, Seattle, USA.

2011 Deena Horn (Medical Student) Mentor for winner of **Second place** for the best poster presentations in student/residency abstracts category, American Podiatric Medical Association (APMA) National meeting (2011), Boston, USA.

2011 Sayeed Fraaz (Medical Student) Mentor for winners of **Third place** for the best poster presentations in student/residency abstracts category, American Podiatric Medical Association (APMA) National meeting (2011), Boston, USA.

2011 Elizabeth Barnica (Medical Student) Mentor for **winner** of Rosalind Franklin's All School Research Consortium 2011 (Category: Scholl College), Abstract Title: 'Foot Orthoses Improve Dynamic Planter Loading in Painful Pes Cavus'

2012 Gurtej Grewal (Postdoc Fellow) Mentor for the winner of the **First Prize** for the best Oral Presentation, 5th Annual international Post graduate research symposium [IPGRS], Chicago, IL, USA, Postgraduate name:.

2012 Saba Sadra (Medical Student) Mentor for the winner of **Silver prize** for the outstanding poster presentation in the American Podiatric Medical Association (APMA 2012) – National Meeting – (student category), Washington DC, USA.

2012 Maria Garcia (Undergraduate student) *Undergraduate travel award*: Mentor for the winner of the Society of Hispanic Professional Engineers, SHPE 2012, in Fort Worth, Texas.

2012 Gurtej Grewal (Postdoc Fellow) *Junior investigator Travel Awards*: Mentor for the winner of Junior Investigator travel award (selected out of 10 junior investigators receiving travel grants nationally), who were selected to present their posters and to attend the American Gerontological Society's *Aging, the Central Nervous System, and Mobility in Older Adults* workshop. The goal of this workshop is to clarify the biological rationale underlying the association between the central nervous system and mobility.

2012 Michael Schwenk (Postdoc Fellow) *Junior investigator Travel Awards*: Mentor for the winner of Junior Investigator travel award (selected out of 10 junior investigators receiving travel grants nationally), who were selected to present their posters and to attend the American Gerontological Society's *Aging, the Central Nervous System, and Mobility in Older Adults* workshop. The goal of this workshop is to clarify the biological rationale underlying the association between the central nervous system and mobility.

2013 Sai Yalla (postdoc Fellow): Mentor for the winner of **First Prize** for the best Podium Presentation, 6th Annual international Post graduate research symposium [IPGRS], Chicago, IL, USA, Title: *Can postural stability in older adults be improved using custom ankle foot orthoses*

2013 Nima Toosizadeh (postdoc Fellow) *Junior investigator Travel Award*: Mentor for the winner of a young Investigator travel award, (selected out of 10 junior investigators receiving travel grants nationally) by the American Gerontological Society's Aging (GSA), New Orleans, Louisiana.

2013 Gurtej Grewal (postdoc Fellow) *Junior investigator Travel Award*: Mentor for the winner of a young Investigator travel award, (selected out of 10 junior

investigators receiving travel grants nationally) by the American Gerontological Society's Aging (GSA), New Orleans, Louisiana.

2013 Juan Laitano (Summer Research Intern) Graduate student Travel Award: The Society of Hispanic Professional Engineers (SHPE 2013), graduate student technical poster competition Finalist- Student Mentor, , title of abstract: 'Frailty Prediction: Performance Tests Vs. Remote Sensor Physical Activity Data'.

2014 Gurtej Grewal (postdoc Fellow) American Diabetes Association's Young Investigator Award (Travel Grant), Marvin Levin Award, 74th ADA Scientific Sessions, Orlando, USA

2014 Elizabeth Monier (second year medical student) Mentor of winner, Medical Students Poster Award, 52nd annual Medical Student Research Forum, UT Southwestern Medical School students

2014 Gurtej Grewal (Postdoc Fellow) *Junior investigator Travel Award*: Mentor for the winner of a young Investigator travel award, Dr. Gurtej Grewal (selected out of 10 junior investigators receiving travel grants nationally) by the American Gerontological Society's Aging (GSA), Washington DC.

2014 Michael Schwenk (Postdoc Fellow) *Junior investigator Travel Award*: Mentor for the winner of a young Investigator travel award, Michel Schwenk (selected out of 10 junior investigators receiving travel grants nationally) by the American Gerontological Society's Aging (GSA), Washington DC.

2014 Javad Razjouyan (Postdoc Fellow) *Junior investigator Travel Award*: Mentor for the semifinalist winner of a young Investigator travel award by the American Gerontological Society's Aging (GSA), Washington DC.

2014 Ana Enriquez (Undergraduate Student)- Outstanding Senior in the College of Engineering Award

2014 Michelle Heusser (Undergraduate Student & Summer Research Intern)- Winner of 1st place in the Undergraduate Health Sciences category

2014 Michelle Heusser (Undergraduate Student & Summer Research Intern)- Gore Award for the Most Creative Research, University of Arizona

2014 Michelle Bahureksa (Undergraduate Student & Summer Research Intern)- Gore Award for the Most Promising Research, University of Arizona

Service/Outreach (in the current rank)

Local/State outreach

2009 Faculty Member for 3rd Chicago Lower Extremity Surgery Symposium at Orthopedic Learning Center

2009 Faculty Member of Scholl College Showcase Program on Limb Salvage and Diabetes

2010 Faculty Member for Scholl College Showcase Program: Point-Counter Point: Competing therories in Podatric Biomechanics: Evidence and Clinical Application (2010)

2010 Faculty Member for 65th Annual Midwest Clinical Conference –Chicago

2011- 2012 Member of Falls Prevention Task Force, Lake Country, Illinois.

2012- Member of Fall Prevention Committee, The University of Arizona, Medical Center, Tucson, Arizona.

2013 Co-Organizer and Co-Chair Flinn Conference: Aging, Cognition, and Mobility in Older Adults, Nov. 2-3, 2013. Tucson, Arizona.

2014 Invited speaker at the Radiology Department Grand Rounds, University of Arizona.

2013-2014 Member of Search Committees for two faculty positions at 2014

2014 Invited lecture for the summer research program (High School/Undergrad Students), University of Arizona.

National/ International outreach

2000 – International Society for Posture and Gait Research(ISPGR)

2004-2006 Invited expert and associate member in Prevention of Fall network in Europe (ProFANE)

2006 – Society for Neuroscience (SFN)

2008 – American Diabetes Association

2009 Faculty member for Annual Scientific Meeting, American Podatric Medicine Association (APMA), 2009, Tronto, Canada

2009 Faculty member for Diabetic Foot Global Conference DfCon2009 – Los Angeles

2010 Session co-chair for the Clinical Foot and Ankle III session, 2nd Congress of the International Foot and Ankle Biomechanics (i-FAB), Seattle, 2010

2010 Invited reviewer for European Socitey of Biomechanics

2012 Keynote speaker and Session chair at the 13th Malvern Diabetic Foot Conference, Malvern, UK. *Title of talk: Can we treat unsteadiness in diabetes*.

