

**CURRICULUM VITAE UNIVERSITY FORMAT**

Updated on: 8/2/17

**NAME:** Federico Sesti

**PRESENT TITLE:** Professor with tenure

**HOME ADDRESS:** [REDACTED]

**OFFICE ADDRESS:** [REDACTED]

**TELEPHONE NUMBER/E-MAIL ADDRESS:** [REDACTED]

**CITIZENSHIP:** [REDACTED]

**EDUCATION:**

**A. Undergraduate Graduate and Professional**

University of Genova

Genova, Italy

M.sc. (*Laurea*) in Physics      December 1989

**B. Graduate and Professional**

University of Genova

Genova, Italy

Ph.D. in Physics      December 1994

**POSTGRADUATE TRAINING:**

**C. Postdoctoral Appointments**

Forshungzentrum, Juelich Germany

Biology

1/1995-6/1997

Yale University School of Medicine, New Haven CT

Biology

7/1997-5/1999

**ACADEMIC APPOINTMENTS:**

Pediatrics  
Yale University Medical School  
Associate research scientist (non-tenure track faculty position)  
6/2009-8/2001

Physiology and Biophysics  
UMDNJ RWJMS  
Assistant professor  
9/2001-7/2007

Physiology and Biophysics  
UMDNJ RWJMS  
Associate professor with tenure  
7/2007-7/2013

Neuroscience and Cell Biology  
Rutgers University RWJMS  
Associate professor with tenure  
8/2013-7/2017

Neuroscience and Cell Biology  
Rutgers University RWJMS  
Professor  
7/2017-present

#### **MEMBERSHIPS, OFFICES AND COMMITTEE ASSIGNMENTS IN PROFESSIONAL SOCIETIES**

Biophysical Society  
Regular member  
1993-present

Society for Neuroscience  
Regular member  
2010-present

Fulbright Association  
Regular member

2015

**HONORS AND AWARDS:**

Academic and Professional Excellence Award  
Fulbright  
11/2014-3/2015

Nominated for "The Award for Education in Neuroscience"  
Society for Neurosciences  
2016

Predocctoral Research Fellow  
Ansaldo Trasporti, Italy  
1990-91

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

A. International

1. Alzheimer's Society UK (ad hoc, 2014)
2. Israel Science Foundation (ad hoc, 2014)
3. Telethon (ad hoc, 2013-14)
4. Nijmegen Centre for Molecular Life Sciences – The Netherlands (ad hoc, 2013)
5. Biotechnology and Biological Sciences Research Councils – UK (ad hoc 2010-present)
6. Medical Research Council – UK (ad hoc, 2008, 2017)
7. United States-Israel binational Science Foundation (ad hoc, 2005-07)
8. Austrian Science Fund (ad hoc, 2003)

B. National

1. American Heart Association  
2015-present Electrophysiology and Cardiac Arrhythmia study section  
2012 Electrophysiology and Cardiac Arrhythmia study section.  
2004-09 Electrophysiology and Cardiac Arrhythmia study section.
2. National Science Foundation  
2016-present, Review panel of the IOS Neural Systems Cluster.  
2004-12, ad hoc.

3. National Institutes of Health  
2016-present Pathogenic Eukaryotes Study Section [PTHE].  
2008, 2015, ad hoc Neurotransporters, Receptors, Channels and Calcium Signaling [NTRC] Study Section.
4. Fulbright  
Commission Student Program (2016-present)
5. Alzheimer's Association (ad hoc, 2010-13)

#### F. Editorial Boards

1. Central Nervous System Agents in Medicinal Chemistry, 2017-present.
2. Current Updates in Aging, 2016-present.
3. Journal of Neuroscience and Neuropsychology, 2016-present.
4. World Journal of Biological Chemistry, 2013-present.
5. International Scholarly Research Notices, (Biophysics), 2013-present.
6. Edorium Journal of Physiology, 2012-present.
7. Journal of Pharmacology and Experimental Therapeutics, Editorial Advisory Board, 2006-present.

