

Committee on Energy and Commerce
U.S. House of Representatives
Witness Disclosure Requirement - "Truth in Testimony"
Required by House Rule XI, Clause 2(g)(5)

1. Your Name: Afsaneh Rabiei		
2. Your Title: Professor		
3. The Entity(ies) You are Representing: _____		
4. Are you testifying on behalf of the Federal, or a State or local government entity?	Yes	No X
5. Please list any Federal grants or contracts, or contracts or payments originating with a foreign government, that you or the entity(ies) you represent have received on or after January 1, 2015. Only grants, contracts, or payments related to the subject matter of the hearing must be listed. None		
6. Please attach your curriculum vitae to your completed disclosure form.		

Signature: _____ Afsaneh Rabiei



Date: 3/14/17



Afsaneh Rabiei, PhD
Professor of Mechanical & Aerospace Engineering,
North Carolina State University

<http://people.engr.ncsu.edu/arabiei/>

- Research focus on manufacturing, characterization and failure analysis of advanced materials with unique research on porous metals, composite metal foams and smart coatings for various applications such as nuclear, biomedical (dental and orthopedic), aeronautical, trains, cars and other structures.
- Established an extensive collaboration with other universities, companies, National Laboratories, and NASA.

EDUCATION:

- 1997- 2000, Post Doctorate Research, Harvard School of Engineering and Applied Sciences, 1994- 1997 Ph. D. Interdisciplinary Course of Advanced Science and Technology, The University of Tokyo, Japan,
- 1986, B. S. on Materials Science and Engineering, Sharif University of Technology, Tehran, Iran,

PROFESSIONAL EXPERIENCE:

- Professor, Department of Mechanical and Aerospace Eng. (MAE), North Carolina State University (NCSU), Aug. 20013 - now
- Associate Professor, Department of Mechanical and Aerospace Eng. (MAE), North Carolina State University (NCSU), Aug. 2007 - 2013
- Assistant Professor, Department of Mechanical and Aerospace Eng., NCSU (Aug. 2000 – 2007)
- Associate Faculty, BioMedical Eng. Department, North Carolina State University, (April 2003- now)
- Visiting Professor, Department of Mechanical, Industrial and Manufacturing Engineering, North Eastern University (Jan.2002 – July 2002)
- Research Associate, Department of Engineering and Applied Sciences, Harvard University, Cambridge, MA (1997 – 2000)

- 8 years of industrial experience in various industries in materials research, design and manufacturing (1986-1994) with 4 years of that as an engineering manager supervising a team of engineers in charge for welding and non-destructive testing of boilers and pressure vessels for a large company in Iran

SCHOLARLY and PROFESSIONAL HONORS:

- NCSU- COE and MAE nomination for 2015 University faculty scholar award
- NCSU Chancellor's Innovation Award, 2012
- 2013 Chair of the Organizing Committee of 8th International Conference on Porous Metals and Metallic Foams,
- Spring 2012 Senior Fellow of Brain Mapping Foundation, Society for Brain Mapping & Therapeutics (SBMT).
- Recipient of thanks a teacher of 2011-2012 office of faculty development
- Spring 2011, Rabiei invention was aired nationwide on Science Channel TV
- Spring 2010, Rabiei's research on metal foams was highlighted in Science Nation followed by many journals and News articles worldwide such as US News &world Report, World News, America.gov, ASME, ASM....
- Spring 2010, Rabiei's research on smart coating was featured in NBC17, Dental Tribune, Science Daily, Science Blog and many journals and News articles worldwide
- Fall 2008, Rabiei's research was highlighted by NSF in NSF-Discovery page followed by featuring in Live Science, Yahoo news and hundreds of technical journals and online News and articles and Blogs
- NSF-CAREER award 2003 on "Processing and Development of a New Ultra-Light High-strength Material" which lead to multiple inventions on composite metal foams.
- 1995- Excellent Poster Award, international symposia on advanced materials and technology for 21st century, in cooperation with TMS, cosponsored by ASM, KIM, ISIJ and MMIJ, Hawaii 1995.
- 1944- Japanese Ministry of Higher Education Scholarship (MONBUSHO) funded for the whole period of Ph.D. program from 1994 to 1997.
- 1991- Excellent Paper Award, First Welding Engineering Seminar, Arak, Iran.
- 1991- Distinguished Engineer Award in AZARAB Industries corporation, Tehran, Iran.