2012 Keynote speaker at the American Podiatric Medical Association (APMA 2012) – National Meeting –Washington DC, USA, *Title of talk: Evidence Based Medicine on Fall Prevention – Podiatry's role*.

2013 Keynote speaker and Faculty member at Diabetic Foot Global Conference DfCon2013 – Los Angeles, USA, *Title of talk: You can Take the Lab Out of the Gait Lab: Walking the Walk with New Technologies at Home and in Clinic.*

2013 Co-Chair, Keynote speaker, and faculty at the Flinn Foundation Developmental Conference Aging, Cognition, and Mobility in Older Adults

2013 Invited Lecture – Manchester Metropolitan University, Manchester, UK, *Title of Talk: mHealth technology and its application for elder care.*

2013 Invited Lecture – University of Manchester, Manchester, UK, *Title of Talk: Wearable sensor technology and its clinical application.*

2013 – International Society of Biomechanics (ISB)

2014 – International Society for Complementary Medicine Research

2014 Invited Lecture – Show & Tell, Title of Talk: 'Take two Apps and call me in the morning: how intelligent wearable technologies and game based therapies are changing our world'.

2014 Invited Lecture – University of Arizona, ECE Department Distinguished Seminar Series, Title of Talk: 'Wearable tech and its clinical applications'

2014 Invited reviewer for the 2014 Summer Computer Simulation Conference

2014 Invited speaker and Faculty member at Diabetic Foot Global Conference DfCon2014 – Los Angeles, USA, *Title of talk: Gait Balls of Fire: Dosing Activity Like We Dose a Drug.*

2014 Reviewer for NIH - Emerging Technologies and Training in The Neurosciences Integrated Review Group

2014 Grant Reviewer for Diabetes UK

2014 Grant Reviewer for American Institute of Biological Sciences, Science Center (QED), Digital Health Program

2015 Invited Lecture for Diabetic Foot Global Conference 2015 (DFCon), Los Angles, USA

Department & College Committees

2012- Department of Surgery Quality Assurance/Quality Improvement Oversight Committee.

2013- Member of Depart of Surgery Promotion & Tenure Committee.

2013- Member of the Admissions committee Biomedical Engineering Graduate Interdisciplinary Program (BME GIDP)

2014- Faculty Senate College Representative – College of Medicine, University of Arizona

College Committees

2009-2012 Memeber of Faculty Appointments, Promotion and Tenure Committee, – Dr. Scholl College of Podiatric Medicine, Rosalind Franklin University of Med. & Science

2010-2012 Member of Swanson Independent Scholar Committee, –Dr. Scholl College of Podiatric Medicine, Rosalind Franklin University of Med. & Science

2010-2012 Member of Scholarship Committee. –Dr. Scholl College of Podiatric Medicine, Rosalind Franklin University of Med. & Science

2011-2012 Chair of Swanson Independent Scholar Committee –Dr. Scholl College of Podiatric Medicine, Rosalind Franklin University of Med. & Science

2011-2012 Member of Awards Committee–Dr. Scholl College of Podiatric Medicine, Rosalind Franklin University of Med. & Science

2011-2012 Memeber of Academic Review and Promotion Committee–Dr. Scholl College of Podiatric Medicine, Rosalind Franklin University of Med. & Science

2011 Member of Search Committee for hiring the chair of Radiology department at – Dr. Scholl College of Podiatric Medicine, Rosalind Franklin University of Med. & Science

2012- University of Arizona Arthritis Center Scientific Advisory Board Member

2013- Core Member of Arizona Center on Aging

University Committees

2010-2012 Senator at Large to represent Scholl College Podiatric Medicine at RFUMS

Other Committees

2009 Reviewer for NIA Roybal Center Grants – ORCATECH (Oregon Center for Aging & Technology)

2010 Co-Editor a symposium on "Technology for Foot Wounds in Diabetes" for the Journal of Diabetes Science & Technology,

2010 Co-Editor of International Journal of Engineering (IJE) published by CSC Journals (Computer Science and Security Journal',

2010 Invited Reviewer for National Institute of Health - NIH (RC1).

2011 Guest editor for the Journal of Aging Research, Special Issue on Aging and Type 2 Diabetes

2011-2012 Member of Editorial Board of Gerontology, section 4: Regenerative and Technological

2012 NIH Ad hoc Panel Reviewer - Feb 23-24 2012, MRS study section meeting.

2012 Lead Guest Editor for Journal of the American Podiatric Medical Association (JAPMA), Special Issue on Fall Prevention and Podiatry's Role – Impact of foot and footwear problems, benefit of foot treatment for reducing risk of falling. Co-Editor: David G. Armstrong, Hylton Menz, Eling de Burin, and Neil Reeves.

2013 Editor of Gerontology, section 4: Regenerative and Technological. KARGER Medical and Scientific Publications – Impact Factor 2.67

2013 American Diabetes Association (ADA) Ad hoc Panel Reviewer – April 2013

2013 Guest Editor for the Journal of Diabetes Science and Technology, Symposium on 'Diabetic Foot Disease: Emerging Technologies, Co-Editors: Manish Bharara, and Andrew Boulton'.

2013 Editor for J. Of Diabetes Research and Treatment

2013 Conference Reviewer for Translational and Computational Motor Control (TCMC) 2013, San Diego, USA

2013- Editorial Board Member for SOJ Anesthesiology & Pain Management, Symbiosis group.

2014- Member of NIH Scientific Review Panel, Emerging Technologies and Training in The Neurosciences Integrated Review Group (ETTN(10)).

2014 Reviewer for DiABETES UK (Equipment Grant)

2014 Grant Reviewer for Isreal Ministery of Science, Technology and Space

Reviewer for 30+ different journals including:

Achieves of Physical Medicine and Rehabilitation
Annals of Biomedical Engineering
BMC Medicine
Diabetes Care
British Medical Journal (BMJ)
Footwear Science
Gait & Posture
Gerontology
IEEE Signal Processing Letters
IEEE Transaction on Neural Systems & Rehabilitation
IEEE Transactions on Biomedical Engineering (TBME)
IEEE Transactions on Information Technology in BioMedicine (TITB)
International Journal of Therapy and Rehabilitation
International Wound Journal
Journal of Aging Research
Journal of Applied Biomechanics
Journal of Biomechanics
Journal of Computer Methods and programs in Biomedicine

Journal of Diabetes Medicine
Journal of Diabetic Science & Technology
Journal of NeuroEngineering and Rehabilitation (JNER)
Journal of Rehabilitation Research & Development (JRRD)
Journal of the American Podiatric Medical Association (JAPMA)
Medical Engineering & Physics
Neuromodulation Technology at the Neural Interface (NER)
Physical Therapy (PTJ)
PLOS ONE
Sensor
Wound
Wound Medicine

Publications/Creative Activity

(91+ Published Peer-Reviewed Journal Articles, 200+ Conference Proceedings/Abstracts, 4 Patents (four US, two EP, and two WO), and 5 US patents pending