#### G. *Ad hoc* Reviewer

1. Alzheimer's & Dementia
2. AJP- Heart and Circulatory Physiology
3. Antioxidants and Redox Signaling
4. Biophysical Journal
5. Biochemical Pharmacology
6. Biochemistry
7. BMC Neuroscience
8. Brain Research
9. Cell Biochemistry and Biophysics
10. Circulation
11. Critical Reviews in Biochemistry and Molecular Biology
12. EMBO Journal
13. FEBS Letters
14. FASEB Journal
15. Frontiers in Epigenomics and Epigenetics
16. Heart Rhythm

17. Journal of Neuroscience
18. Journal of Neurochemistry
19. Journal of Biological Chemistry
20. Journal of Pharmacology and Experimental Therapeutics
21. Journal of Physiology
22. Journal of Molecular and Cellular Cardiology
23. JoVE
24. Journal of Biochemical Nanotechnology
25. Journal of Vascular Research
26. Molecular and Cellular Neuroscience
27. Molecular Pharmacology
28. Nanoscale Research Letters
29. Neurobiology of Disease
30. Neurochemical Research
31. Neuroscience Letters
32. Oncotarget
33. Pharmacology and Toxicology
34. Proceedings of the National Academy of Sciences (PNAS)
35. PlosGenetics
36. PlosBiology
37. PlosOne
38. Scientific Reports
39. The International Journal of Biochemistry & Cell Biology
40. Translational Stroke Research
41. Trends in Neuroscience

#### **SERVICE ON GRADUATE SCHOOL COMMITTEES:**

Aresty Faculty Review Board (2016-present)  
Qualifying Exam Committee, Molecular Bioscience Program (2013-14)  
Research Committee (2011-2012)  
Standing Advisory Committee (2008-12)  
Committee of Review (2008-12)  
Basic Sciences Operational Compliance Committee (2007-8)

#### **SPONSORSHIP OF SCHOLARLY FACULTIES**

Prof. Latha Raienda Kumar (2011)

#### **SPONSORSHIP OF CANDIDATES FOR POSTGRADUATE DEGREE:**

Xilong Wu (2010-13)  
Yi Wang (10/2003-9/2007)

**SPONSORSHIP OF POSTDOCTORAL FELLOWS:**

Dr. Surindo Asem Sigh (5/1/2016-4/30/2017)  
Dr. Zhibing Duan (9/2011-6/2015)  
Dr. Berenice Edith Hernandez-Enriquez (1/2011-13)  
Dr. Diego Cotella (6/2010-11)  
Dr. Ruiqing Li (9/2009-9/2010)  
Dr. Shiqing Cai (5/2004-12/2009)  
Dr. Leonardo Hernandez (6/2004-6/2006)  
Dr. Ki Ho Park (3/2003-5/2207)  
Dr. Chetna Sharon (1/2002-1/2003)

**Other mentoring**

**i) Master/Undergraduate students**

Michael Munafò 2017-present  
Rahul Patel (2015-17)  
Kedar Venkataramani (2015-17)  
Sindhu Sriramoji (2016-17)  
Randika Parakramaweera (2015-16)  
Marena Marucci (2015-16)  
Kosh Patel (2016)  
Sankeerth Kondapalli (2016)  
Nick Scurato (2016)  
Dhara Patel (2014-2015)  
Remi Royal (2012-13)  
Maria Riego (2013-14)  
Aksha Parray (2014-15)  
Joseph Ifrach (2014-15)  
Aileen Baffo (2014)  
Dorian Manbelli (2013)  
Srinidhi Nidhi (2012)  
Zerina Elezovic (2012)  
Layasri Sunkavalli (2012)  
Robin Xu (2011-12)  
Przemyslaw Swiatkowski (2011-13)

## **ii) Summer students**

Kevin Velasco (REU student) summer 2017  
Eric Zhou summer 2016  
Michelle Banas (RISE student) summer 2012  
Joseph Leveille (RISE student) summer 2011  
Eduardo Sanabria (RISE student) summer 2010  
Daliris Ramirez Burgos (RISE student) summer 2007  
Rebecca Baerga (RISE student) summer 2002

## **iii) thesis committee member**

Liping Lou (2015)  
Przemyslaw Swiatkowski (2015)  
Jeff Overton (2015)  
Meghan McCord (Pittsburg University, 2014)  
Ilker Domez (2003)  
Li-ting Su (2004)  
Wojtek Tutak (2010)  
Edmund Lee (2010)