Publications and patents:

- She has authored and edited a total of 6 books and one book chapter plus near 100 journal and proceeding papers, booklets and patents and has 7 issued patents. For a complete list of her publications, please visit her website with the address at the top of this bio sketch.
- Rabiei is the founder of two spun off companies from NCSU, one is focused on coating for biomedical devices and the other one is on manufacturing of materials such as composite metal foams.
- Patents on composite metal foams, their preparations and applications: This revolutionary light weight material with high energy absorption can offer variety of applications such as automotive, airplanes, helicopters and trains crush protection members as well as army vehicles and body armors.
 - US Patent No. 7,641,984: Composite Metal Foam and Methods of Preparation Thereof, Issued January 5, 2010
 - US Patent No. 8,105,696: Composite Metal Foam and Methods of Preparation Thereof, Issued January 31, 2012
 - US Patent No. 8,110,143: Composite Metal Foam and Methods of Preparation Thereof, Issued February 7, 2012
 - US Patent No. US 9,208,912 : Composite Metal Foam and Methods of Preparation Thereof, Issued December 2015
 - US Patent Application No. 20120196147, 20120132387, 20140091241: Composite Metal Foam and Methods of Preparation Thereof, pending

Patents on Smart Coatings, their preparations and applications: The smart coating patent applications will have a great impact on the biomedical implant industry for their fast relief of the patient who is receiving both metallic and/ or polymeric implants as well as longer life-time of the implant itself. It is targeting the implants for younger patients who are receiving implants and are expected to have longer life-time and more active and life style.

- US patent 8,535,722 “Functionally graded biocompatible coating and coated implants” issued 09/17/2013 Inventor(s): RABIEI A
- US patent 8,491,936 “Functionally graded biocompatible coating and coated implant” issued 07/23/2013 Inventor(s): RABIEI A, JJ Cuomo and BC Thomas

- US patent 8,323,722 “Processing of biocompatible coating on polymeric implants” issued 12/04/2012 Inventor(s): RABIEI A

External Services:

- Rabiei gained the leadership on organizing and leading many International Conferences such as “Metfoam 2013, 2015 and 2017”, and “Cellmat 2014 and 2016” conferences. She has served as session chair and session organizer in several other conferences such as Society for Brain Mapping and Therapeutics 2017.
- She is a member of Editorial Board of Spine Arthroplasty Surgery and guest editor on a number of scientific journals such as Metals.
- Organizer of a workshop between Japan National Institute of Materials Science NIMS and NCSU 2008
- Organizer Of NSF Career Proposal Writing Workshop, Nov. 2004, Anaheim, CA
- Honorary Invited Speaker: American Public Transportation Associate (APTA) annual meeting in June 2012, IDGA summit 2010, Mechanical Engineering Dep. at MSU April 2009, Local Chapter of ASM in Illinois, Feb 2006,
- Panel Review For NSF, CMS 2001 twice, DMII 2002, DMII 2004 and DMII 2010, NEUP 2015.
- Journal Reviewer for Journal of Materials Science and Engineering A (multiple cases), surface and coating technology (multiple cases), Metallurgical and Materials Trans. (multiple cases), Journal of Applied Surface Science (multiple cases), Journal of Biomedical Materials Research-A (multiple cases), Journal of Biomedical Materials Research- B (multiple cases), Acta Biomaterialia (multiple cases), Journal of Metals (multiple cases), Journal of materials research (multiple cases), International journal of modern physics-B, Journal of Advanced Materials CVD, Journal of manufacturing science and technology, Applied Surface Sciences, ASME- Advances in Materials Science, ASME – Journal of Manufacturing Science, International Journal of Thermal Science, International Journal of Mechanical Sciences, Advances in Materials Science and Engineering, Journal of Orthopedic Research,
- Proposal Reviewer For: NSF-INT program 2003, NSF- OISE – Americas Program 2006, US Civilian R & D Foundation Science Center Program in 2000 and 2003, Department of Energy (DOE) 2006, NSF-DMR 2008, NSF-CMMI 2008, NSF-MPM 2009, Portuguese Foundation for Science and Technology 2012, DOE-NEUP 2013, 2015, 2016

- Reviewer For Conference Proceedings: Materials Research Society annual meeting proceedings, 1999 and 2004 total of four times, International Congress on Manufacturing Engineering 2005, Metfoam 2007, Metfoam2013, Metfoam 2015
- Session Chair, TMS annual meeting, Nano-materials for Biomedical applications 2004, Second JSME/ASME International conference on Materials and processing 2005, TMS_MS&T International conference on Next Generation Biomaterials 2005, Metfoam 2007, 2011 and 2013, international conference on Porous media and its application in science, engineering and industry, Germany 2012, Metfoam 2013, Metfoam 2015