Google scholar citations> 2345, **h-index=23**, i10-index=32

http://scholar.google.com/citations?hl=en&user=Ac_kczEAAAAJ

Citation indices	All	Since 2009
Citations	2345	1779
h-index	23	20
i10-index	32	28

screenshot taken on 11/23/2014

Journal Articles:

Overview of publications based on the field of research post graduate studies (Area 1: *Diabetes care and diabetic foot care, surgical outcome evaluation,* ***Area 2:*** *Elderly care, biomarker of frailty, fall prevention, automatic fall detection, and assessment of risk of falling,* ***Area 3:*** *Wearable technology, home telemonitoring, mHealth, virtual reality, rehabilitation, biomechanical modeling, and biosignal processing,* ***Area 4:*** *Pain management, quality of life, and sport medicine)*

	papers published	**Area 1**	**Area 2**	**Area 3**	**Area 4**
Assoc. Professor Rank (2012 - Present)	56	14	19	19	5
Assistant Professor Rank (2008-2011)	18	5	5	7	1
Prior faulty appointment (2003-2008)	12	1	4	4	3
PhD studies (1998-2003)	8	0	4	4	0
Total	**95**	**20**	**32**	**34**	**9**

* correspondence author. †post-doctoral fellows/graduate/undergraduate students in Najafi's group.
Research Area for each paper is shown based on the description given above.

Book chapters:

1. **B. Najafi**, C. Büla, Ch. Piot-Ziegler, M. Demierre, K. Aminian, ''Relationship Between Fear Of Falling And Spatio-Temporal Parameters Of Gait In Elderly

Persons,'' From Basic Motor Control To Functional Recovery Iii, Chapter II: FROM Posture to Gait, pp.152-158, ISBN 954-07-1851-1, 2003.

Journal Article (Refereed/Peer Reviewed)

2000

1. **B. Najafi***, K. Aminian, F. Loew, Y. Blanc, P. Robert, 'An Ambulatory System for Physical Activity Monitoring in Elderly', IEEE Trans. on Medicine & Biology, pp. 562-566, 2000 (Research Area 3)

2001

2. **B. Najafi***, K. Aminian, C. Bula, G. Ruggieri, Ph. Robert, Falling Risk Evaluation in Elderly Using Miniature Gyroscope: Relation Between Gait and Risk of Falling, Gait & Posture, p.135-139, 2001. (Research Area 2)

2002

3. A. Paraschiv-Ionescu*, C. Jutten, K. Aminian, **B. Najafi,** Ph. Robert, 'Source Separation in Strong Noisy Mixtures : A study of Wavelet De-Noising Pre-Processing', p. 1681-1684, Speech & Signal, 2002 (Research Area 3)

4. **B. Najafi***, K. Aminian, F. Loew, Y. Blanc, and Ph. Robert, " The measure of stand-sit and sit-stand transition using miniature gyroscope: Falling risk evaluation in elderly, " IEEE Trans. on Biomedical . Eng., vol. 49, no. 8, pp. 843-851, aug 2002. (Research Area 2)

5. K. Aminian*, **B. Najafi**, C. Büla, P.-F. Leyvraz and Ph. Robert, ''Spatio-temporal Parameters of Gait Measured by an Ambulatory System Using Miniature Gyroscopes,'' J. of Biomechanics., vol. 35, no. 5, pp 689–699, 2002**.** (Research Area 3)

2003

6. **B. Najafi***, K. Aminian, A. Paraschiv-Ionescu, F. Loew, C. Büla, and Ph. Robert, ''Ambulatory System For Human Motion Analysis Using a Kinematic Sensor: Monitoring of Daily Physical Activity in Elderly,'' IEEE transaction on Biomedical Eng., vol.50, no. 6, pp.711-723, July 2003. (Research Area 3)

7. U. Lindemann*, S. Scheible, E. Sturm, B. Eichner, C. Ring, **B. Najafi**, K. Aminian, Th. Nikolaus, and C. Becker, ''Elevated Heels and Adaptation to New Shoes in Frail Elderly Women', Z Gerontol Geriat, vol36, pp.29-34, 2003. (Research Area 2)

8. O. Beauchet*, RW Kressig, **B. Najafi**, K. Aminian, V. Dubost, F. Mourey, ''Age-related decline of gait control under a dual-task condition', Journal of American Geriatric Society (JAGS), 51 (8): 1187-1188, AUG 2003, (Research Area 2)

2004

9. A. Paraschiv-Ionescu*, E.E. Buchser, B. Rutschmann, **B. Najafi**, K. Aminian, Ambulatory system for the quantitative and qualitative analysis of gait and posture in chronic pain patients treated with spinal cord stimulation, Gait & Posture, 20, 113-125, 2004. (Research Area 4)

10. K. Aminian*, C. Trevisan, **B. Najafi**, H. Dejnabadi, C. Frigo, E. Pavan, A. Telonio, F. Cerati, E.C. Marinoni, Ph. Robert,P.-F. Leyvraz, Evaluation of an ambulatory system for gait analysis in hip osteoarthritis and total replaced patients, Gait & Posture, 20, 102-107, 2004. (Research Area 1)

11. K. Aminian* and **B. Najafi** , ''Capturing human motion using body-fixed sensors: outdoor measurement and clinical applications,'' J. Visual. Comput. Animat.vol.1', pp.79-94, 2004 (Research Area 3)

2005

12. E. Buchser*, A. Paraschiv-Ionescu, A. Durrer, B. Depierraz, K. Aminian, **B. Najafi**, B. Rutschmann, Improved physical activity in patients treated for chronic pain by spinal cord stimulation, NEUROMODULATION 8 (1): 40-48 JAN 2005. (Research Area 4)

13. E. Martin, S. Rochat, K. Aminian, M. Thomi, V. Besson, **B. Najafi,** C. Piot-ziegler, and C.J. Bula*: The importance of fear of falling on gaitperformance in elderly patients admitted for post-acute rehabilitation. Gait & Posture, 21(Supplement 1) pp. S116-S117, 2005. (Research Area 2)

14. **B. Najafi*,** T Kato., P Vuadens, S.I Yamamoto, and K. Aminian: Analysis of postural coordination during voluntarysway using cop feedback. Gait & Posture, 21(Supplement 1) pp. S39-S39, 2005. (Research Area 3)

15. **B. Najafi*,** T Kato., P Vuadens, S.I Yamamoto, and K. Aminian: A new index for assessing human postural control. Gait & Posture, 21(Supplement 1) pp. S149-S149. 2005. (Research Area 3)

16. Brian Coley , **Bijan Najafi** , Anisoara Paraschiv-Ionescu, Kamiar Aminian* , ''Stair climbing detection during daily physical activity using a miniature

gyroscope," Gait & Posture, 2005, Gait & Posture, Vol. 22, Issue 4, dec 2005, pages 287-294. (Research Area 3)