## **TEACHING RESPONSIBILITIES (past/present):**

### **a) Undergraduate/Graduate**

**Biomedical aspects of aging** (2015-present). Course Director. Approx. 10 master/graduate students.

**Neuronal Injury and Repair** (2017-present). Guest lecturer

**Fundamentals of Molecular Biosciences** (2013). Guest lecturer

**Experimental Methods in Molecular Biosciences** (2013). Guest lecturer.

**Physiological basis for disease** (2007-15). Lecturer. Approx. 90 premedical, master/graduate students.

**Molecular Basis of Physiology** (2005-2012). Lecturer. Approx. 10 master/graduate students.

**Nano- and Micro-engineered Biointerfaces** (2005-2007). Guest lecturer. Approx. 50 undergraduate/graduate students.

**Biological Applications of Nanomaterials** (2005-2007). Guest lecturer. Approx. 50 undergraduate/graduate students.

**Topics in Molecular and Cell Biology** (2003-2004). Small group facilitator. Approx. 20 graduate students.

**The role of membrane proteins in drug disposition.** (2003) Guest lecturer. Approx. 20 graduate students.

b) Graduate—Medical students

**Histology Laboratory** (2012-present). Laboratory facilitator. Approx. 20-30 medical students

**Body in Motion** (2010). Lecturer. Approx. 150 medical students.

**Human Physiology** (2004-2009. Course vice-director year 2008-09). Lecturer and small groups facilitator. Approx. 130 medical students, 50 physician assistants and 5 graduate students/year.

#### **GRANT SUPPORT:**

##### Active

1664661 Innovation Team Corps (I-Corps) (PI:Sesti) 01/01/17-06-30-18

1.2 calendar

National Science Foundation \$50,000

*“A C. elegans model using human genes for high-throughput screening for cytoskeletal disturbances and for exploration of new drug indications”*

The purpose of the I-Corps grant is to give the project team (PI, Entrepreneur Leader and Industry Mentor) access to resources to move technology developed in the lab into commercialization. The Office of Research Commercialization of the University is filing a provisional patent of the invention developed in the lab.

1 R21 NS096619-01 (PI: Sesti) 04/01/2016-18

1.2 calendar

National Institutes of Health \$432,846

*“Oxidative modification of K<sup>+</sup> channels as a mechanism of toxicity in TBI”*



1456675 (PI: Sesti)	06/01/15-05/31/18
1.2 calendar	
National Science Foundation	\$750,000
<i>"Oxidation of KCNB1 channels in aging CNS"</i>	
<u>Completed</u>	
1026958 (PI: Sesti)	09/01/2010-08/31/2015
1.2 calendar	
National Science Foundation	\$620,877
<i>"Potassium channels are targets of ROS"</i>	
Scholar Academic and Professional Excellence Award (PI:Sesti)	11/01/2014-03/31/2015
Fulbright	\$50,000
The PI spent 5 months at the National Centre for Biological Sciences, Bangalore, India to carry out research and teaching.	
09GRNT2250529 (PI: Sesti)	7/01/2009 – 6/30/2012
1.8 calendar	
American Heart Association	\$198,000
<i>"The nematode Caenorhabditis elegans as a pharmacological tool"</i>	
0842708 (PI: Sesti)	8/01/2009-07/31/2012
1.2 calendar	
National Science Foundation	\$570,842
<i>"A learning susceptibility K<sup>+</sup> channel gene in C. elegans"</i>	
5 R01 GM 068581-04 (PI: Sesti)	7/1/2003 – 6/30/2009
4.20 calendar	
NIH/NIGMS	\$1,499,500
<i>"Role of KVS and MPS Subunits in Basic Neuronal Function"</i>	
0235470T (PI: Sesti)	7/01/2002 – 6/30/2005
1.8 calendar	
American Heart Association	\$260,000
<i>"The Structure and function of the MinK Related Peptide 1 (MiRP1) and Its Role in Determining Cardiovascular Excitability"</i>	
GT12-03 (PI: Sesti)	6/03/2002-5/02/2003
2 calendar	
UMDNJ Foundation	\$35,000 direct costs

*"Physiological Characterization of I<sub>K</sub> Potassium Channels"*

**PUBLICATIONS:**

A. Referred Original Articles in Journals

1. Yu W., M. Gowda, Y. Sharad, S.A. Singh, **F. Sesti** (2017) "Oxidation of KCNB1 Potassium Channels Triggers Apoptotic Integrin Signaling in the Brain". *Cell Death Dis.* **8** e2737, doi:10.1038/cddis.2017.160.
2. Yu W., R. Parakrama, S. Teng, M. Gowda, Y. Sharad, S. Thakker-Varia, J. Alder, **F. Sesti** (2016) "Oxidation of KCNB1 Potassium Channels Causes Neurotoxicity and Cognitive Impairment in a Mouse Model of Traumatic Brain Injury". *J. Neurosci.* **36**(43):11084–11096. Study was featured in the Journal of Neuroscience Highlights.
3. Duan Z. and **F. Sesti** (2015). "Guanine Nucleotide Exchange Factor OSG-1 Confers Functional Aging via Dysregulated Rho Signaling in *Caenorhabditis elegans* Neurons." *Genetics* **199**(2):487-96.
4. Iakoubov L., M. Mossakowska, M. Szwed, Z. Duan, **F. Sesti**, M. Puzianowska-Kuznicka. (2013) "A Common Copy Number Variation (CNV) Polymorphism in the CNTNAP4 Gene: Association with Aging in Females" *PLoS ONE* **8**(11): e79790. doi:10.1371/journal.pone.0079790.
5. Duan Z. and **F. Sesti** (2013). A *Caenorhabditis elegans* model system for amylopathy study. *JoVE*, (75). doi: 10.3791/50435.
6. Swiatkowski P. and **F. Sesti** (2013) "Delayed pharyngeal repolarization promotes abnormal calcium buildup in aging muscle" *Biochem. Biophys. Res. Commun.* **433**(3): 354-357.
7. Wu X., B. Hernandez-Enriquez , M. Banas , R. Xu, **F. Sesti** (2013) "Molecular Mechanisms Underlying the Apoptotic Effect of KCNB1 Oxidation" *J. Biol. Chem.* **288**(6):4128-34.
8. Cotella D., B. Hernandez-Enriquez, Z. Duan, X. Wu, V.R. Gazula, M.R. Brown, L.K. Kaczmarek and **F. Sesti** (2013). "An evolutionarily conserved mode of modulation of *Shaw*-like K<sup>+</sup> channels". *FASEB J*, **27**(4):271381-93.
9. Cotella D., B. Hernandez, X. Wu, R. Li, Z. Pan, J. Leveille, C.D. Link, S. Oddo, and **F. Sesti** (2012). Toxic role of K<sup>+</sup> channel oxidation in mammalian brain. *J. Neurosci.*, **32**(12):4133-44.
10. Tutak W., M. Chhowalla, **F. Sesti** (2010). The chemical and physical characteristics of single-walled carbon nanotube film impact on osteoblastic cell response. *Nanotechnology*, **21** (2010) 315102. Study was featured in: nanotechweb.org. (<http://nanotechweb.org/cws/article/lab/43456>).
11. Tutak W., K.H. Park, G. Fanchini, A. Vasilov, N. Partridge, **F. Sesti**, M. Chhowalla (2009). Toxicity induced enhanced extracellular matrix production in osteoblastic cells cultured on single walled carbon nanotube networks. *Nanotechnology*, **20** (2009) 255101.

12. Cai S., Y. Wang, K.H. Park, X. Tong, Z. Pan, **F. Sesti** (2009). Auto-phosphorylation of a voltage-gated K<sup>+</sup> channel controls non-associative learning. *EMBO J.* 28(11):1601-10.
13. Cai S. and **F. Sesti** (2009). Oxidation of a potassium channel causes progressive sensory function loss during aging. *Nature Neurosci.*, 12(5):611-7. Study was featured in: Science Signaling, Vol. 2, Issue 69, p. ec152; C&E News (April 13, 2009 Issue); The medical news (<http://www.news-medical.net/>); Home News Tribune; Faculty of 1000 (biology).
14. Wang Y. and **F. Sesti** (2007) "The molecular mechanisms underlying KVS-1-MPS-1 complex formation" *Biophys. J.* 93(9):3083-91.
15. Park K.H. and **F. Sesti** (2007). "An arrhythmia susceptibility gene in *Caenorhabditis elegans*" *J. Biol. Chem.* 282(27):19799-807.
16. Cai S. and **F. Sesti** (2007). "A new mode of regulation of N-type inactivation in a *Caenorhabditis elegans* voltage-gated potassium channel" *J. Biol. Chem.* 282(25):18597-601.
17. Hernandez L., K.H. Park, S. Cai, L. Qin, N. Partridge, **F. Sesti** (2007) "The antiproliferative role of ERG K<sup>+</sup> channels in rat osteoblastic cells". *Cell Biochem. Biophys.* 47(1):199-208.
18. Chhowalla M., H.E. Unalan, Y. Wang, Z. Iqbal, K.H. Park and **F. Sesti** (2005) "Irreversible blocking of ion channels using functionalized single-walled carbon nanotubes" *Nanotechnology* 16:2982-6.
19. Cai S., L. Hernandez, Y. Wang, K.H. Park, **F. Sesti** (2005) "MPS-1 is a K<sup>+</sup> channel  $\beta$ -subunit and a serine/threonine kinase" *Nature Neurosci.* 8(11):1503-9. Study was featured in: C&E News (March 3, 2008 issue).
20. Park K.H., S. Cai, L. Hernandez, Y. Wang, **F. Sesti**. (2005) "A family of K<sup>+</sup> channel ancillary subunits regulate taste sensitivity in *C. elegans*". *J. Biol. Chem.* 280(23):21893-9.
21. Park K.H., S.M. Kwok, C. Sharon, R. Baerga, **F. Sesti** (2003) "N-glycosylation-dependent block is a novel mechanism for drug-induced cardiac arrhythmia." *FASEB J.* 15:2308-9.
22. Park K.H., M. Chhowalla, Z. Iqbal, **F. Sesti** (2003) "Single-walled carbon nanotubes: A new class of ion-channel blockers." *J. Biol. Chem.* Dec 12;278(50):50212-6.
23. Bianchi L., S.M. Kwok, M. Driscoll, **F. Sesti** (2003) "A potassium channel-MiRP complex controls chemosensation in *C. elegans*." *J. Biol. Chem.* 278(14): 12415-24.
24. **Sesti F.**, S. Rajan, R. Gonzalez-Colaso, N. Nikolaeva, and S. A. N. Goldstein. (2003) "Hyperpolarization moves S4 sensors inward to open MVP, a methanococcal voltage-gated potassium channel" *Nature Neurosci.* 6(4): 353-361.
25. Chen, H., **F. Sesti**. S. A. N. Goldstein (2003) "Pore and state-dependent cadmium block of I<sub>Ks</sub> channels formed with MinK-55C and wild type KCNQ1 subunits." *Biophys. J.* 84(6); 3679-3689.
26. **Sesti F.**, T. Shih, N. Nikolaeva, S.A.N. Goldstein (2001). "Immunity to K1 killer toxin: internal TOK1 blockade." *Cell*, 105, 637-44. Study was featured in: Science (Editor's choice vol 292 page 2401).