2006

17. C. J. Bula, E. Martin, S. Rochat, **B. Najafi,** V. Besson, M. Thomi, C. Piot-Ziegler, and K. Aminian, Fear of falling is an independent predictor of gait improvement in elderly patients undergoing post-acute rehabilitation. Journal of the American Geriatrics Society, 54(4) pp. S135-S136, 2006. (Research Area 2)

18. J Favre*, F Luthi, BM Jolles, O Siegrist, **B Najafi**, K Aminian, 'A new ambulatory system for comparative evaluation of the three dimensional knee kinematics, applied to anterior cruciate ligament injuries', Journal of knee sport surgery sport arthroscopy (KSSTA), 2006 (Research Area 4)

19. V. Dubost, RW Kressig, R. Gonthier, FR. Herrmann, K. Aminian, **B. Najafi**, O. Beauchet*, ' Relationships between dual task related changes in stride velocity and stride time variability in healthy older adults'', Human Movement Science, 25(3): 372-82, 2006. (Research Area 2)

2007

20. Eling De Bruin*, **Bijan Najafi,** Kurt Murer,Daniel Uebelhart, Kamiar Aminian, 'Quantification of everyday motor function in a geriatric population', Journal of Rehabilitation Research and Development, J Rehabil Res; 44(3):417-28. Dev. 2007 (Research Area 2)

2008

21. U Lindemann*, **B Najafi**, W Zijlstra, K Hauer, R Muche, C Becker, K Aminian, 'Distance to achieve steady state walking speed in frail elderly persons', Gait & Posture, 27(1), 91-6, 2008 (Research Area 2)

22. Véronique Dubost, Cédric Annweiler, Kamiar Aminian, **Bijan Najafi**, François R. Herrmann and Olivier Beauchet*, 'Stride-to-stride variability while enumerating animal names among healthy young adults: Result of stride velocity or effect of attention-demanding task', Gait & Posture, 27(1), 2008 (**cited>20**). (Research Area 2)

23. M. Bharara†, D.G. Armstrong, and **B. Najafi***, 'Laboratory in a Box: Long term Measurement of Daily Physical Activity & Furthering the Role of Body Wearable

Sensors for Diabetic Foot Care,' Journal of Podiatry Management, Nov/December issue, pp71-80, 2008. (Research Area 3)

24. S. Rochat, E. Martin, C.Piot-Ziegler, **B. Najafi**, K. Aminian, C.J. Bula*: Falls Self-Efficacy and Gait Performance after Gait and Balance Training in Older People, Journal of American Geriatric Society (JAGS), '56(6), 1154-1156, 2008' (Research Area 2)

2009

25. **B. Najafi***, J Helbostad, R. Moe-Nilssen, W. Zijlstra, K. Aminian, 'Does walking strategy in elderly people change as a function of walking distance'. Gait & Posture, Gait & Posture'. vol. 29, pp. 261-266, Feb 2009. (Research Area 2)

26. **B. Najafi***, R. Crews, M. Bharara†, J. Wrobel, LC. Rogers, DG. Armstrong, Objective outcome evaluation of Charcot foot reconstruction by monitoring dynamic behaviour of plantar pressure, WOUNDS, p. A12, vol. 21, N. 3, March 2009 (Research Area 1)

2010

27. **B. Najafi***, R. Crews, JS. Wrobel, 'The Importance of Time Spent Standing for those at Risk of Diabetic Foot Ulceration', Diabetes Care, 33 (11), 2448-50, November 2010 (Research Area 1)

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Your Life – REDEFINED - Outsmart Diabetes: 30-minute cable show features SALSA and iCAMP with Dr. David Armstrong and Dr. Bijan Najafi
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http://www.uahealth.com/news/leading-biomedical-engineer-bijan-najafi-joins-ua-department-surgery-study-human-motion-improve

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Arizona Sonora News Service: iCAMP Researchers Develop Medical Gadgets
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Arizona Bio industry Association (AZBIO) News: UA Study: Can a Sensor Prevent Diabetic Foot Amputation?; Feb 12, 2013
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"A Patient's Guide to Understanding Treatment for Diabetic Foot Ulcers" is available for free viewing on YouTube in both English and Spanish: http://www.youtube.com/watch?v=WCxPAyBMSEA

Scholarly Presentations- Invited lectures (in the current rank):

2014 Invited speaker at the College of College of Arts and Science, Sport Science Program, Qatar University, Nov, 2014. Title of talk: 'Wearable technology and its application in Sport and Fitness'

2014 Invited speaker at the College of Nursing Research Seminars, University of Arizona, Nov, 2014. Title of talk: '*Get ready for the wearable technology revolution: How intelligent wearable and game-based therapy are changing our world'*

2014 Invited speaker at the School of Biological and Health Systems Engineering, Arizona State University, Oct, 2014. Title of talk: '*Take two apps and call me in the morning: How intelligent wearable and game-based therapy are changing our world'*

2014 Invited speaker at the Radiology Department Grand Rounds, University of Arizona, June, 2014. Title of talk: '*Wearable tech and its applications in Brain Science'*

2014 Invited Speaker at the College of Public Health, Research Grand Rounds, University of Arizona, June 2014, Title of talk: "Take two apps and call me in the morning: How intelligent wearable and game-based therapy are changing our world."

2014 Invited Speaker at the Dr William Scholl College of Podiatric Medicine Grand Rounds, Rosalind Franklin University of Med & Sci, North Chicago, USA, May 2014, . Title of talk: '*Diabetic Peripheral Neuropathy*'

2014 Invited Speaker at the Diabetic Foot Conference (DFCon 2014), Los Angeles, CA, USA., March 2014, Title of talk: '*Gait Balls of Fire: Dosing Activity Like We Dose a Drug*'

2014 Invited Lecture – University of Arizona, ECE Department Distinguished Seminar Series, Jan 2014, Title of Talk: '*Wearable tech and its clinical applications*'

2014 Invited Lecture: Show & Tell, Title of Talk, Tucson, USA, Feb 2014, : '*Take two Apps and call me in the morning: how intelligent wearable technologies and game based therapies are changing our world*'

2014 Invited speaker at the BME Seminar, University of Arizona, Title of talk: '*Heath Care Reform and Triple Aim – Can Engineers Help?"*

2013 Invited speaker at the Banner Health Institute Grand Rounds, Banner Health Institute, Nov. 2013. '*ExerGaming and its application for patients suffering from Mild Cognitive Impairment*'

2013 Invited Lecture – University of Manchester, Manchester, UK, April 2013 *Title of Talk: Wearable sensor technology and its clinical application*

2013 Invited Lecture – Manchester Metropolitan University, Manchester, April 2013, UK, *Title of Talk: mHealth technology and its application for elder care.*

2013 Invited speaker at the BME Seminar, University of Arizona, Nov, 2013, Title of Talk: "*Diagnostics and the Changing Technology: Walking the Walk with New Technologies at Home and in Clinic*'".