27. Sesti F., G.W. Abbott, K.T. Murray, S. Sakasena, P.J. Schwartz, S.G. Priori, D.M. Roden, A. George jr., S.A.N. Goldstein (2000) "A polymorphism associated with cardiac arrhythmia increases sensitivity to a common antibiotic" *Proc. Natl. Acad. Sci. USA*, 97(19), 10613-18.
28. Sesti F., K.K. Tai, S.A.N. Goldstein (2000). "MinK endows the  $I_{Ks}$  potassium channel pore with sensitivity to internal TEA", *Biophys. J.*, 79, 1369-78.
29. Ahmed A.\*, F. Sesti\*, N. Ilan, T. M. Shih, S. L. Sturley, S. A. N. Goldstein (1999). "A molecular target for viral killer toxin: TOK1 potassium channels", *Cell*, 99, 283-91. (\*co-first author) Cover article.
30. Abbot G.W.\*, F. Sesti\*, I. Splawsky\*, M.E. Buck, M. H. Lehmann, K. W. Timothy, M. T. Keating, S. A. N. Goldstein (1999). "MiRP1 forms  $I_{Kr}$  potassium channels with HERG and is associated with cardiac arrhythmia", *Cell*, 97, 175-187 (\*co-first author).
31. Boenigk W., J. Bradley, F. Muller, F. Sesti, I. Boekhoff, G.V. Ronnet, U.B. Kaupp, S. Frings (1999). "The native rat olfactory nucleotide-gated channel is composed of three subunits", *J. Neurosci*, 1999, 19, 5332-5347.
32. Sesti F. and S.A.N. Goldstein (1998). "Single-channel characteristics of wildtype  $I_{Ks}$  channels and channels formed with two MinK mutants that cause long QT syndrome", *J. Gen. Physiol.*, 112/6, 651-63. Cover article.
33. Mueller F., W. Boenigk, F. Sesti, S. Frings (1998). "Phosphorylation of mammalian olfactory cyclic nucleotide-gated channels increases ligand sensitivity", *J. Neurosci*, 1998, 18/1: 164-173.
34. Sesti F., M. Nizzari, V. Torre (1996). "The effect of changing the temperature on the ionic permeation through the cyclic-GMP gated channel from vertebrate photoreceptors", *Biophys. J.*, 70(6), 2616-2639.
35. Bucossi G., E. Eisman, F. Sesti, M. Nizzari, M. Seri, U.B. Kaupp, V. Torre (1996). "Time-dependent current decline in cyclic GMP-gated channels caused by point mutations in the pore region", *J. Physiol.*, 493.2, 409-418.
36. Sesti F., E. Eisman, U.B. Kaupp, M. Nizzari, V. Torre (1995). "The multi-ion nature of the cGMP-gated channel from vertebrate rods", *J. Physiol.*, 487.1, 17-36.
37. Körschen H.G., M. Illing, R. Seifert, F. Sesti, A. Williams, S. Gotzes, C. Colville, F. Müller, A. Dose, M. Godde, L. Molday, U.B. Kaupp, R. Molday (1995). "A 240 kDa protein represents the complete  $\beta$  subunit of the cyclic nucleotide-gated channel from rod photoreceptors", *Neuron*, 15, 627-636.
38. Sesti F., M. Straforini, T.D. Lamb, V. Torre (1994). "Gating, selectivity and blockage of single channels activated by cyclic GMP in retinal rods of the tiger salamander", *J. Physiol.*, 474, 203-222.
39. Nizzari M., F. Sesti, M.T. Giraudo, C. Virginio, A. Cattaneo, V. Torre (1993). "Single-channels properties of a cloned channel activated by cGMP", *Proc. R. Soc. Lond. B*, 254, 69-74.