2013 Frontiers in Medical Research Seminar, University of Arizona College of Medicine, Nov. 2013, Title of talk: '*Changing technology in diagnostics – Objective Gait Assessment*'

2012 Invited Keynote speaker, Fall Prevention Seminar, the American Podiatric Medical Association (APMA), National Meeting, Washington DC, USA (July). Title of Talk, '*Evidence Based Medicine on Fall Prevention – Podiatry Role*'.

2013 Invited Keynote speaker, Flinn Conference, Aging, Cognition, and Mobility in Older Adults, Nov 2013, 'Bioengineering Approaches to Frailty Syndrome'

2013 Invited Speaker at the Diabetic Foot Conference (DFCon 2013), March 2013, Los Angeles, CA, USA.

2013 Invited Keynote speaker, at the Western Foot & Ankle, California Podiatric Medical Association, Changing technology in Diagnostics, June 2013, Anaheim, USA

2012 Invited Keynote Speaker, Malvern Diabetic Foot Conference, Malvern, UK, June 2012, title of talk 'Gait variability- Can we treat it?'.

2012 Invited speaker at Rheumatology Grand Rounds, University of Arizona Arthritis Center, Dec 2012., Title: "Changing Technology in Diagnostics – Objective Gait Assessment"

2012 Invited speaker at the BME Seminar, University of Arizona, Oct 2012., title: ' Wearable sensors and their clinical applications'.

Patents:

1. ***B. Najafi***, K. Aminian, Body movement monitoring system and method, October 2000, Patent EP Patent 1,195,139 **(cited>31)** & US Patent WO/2003/065,891 **(cited>23)**

2. K. Aminian, ***B. Najafi***, Spatio-temporal Parameters of Gait Measured by an ambulatory system using miniature Gyroscopes, EP Patent 1,322,227 & 1,511,418 (cited>17) & US Patent WO/2002/028,282 (**cited> 20**), February 2002.

3. ***B. Najafi***, Ashkan Vaziri, Ali-Reza Boloori (2012), Ambulatory System For Measuring And Monitoring Physical Activity And Risk Of Falling And For Automatic Fall Detection, US Patent, 13/005,548.

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9. P. Kuo, **B. Najafi**, and M. Kupinski, 'Systems, methods and devices for performing motion artifact correction', 61/987,178, 2014

Grants and Contracts

Major Areas of Funded/Pending Research: *1) Wearable technology, home telemonitoring, mHealth, biomechanical modeling, and biosignal processing, 2) Elderly care, biomarker of frailty, fall prevention, automatic fall detection, and assessment of risk of falling, 3) Diabetes care, diabetic foot care, wound care, and surgical outcomes, 4) TBI and minor cognitive disorder, 5) Patient adherence, 6) Pain management and quality of life, 7) Rehabilitation, neuro-rehabilitation, virtual reality, motor learning, and motor adaptation 8) Motor performance in Stroke survivors.*

Since Joining UA *April 2012*	**Total grant funding**	**Subaward attributed to Najafi**
Awarded	$11,586,106	$3,957,600
Pending or Scored on first round	$12,075,474	$8,098,774
Unscored or unfunded	$4,689,915	$3,760,696
Total	$28,351 ,495	$15,817,070

ACTIVE

FEDERAL

NIH-STTR (Phase 2) – collaboration with private company (Biosensics, LLC) & Arizona Center on Aging – 09/2012 - 09/2015
2R42AG032748 - 02principal
Title: Portable Device for Telecare Monitoring of Elderly People.
Role: Principal Investigator (Multiple-PIs proposal)
Percentage of Effort: 8%
Total Budget: $1,198,403
Subaward budget: $495,641

NIH-SBIR (Shift) – collaboration with private company (Biosensics, LLC) & Arizona Center on Aging – 09/01/2013- 05/31/2015
1R43AG044882-01A1
Title: A Virtually Supervised Web-Based Home Exercise Technology for Older Adults.
Role: Principal Investigator (Multiple-PIs proposal)
Percentage of Effort: 5%
Total Budget: $397,744
Subaward budget: $132,250

NIH –SBIR (Phase II) – collaboration with private company (Eden Medical Inc, Az) **– 2012-2015**
Title: Diabetic Foot Imaging Scanner (DFIS)
R44 DK083782-02A1
Role: Co-Investigator
Percentage of Effort: 5%
Total Budget: $1,500,000
Subaward budget: $261,700

NIH-SBIR (T2) – collaboration with private company (Biosensics, LLC) & Arizona Center on Aging – 09/01/2012 - 02/28/2013
1R43AG042949-01
Title: Fall Prevention in Elderly with Diabetes Using Wearable Technology.
Role: Principal Investigator (Multiple-PIs proposal)
Percentage of Effort: 10%
Total Budget: $149,883
Subaward budget: $53,276

NIH (Shift-SBIR) – Phase I, collaboration with Private Company, 2011-2013
Title: Interactive Sensor Technology to Measure Adherence to Prescribed Therapeutic Footwear
Role: Site Principal Investigator
Percentage of Effort: 10%
Total Budget: $400k
Subaward budget: $115,894

General Service Administration (GSA), Esther Sternberg, 2014-2017
Title: Impact of Green Building Design on Human Health and Wellbeing
Role: Key Investigator
Percentage of Effort: 10%
Total Budget: $3,275,084

INDUSTRY

Orpyx Medical Technologies (Private Company), 2012 - 2015
Title: SurroSens
Role: Principal Investigator
Percentage of Effort: 7%
Budget: $74,435

Podimetrics LLC (Private Company), 2013 - 2015
Title: Smart Thermometric Mat for Imaging Diabetic Feet - Phase II
Role: Principal Investigator
Percentage of Effort: 7%
Budget: $65,667

AVEX LLC (Private Company), 2014 - 2015
Title: Micro-Mobile Foot Compression Device for Reducing Lower Extremity Edema n Patients with Diabetes: A Proof of Concept Study
Role: Principal Investigator
Percentage of Effort: 7%
Budget: $75,709

The Diabetic Foot Boot Company, Inc (Private Company in UK), 2014 - 2015
Title: Novel Offloading for Diabetic Foot Ulcers with PulseBoot: A Proof of Concept Study
Role: Principal Investigator
Percentage of Effort: 5%
Budget: $79,788

Forest Laboratory Inc. (Private Pharmaceutics Company), collaboration with Rush University and the Rehabilitation Institute of Chicago (RIC), 01/15/2011 - 01/15/2014
Title: Milnacipran for the Sensory Sensitization and Mood Changes in Knee Osteoarthritis
Role: Site Principal Investigator
Percentage of Effort: 1%
Subaward budget: $26,075

CoVIDIEN Inc. (Private Pharmaceutics Company), collaboration with Rush University and the Rehabilitation Institute of Chicago (RIC), 07/15/2011 - 12/15/2014
Title: True Functional Restoration and Analgesia in Non-Radicular Low Back Pain: a prospective, single blind placebo lead in, then double blind placebo controlled study
Role: Site Principal Investigator
Percentage of Effort: 1%
Subaward budget: $27,990

INTERNATIONAL

GC 1025 Hamad Medical Co Grant Competition, collaboration with Podiatry section at Hamad Medical Co (HMC) in Doha-Qatar, 2014-2015

Title: Novel Smartsock Technology To Prevent Diabetic Foot Ulcer Based On Fiber-Optic Concept
Role: Site Principal Investigator;
Percentage of Effort: 30%
Total Budget: $353,662
Subaward budget: $139,162

QNRF (Qatar National Fund Research Fund), collaboration with Hamad Medical Co (Doha-Qatar) 2012-2015
NPRP 4-1025-3-276
Title: Game-Based Virtual Reality Approach for Improving Balance, Reducing Falls, and Preventing Complications In Diabetes.
Role: Principal Investigator
Percentage of Effort: 10%
Total Budget: $1,045,073
Subaward budget: $298,594.52

QNRF (Qatar National Fund Research Fund), collaboration with Hamad Medical Co (Doha-Qatar) 2012-2015
NPRP 4-1026-3-277
Title: SmartSox: Using Intelligent Textiles to Dose Activity and Prevent Complications.
Role: Principal Investigator
Percentage of Effort: 10%
Total Budget: $1,047,953
Subaward budget: $313,023.95

QNRF (Qatar National Fund Research Fund), collaboration with the University of Texas Southwestern Medical Center and Hamad Medical Co (Doha-Qatar) 2012-2015
NPRP 5-117-3-028
Title: A novel stimulator Socks for improving Balance in Diabetes
Role: Principal Investigator (Multiple PI grant)
Percentage of Effort: 10%
Total Budget: $1,049,716
Subaward budget: $316,586

QNRF (Qatar National Fund Research Fund), collaboration with Hamad Medical Co (Doha-Qatar) 2014-2016
NPRP 7 - 1595 - 3 – 405

Title: An innovative virtually supervised exercise for dialysis patients
Role: Lead Principal Investigator (Multiple PI grant)
Percentage of Effort: 10%
Total Budget: $847,548
Subaward budget: $486,805

FOUNDATION

AHA: The American Heart Association (National)– Collaboration with the Northeastern University (Boston) **- PI has moved to the University North Carolina (pending for transferring the subaward)**
Title: Effect of Cognitive-Motor Interference and Environment on Participation in Community-Dwelling Individuals with Stroke.
Role: Site Principal Investigator
Percentage of Effort: 5%
Total Budget: $308k
Subaward budget: $35,503

Flinn Foundation Najafi (PI) – collaboration with ASU, Banner Health, and & Arizona Center on Aging – 2013 - 2015
Title: Portable Device for Telecare Monitoring of Elderly People.
Role: Principal Investigator (Multiple-PIs proposal – Najafi and Sabbagh)
Percentage of Effort: 1%
Total Budget: $200,000
Multi-center budget (UA budget =$100,000)

<u>PENDING</u>

FEDERAL

NIH R21 – Plummer - – collaboration with University of North Carolina at Chapel Hill
Title: Attention allocation during dual-task walking after stroke (Received Notice of Award, Pending for subaward)
Role: Site-PI
Percentage of Effort: 10%
Subaward budget: $53,177

NIH R03 – Gill - – collaboration with Boston University

Title: Massive Weight Loss and Its Effects on Postural Stability and Fall Risks (Score: 20, pending for notice of award)

Role: Site-PI
Percentage of Effort: 10%
Total Budget: $150,000
Subaward budget: $22,174

NIH SBIR –Phase II – Najafi, Joseph, Gwin - – collaboration with Biosensics
Title: Upper Extremity Frailty Assessment Tool (Priority Score: 26)

Role: PI (multiple PIs)
Percentage of Effort: 10% + 50% postdoc time + 100% graduate student time
Total Budget: $1,463,926
Subaward budget: $515,122

NIH STTR –Phase IIB RAG032748C– Najafi (Contact PI), Mohler, Gwin - – collaboration with Biosensics (Priority Score: 36)
Title: Portable Device for Telecare Monitoring of Elderly People

Role: Contact PI (multiple PIs)
Percentage of Effort: 10% + 100% postdoc time + 100% graduate student time
Total Budget: $1,500,000
Subaward budget: $692,514

NIH R01 – Marjana Tomic-Canic - – collaboration with University of Miami
Title: Predictive and Diagnostic Tissue Biomarker for Diabetic Foot Ulcers

Role: Co-I
Percentage of Effort: 1%
Subaward budget: $183,976

NIH STTR –Phase II- Armstrong, Najafi, Gwin (PIs) – collaboration with Biosensics **Impact/Priority Score: 34**
Title: Interactive Sensor Technology to Measure Adherence to Prescribed Therapeutic Footwear

Role: PI (multiple PIs)
Percentage of Effort: 10% + 100% postdoc time
Total Budget: $1,459,454
Subaward budget: $624,771

NIH R21- Najafi, Garland (PIs) – collaboration with Cancer Center **- Impact/Priority Score: 30- (first round)**
Title: Managing chemotherapy induced neuropathy in Cancer patients using ExerGaming
Role: Contact PI (multiple PIs)
Percentage of Effort: 10%
Total Budget: $416,625

NIH STTR –Phase II- 2R42AG033996-02 Najafi, Chen (PIs) – collaboration with Biosensics **- Impact/Priority Score: 59 (first round)**
Title: Auto-biofeedback and health monitoring system for people with minor cog
Role: PI (multiple PIs)
Percentage of Effort: 10%
Total Budget: $1,472,672
Subaward budget: $633,282

DOD -SBIR CRMRP-RTRA-GC– Armstrong - Collaboration with Kent Imaging
Title: Handheld Imaging Technology for Tissue Viability Assessment
Role: Key Investigator
Percentage of Effort: 5%
Subaward budget: $986,624

NIH R01- Taylor-Piliae
Title: Auto-biofeedback and health monitoring system for people with minor cog
Role: PI (multiple PIs)
Percentage of Effort: 10%
Total Budget: $1,472,672
Subaward budget: $633,282

NIH –R21 – collaboration with the college of Neurology **– 9/1/13—8/31/2015**
Title: Objective Assessment Of Acupuncture Benefit For Improving Motor Performance In PD
Impact/Priority Score: 49 (First round)
PI: Dr Lei and Dr Najafi (multiple PIs)
Budget: $412,450
Percentage of Effort: 10%

NIH R01- Najafi (PI) – collaboration with Rush University and Rehabilitation Institute of Chicago **- Impact/Priority Score: 47 (First Submission)**

Title: Chronic pain treatment and objective assessment of activity with a body sensor
Role: Principal Investigator (Multiple PI Grant)
Percentage of Effort: 20%
Total Budget: $2,592,144
Subaward budget: $872,433

NIH R01- Najafi (PI) -– collaboration with the Northwestern University **– Impact/Priority Score: 68 (First Submission)**
Title: Pre-Visual detection of heel pressure ulcer injury using fiberoptic
Role: Principal Investigator (Multiple PI Grant)
Percentage of Effort: 20%
Total Budget: $2,370,928
Submitted Site