40. Torre V., M. Straforini, **F. Sesti**, T.D. Lamb (1992). "Different channel-gating properties of two classes of cyclic GMP-activated channel in vertebrate photoreceptors", *Proc. R. Soc. Lond. B.*, 250, 209-215.

#### B. Books, Monographs and Chapters

41. Hernandez L., Park K.H., **F. Sesti** (2009) "*Electrophysiological recordings in C. elegans nervous and muscle tissue*". Book chapter Review. Recent Advances in the Neurophysiologic Basis of Disease and Addiction 2009: 203-214 ISBN: 978-81-308-0359-3
42. **Sesti F.** "Oxidation of Ion Channels in the Aging Process". Book chapter in "Aging: Exploring a Complex Phenomenon" edited by Shamin Ahmad. Taylor & Francis, Boca Raton, FL. *in press*

#### C. Patents Held

RU DOCKET #S2017-037

"A C. elegans model using human genes for high throughput screening for cytoskeletal disturbances and for exploration of new drug indications "

Inventors: **F. Sesti**, R. Patel, P. Swiatkowski (2017)

Pat # 09/550,163

"Mink-related genes, formation of potassium channels and association with cardiac arrhythmia"

Inventors: G.W. Abbott, S.A.N. Goldstein, M.T. Keating, **F. Sesti**, I. Splawski (2004).

#### D. Invited Reviews (peer reviewed)

43. **Sesti F.** (2016) "Oxidation of K<sup>+</sup> channels in aging and neurodegeneration" invited review *Aging and Disease*. 7(2):130-5.
44. Patel R. and **F. Sesti** (2016) "Oxidation of ion channels in the aging nervous system" invited review *Brain Res*. 1639:174-85
45. **Sesti F.**, X. Wu, S. Liu (2014). "Oxidation of KCNB1 K<sup>+</sup> channels in central nervous system and beyond" invited review *World J Biol Chem* 5(2): 85-92.
46. **Sesti F.**, S. Liu and S. Cai "Oxidation of K<sup>+</sup> channels by ROS: a general mechanism of aging and neurodegeneration?" (2010). invited review *Trends in Cell Biology*, 20(1):45-51
47. Cai S., W. Li, **F. Sesti** (2007) "Multiple modes of A-type Potassium current regulation" invited review *Current Pharmaceutical Design*. 13:3178-84.
48. Cai S., K.H. Park, **F. Sesti** (2006) "An evolutionarily conserved family of accessory subunits of K<sup>+</sup> channels". invited review *Cell Biochem. Biophys*. 46(1):91-100G.

49. Wang Y., K.H. Park, L. Hernandez, S. Cai, F. Sesti. (2004) "Biophysical and Biomedical Aspects of KCNE Potassium Channel Ancillary Subunits" *Recent Res. Dev. Biophys.* 3:351-62. ISBN: 81-7895-130-4.
50. Abbott G.W., S.A.N. Goldstein, F. Sesti (2001). "Do all voltage-gated potassium channels employ MiRPs?" Editorial *Circulation Res.* 88:981-983

#### INVITED TALKS-INTERNATIONAL

1. "Oxidation of K<sup>+</sup> channels in TBI and therapeutic potential of a FDA-approved drug", Neurocon (India), 2017
2. Chair session: "Ion channels therapeutics", FASEB Science Research Conference: Ion Channel Regulation 2015
3. "Oxidation of voltage gated potassium channels in the aging nervous system" National Centre for Biological Sciences (India), 2015
4. "Oxidation of potassium channels in aging and neurodegeneration" Neurocon (India), Rajshankar memorial lecture, 2015
5. "Early molecular events that follow Kv2.1 oxidation" Winter Conference on Brain Research, 2014
6. "Oxidation of potassium channels in *C. elegans* and mammalian nervous systems" Institute of Neuroscience, Chinese Academy of Sciences, Shanghai, 2013
7. "Ion channel oxidation in neurodegeneration" FASEB Science Research Conference: Ion Channel Regulation, 2013
8. "An arrhythmia susceptibility gene in *C. elegans*" Inaugural symposium of the Cardiovascular Institute of New Jersey, 2010
9. "MPS-1 is a  $\beta$ -subunit and a serine/threonine kinase" Symposium "Non-conducting functions of ion-channels" Biophysical Society meeting, (chair & speaker), 2008
10. An arrhythmia susceptibility gene in *C. elegans*" Platform "Accessory subunits of K<sup>+</sup> channels" Biophysical Society meeting (2008).
11. "An evolutionarily conserved family of accessory subunits of K<sup>+</sup> channels" CNR, Genova, Italy, 2006
12. "An evolutionarily conserved family of accessory subunits of K<sup>+</sup> channels" University of Pisa, Italy, 2006
13. "A novel kinase and  $\beta$ -subunit of potassium channels in *C. elegans*" New and Notable symposium, Biophysical Society meeting, 2005

#### INVITED TALKS NATIONAL

1. "Oxidation of K<sup>+</sup> channels in traumatic brain injury and new therapeutic approaches", Loyola University, IL, 2016

2. "Oxidation of potassium channels in aging nervous system" UCS Irvine, CA, 2014
3. "Oxidation of potassium channels in aging nervous system" University of Massachusetts Medical School, 2013
4. "Toxic role of K<sup>+</sup> channel oxidation in mammalian brain" Georgia Health Sciences University, 2011
5. "Oxidation of K<sup>+</sup> channels: a mechanism of aging & neurodegeneration?" UTHSCA, San Antonio, TX, 2010
6. "Oxidation of K<sup>+</sup> channels: a mechanism of aging & neurodegeneration?" Rutgers University, Piscataway, NJ, 2009
7. "MPS-4 controls pharyngeal repolarization in a primitive heart model" Weill Medical College, Cornell University, NYC, 2009
8. "New modes of K<sup>+</sup> channel modulation: insights from a *C. elegans* complex" Columbia University, NYC, 2008
9. "An evolutionarily conserved family of accessory subunits of K<sup>+</sup> channels" Albert Einstein College of Medicine, Bronx, NY, 2008
10. "Redox-modulation of K<sup>+</sup> channels in neuroprotection and ageing" SUNY, Albany, NY, 2007
11. "A family of K<sup>+</sup> channel ancillary proteins differentiate *C. elegans* chemosensory responses" UMDNJ-Newark, NJ, 2007
12. "A family of K<sup>+</sup> channel ancillary proteins differentiate *C. elegans* chemosensory responses" Vanderbilt University, Nashville, TN, 2006
13. "The structure and function of the minK related peptide 1, MiRP1" Cornell University, Ithaca 2005
14. "The structure and function of the minK related peptide 1, MiRP1" SUNY, Syracuse, NY 2004
15. "The structure and function of the minK related peptide 1, MiRP1" AHA Research Symposium, NYC, 2004

## LECTURES AND POSTERS AT CONFERENCES

1. Wei Y., R. Parakramaweera, S. Teng, M. Gowda, Y. Sharad, S. Thakker-Varia, J. Alder, F. Sesti (2017). "Oxidation of KCNB1 Potassium Channels Causes Neurotoxicity and Cognitive Impairment in Mouse Model of Traumatic Brain Injury". Biophysical Society annual meeting, poster.
2. Patel R., S. Sriramoji, F. Sesti (2016). "Oxidative Stress Susceptible Guanine Nucleotide Exchange Factor 1 (OSG-1) mediated thermotolerance in the heat shock response of *C. elegans*". Icahn School of Medicine at Mount Sinai Undergraduate Research Symposium in Biological, Chemical, Structural, and Computational Sciences, poster. First prize as best poster.