NIH –R21 PLUMMER (PI)– collaboration with the University of North Carolina**– 9/1/13—8/31/2015**
Impact/Priority Score: 47 (Plan to be resubmitted on Oct 2013)
Title: Attention allocation during dual-task walking after stroke
Role: Co-Investigator & Site PI
Total budget: 439,415
Sub-award Budget: $42,476
Percentage of Effort: 10%

NIH -STTR Najafi (PI) – collaboration with private company (Novinor LLC, IL) **– Impact/Priority Score:: 49 (First Submission)**
Title: Kinematic modeling of human movement using wearable fiber optic sensory skeleton
Role: Site Principal Investigator
Percentage of Effort: 10%
Total Budget: 100k
Subaward budget: $50k

NIDRR: The National Institute on Disability and Rehabilitation Research Field Initiated Program (Research) – Collaboration with the Northeastern University (Boston) and the University of Florida **-– Score on the first review: 90 out of 100**
Title: Effect of Cognitive-Motor Interference and Environment on Participation in Community-Dwelling Individuals with Stroke.
Role: Site Principal Investigator
Percentage of Effort: 10%

Subaward budget: $64,023

NIH –R21 – collaboration with the college of Neurology and the college of Medicine**– 9/1/13—8/31/2015, Score: 49**
Title: Objective Assessment Of Acupuncture Benefit For Improving Motor Performance In PD
PI: Dr. Lei and Dr. Najafi (multiple PIs)
Budget: $412,450
Percentage of Effort: 10%

NIH –R01 Najafi (PI) — 07/1/14-06/30/19
Title: Smart Wearable Socks for Prevention of Diabetic Lower Extremity Amputations
PI: Najafi & Armstrong (multiple PIs)
Budget: $2,677,465
Percentage of Effort: 24%

NIH R21- 1R21DK102585-01 Najafi, Armstrong (PIs)
Impact/Priority Score: - Not discussed (first round)
Title: A Tailored Stress-Management intervention to accelerate wound healing in diabetes
Role: Contact PI (multiple PIs)
Percentage of Effort: 10%
Total Budget: $275,000

NIH STTR (Phase II) Chen (PI), collaboration with the Arizona Center of Aging (Tuscan, Az) and Private Company (Boston, MA), 2009-2011
Title: Auto-BioFeedback and Health Monitoring System for People with Minor Cognitive
Role: Principal Investigator (multiple PI – Chen and Najafi)
Percentage of Effort: 10%
Total Budget: $1,400,000, Subaward budget: $651,797

NIH –R01 Najafi (PI) — 07/1/14-06/30/19
Title: Smart Wearable Socks for Prevention of Diabetic Lower Extremity Amputations
PI: Najafi & Armstrong (multiple PIs)
Budget: $2,677,465
Percentage of Effort: 24%

NIH R21- 1R21DK102585-01 Najafi, Armstrong (PIs)
Impact/Priority Score: - Not discussed (first round)
Title: A Tailored Stress-Management intervention to accelerate wound healing in diabetes
Role: Contact PI (multiple PIs)
Percentage of Effort: 10%
Total Budget: $275,000

NIH STTR (Phase II) Chen (PI), collaboration with the Arizona Center of Aging (Tuscan, Az) and Private Company (Boston, MA), 2009-2011
Title: Auto-BioFeedback and Health Monitoring System for People with Minor Cognitive
Role: Principal Investigator (multiple PI – Chen and Najafi)
Percentage of Effort: 10%
Total Budget: $1,400,000, Subaward budget: $651,797

COMPLETED RESEARCH

FEDERAL

NIH T35 2008 – 2013
Title: Summer Research Fellowship Program for Podiatric Medical Students
Role: Faculty
Percentage of Effort: 1%
Total Budget: $396,576

NIH STTR 1R41AG033996-01 **Najafi (PI),** collaboration with the Arizona Center of Aging (Tuscan, Az) and Private Company (Boston, MA), 2009-2011
Title: Auto-BioFeedback and Health Monitoring System for People with Minor Cognitive
Role: Principal Investigator
Percentage of Effort: 10%
Total Budget: $100K, Subaward budget: $50,494

NIH STTR 1R41AG032748-01, collaboration with a private company (Boston, MA) 04/01/2009 – 12/15/2010,
Title: Portable Device for Telecare Monitoring of Elderly People,
Role: Principal Investigator,
Percentage of Effort: 12%

Total Budget: $100k, Subaward budget: $50,294

INTERNATIONAL

QNRF (Qatar National Fund Research Fund), collaboration with Hamad Medical Co (Doha-Qatar) 02/01/10-01/31/13
NPRP 08-499-3-109
Title: Body Worn Sensor technology for improving diabetic care during activity of daily living.
Role: Principal Investigator
Percentage of Effort: 17%
Total Budget: $1,048,753
Subaward budget: $215,921

INDUSTRY

Podimetrics LLC (Private Company), 2012 - 2013
Title: Smart Thermometric Mat for Imaging Diabetic Feet – Phase I
Role: Principal Investigator
Percentage of Effort: 3%
Budget: $29,852

Sigvaris LLC (Private company), collaboration with Madigan Army Hospital, 2011-2012
Title: Control of Lower Extremity Edema in Patients with Diabetes using a Diabetic Sock that Offers Mild Compression: A Pilot Study
Role: Key Investigator;
Percentage of Effort: 1%
Total Budget: $111,462

WaveRX (Private industry), collaboration with Broadlawns Medical Center (Des Moines-Iowa), VA North Chicago, and WaveRx (Boston, MA), 08/15/2010 – 08/15/2011
Title: A double-Blinded, Randomized, Controlled Evaluation of Foot Stimulation in treatment of loss of protective sensation
Role: Key Investigator
Percentage of Effort: 5%
$104,215

FOUNDATION

Alzheimer's Research and Prevention Foundation – collaboration with Arizona Center on Aging – 09/01/2013- 08/31/2014
Title: Promoting combination of exercise and meditation to prevent falls in older adults: Pilot study.
Role: Principal Investigator
Percentage of Effort: 1%
Total Budget: $21,000

American Podiatric Medical Association, 2008-2012
Title: A Randomized Controlled Trial of Custom Foot Orthoses for the Treatment of Plantar Heel Pain
Role: Co-investigator
Percentage of Effort: 3%
Total Budget: $271,513

APMSA: (American podiatric Medical Students' association), **Najafi (Mentor)**
Title: Novel Objective Outcomes for Assessing Mobility in Hallux Valgus Patients.
Role: Mentor
Total Budget: $1k

APMSA: (American podiatric Medical Students' association), **Najafi (Mentor)**
Title: The Effect of Motor Learning and Spaced Training on Improving Balance Control in Diabetic Peripheral Neuropathy Patients.
Role: Mentor
Total Budget: $1k

APMSA: (American podiatric Medical Students' association), **Najafi (Mentor)**
Title: Exploring the Impact of High Heel Shoes on Spatio-Temporal Parameters of Gait During Both Gait Initiation and Gait Steady State.
Role: Mentor
Total Budget: $1k

APMSA: (American podiatric Medical Students' association), **Najafi (PI)** 09/01/09-08/30/10
The impact of neuropathy and history of foot ulcer on gait strategy: Gait Initiation, Walking, Distance, and Walking surface in diabetic patients

Awarded grants Prior Tenure Track Appointment

- Co-Investigator (**Swiss Fund National: SFN**), 07/01/2003 – 07/01/2006 Relationship between Fear of Falling and Gait Balance Performance in Elderly persons (PI: C. Bula).
- Co-Investigator (**HOSR grant: CHUV-Switzerland**), 10/01/2004–10/01/2005. Evaluation of knee laxity in daily conditions using body fixed sensors (PI: B. Jolles).
- Co-Investigator (**ProFANE**: European project including 25 partners) – My contribution from 3/01/2003 - 10/01/2006 Prevention of Falls in elderly people (PI: C. Todd), >5 million Euro
- Co-Investigator (**Liaison: 6th Framework program of European project**): my contribution from 10/01/2005-10/01/2006. Pedestrian navigation based on MEMS sensors (PI: Alcatel co.), >5 million Euro

Postdoctoral Trainees from Last Five Years

Past / Current Trainee	Trainee Name (Where Training Occurred)	Postdoc Research Training Period	Prior Academic Degree(s)	Prior Academic Degree Year(s)	Prior Academic Degree Institution(s)	Title of Research Project	Current Position of Past Trainees / Source of Support of Current Trainees
Past	Manish Bharara	2008-2009	PhD	2007	Bournemouth University, UK	Smart insole to prevent diabetic foot ulcer	Assistant Professor, University of Arizona
Past	Sai Yalla	2009-2012	PhD	2009	University of Louisville, KY	Fall prevention in patients suffering from diabetes	Assistant Professor, Rosalind Franklin University of Med & Sci, North Chicago
Past	Gurtej Grewal	2009-2012	PhD	2007	Bournemouth University, UK	SmartSox and its application of diabetic foot ulcer prevention	Research Associate, University of Arizona
Current	Michael Schwenck	2012-Present	PhD	2011	Bethanien-Hospital, Heidelberg, Germany	ExerGaming and its application for fall prevention in patients with cognitive disorder, cancer patients, dementia, and older adults	UA, iCAMP
Current	Nima Toosizadeh	2013-Present	PhD	2013	Virginia Tech.	Upper extremity frailty meter	UA, iCAMP
Current	Saman Toosizadeh	2013-Present	PhD	2011	Azad University, Iran	Wearable technology for stress management	UA, iCAMP
Current	Javad Razjouyan	2014-Present	PhD	2013	Amirkabir University of Technology, Iran	Wearable technology for prevention of falls in hospitalized patients	UA, iCAMP
Current	David Garcia	2014-Present	PhD	2013	University of Pittsburgh	Physical activity and weight management for reduction of cancer risk	UA, iCAMP

List of Collaborators on Grants and Publications from Last Five Years

National Collaborators

- University of Michigan, USA, *Prof. James Wrobel*
- Rush University – Chicago, USA, *Prof John Burns*
- Rehabilitation Institute of Chicago, USA, *Prof. Norman Harden*
- Arizona center on Aging, Arizona, USA: *Dr. J. Mohler Prof. M. Fain, Prof. Janko Nikolich, MD, PhD, Dr. Anne M. Wertheimer*.
- Southern Arizona Limb Salvage Alliance, Arizona, USA: *Prof. D.G. Armstrong, Dr. M. Bharara, Dr Nick Giovinco, Prof Mills*.
- UA Department of Neurology: *Dr. Hong Lei, Dr. Sherman Scott*
- UA Center on Integrative Medicine, *Dr. E. Sternberg*
- UA Cancer Center, *Dr. Linda Garland*
- Northwestern University, Bio-Inspired Sensors and Optoelectronics Lab, *Prof Hooman Mohseni*.
- Northeastern University, Dep. of Physical Therapy (Boston, USA), *Prof. Prudence Plummer-D'Amato*
- Northeastern University, Dep. of Mechanical and Industrial Eng. (Boston, USA), *Prof. Ashkan Vaziri*
- Amputation Prevention Center at Broadlawns Medical Center, Des Moines, IA, USA: *Dr L.C. Rogers*
- Texas A&M University College of Medicine, University Medical Center , *Prof Lawrence A. Lavery*.
- Harvard University, NeuroMotor Control Lab: *Prof. Maurice A. Smith*
- University of Illinois at Chicago, Department of Kinesiology and Nutrition, *Prof. Mary Lou Bareither*
- Weil Foot & Ankle Institute, *Dr Lowell Scott Weil*
- Rosalind Franklin University, *Dr S. Wu, Dr A. Fleischer, Mr R. Crews, Dr S. Yalla, Dr. Horsley, Dr. B. Jarrett*
- UT Southwestern*, Dr Larry Lavery*
- University of Illinois at Chicago (UIC), Prof. Mary Lou Bareither

International Collaborators

- Paediatric & Child Health, Children's Hospital, Westmead and the University of Sydney, Australia, *Prof. Joshua Burns*.
- Hamad Medical Co, Podiatry Section (Doha-Qatar), *Drs Talal k. Talal and Robert A. Menzies*.
- Center for Human Movement Sciences, Groningen, Netherlands: *Prof. W. Zijlstra*
- Geriatric Rehabilitation Center CHUV-Lausanne-Switzerland: *F. Loew, C. Bula,*
- University of Lausanne, Lausanne, Switzerland*, Prof. Ch. Piot-Ziegler*

- University Hospital of Geneva, Geneva, Switzerland, *Prof. F. Loew, Dr Y. Blanc*
- Swiss Federal Institute of Technology- Switzerland: *Prof. Kamiar Aminian, Prof. Phillip Robert, Dr. Julian Favre, Dr. A. Paraschiv-Ionescu, Prof. Eling de-Burin, Dr. H. Dejnabadi, Dr. B. Coley*.
- Hospital of Morges, Switzerland: *E. Buchser, A. Durrer, B. Depierraz*
- Hospital orthopedic of Lausanne-Switzerland: *Prof. P.-Leyvraz, Prof. C. Jolles, Dr. O Siegrist, Dr. P.-Y. Jeannet, Dr. C. Bloetzer, Dr. F. Luthi, Dr. O. Siegrist*.
- Hospital of Geriatric and Rehabilitation –Bosch –Stuttgart-Germany: *Dr. U. Lindemann, Prof. C. Becker, Dr. K Hauer*.
- Saint-Etienne University Hospitals, Saint-Etienne, France: Prof. *O. Beauchet, Dr. V. Dubost*
- St-Olav University Hospitals, Trondheim, Norway: *Dr. J. Helbostad.*
- University of Bergen, Bergen, Norway, *Prof. Rolf Moe-Nilssen*.

Co-authors Network (Source BioMedExperts.com)