3. Patel R., N.M. Scurato, **F. Sesti** (2016). "Oxidative Stress Susceptible Guanine Nucleotide Exchange Factor 1 (OSG-1) mediated thermotolerance in the heat shock response of *C.elegans*". 10th Annual William Paterson University Research Symposium, poster.
4. Patel R., Duan Z., **F. Sesti** (2016). "Genetic intervention on Rho signaling ameliorates the toxic effects of A $\beta$ 42 in *Caenorhabditis elegans* neurons". Aresty Research Colloquium, talk.
5. Wei Y., R. Parakramaweera, S. Teng, M. Gowda, Y. Sharad, S. Thakker-Varia, J. Alder, **F. Sesti** (2016). "Oxidation of KCNB1 Potassium Channels Causes Neurotoxicity and Cognitive Impairment in Mouse Model of Traumatic Brain Injury". Society of Neuroscience annual meeting, poster.
6. Patel R. and **F. Sesti** (2016). "Elucidating the role of the actin cytoskeleton in the thermal stress response of cells". Aresty Research Colloquium, talk.
7. Patel R., M. Marucci, D. Patel, **F. Sesti** (2015). "Rho signaling is implicated in the heat shock response of *C. elegans*". First Annual Brain Health Institute Symposium, poster.
8. Patel R., Duan Z., **Sesti F.** (2015). "Guanine nucleotide exchange factor OSG-1 confers functional aging via dysregulated Rho signaling in *Caenorhabditis elegans* neurons". Society of Neuroscience annual meeting, poster.
9. Cotella D., B. Hernandez-Enriquez, X. Wu, R. Li, Z. Pan, J. Leveille, C.D. Link, S. Oddo, **F. Sesti** (2012). "Toxic role of K<sup>+</sup> oxidation in the mammalian brain". Society of Neuroscience annual meeting, poster.
10. Cotella D. and **F. Sesti** (2011). "Dynamic Phosphorylation/Dephosphorylation of a Voltage-Gated K<sup>+</sup> Channel Controls Non-associative Learning". Biophysical Society annual meeting, poster.
11. Sesti F. and S. Cai (2010). "Oxidation of K<sup>+</sup> Channels Leads to Progressive Decline in Sensory Function during Ageing". Biophysical Society annual meeting, poster.
12. Hernandez L., K. H. Park, **F. Sesti** (2006). "The mitogenic role of K<sup>+</sup> currents in rat UMR 106-01 osteoblastic cells". Meeting of the Chinese Pharmacological Society, poster.
13. Cai S., Y. Wang, K.H. Park, **F. Sesti** (2005). "A bifunctional *C. elegans* protein. MPS1 is a K<sup>+</sup> channel beta-subunit and a protein kinase". FASEB conference, poster.



14. Park K.H., S. M. Kwok, C. Sharon, R. Baerga, **F. Sesti** (2004). "N-glycosylation-dependent block is a novel mechanism for drug-induced cardiac arrhythmia". Biophysical Society annual meeting, poster.
15. Bianchi L., S.M. Kwok, M. Driscoll, **F. Sesti** (2003). "MiRP modulation of K<sup>+</sup> channels function is an ancient mechanism conserved across phyla". Biophysical Society annual meeting, poster.
16. **Sesti F.**, S. Rajan, R. Gonzalez-Colaso, N. Nikolaeva, S.A.N. Goldstein (2003). "MVP, a voltage-gated K<sup>+</sup> channel from the third kingdom: Hyperpolarization moves S4 inward to open the pore". Biophysical Society annual meeting, talk.
17. **Sesti F.**, T.M. Shih, N. Nikoleva, S.A.N. Goldstein (2001). "The basis for immunity to killer toxin: channel block". Biophysical Society annual meeting, poster.
18. Shih T.M., A. Ahmed, **F. Sesti**, N. Ilan, S.L. Sturley, S.A.N. Goldstein (2000). "Viral killer toxin acts via activation of TOK1 potassium channels". Biophysical Society annual meeting, poster.
19. **Sesti F.**, G.W. Abbott, J. Wei, D.M. Roden, A. George, S.A.N. Goldstein (2000). "MiRP1 mutant associated with quinidine-induced cardiac arrhythmia supports a genetic contribution to "acquired" disease". Biophysical Society annual meeting, poster.
20. **Sesti F.**, G.W. Abbott, J. Wei, D.M. Roden, A. George, S.A.N. Goldstein (1999). "Function of A116V-MiRP1: A missense mutation associated with acquired arrhythmia". Annual meeting of the American Heart Association, talk.
21. Wei J., G.W. Abbott, **F. Sesti**, S.A.N. Goldstein, P.J. Schwartz, S. Saksena, K.T. Murray, D.M. Roden, A. George (1999). "Prevalence of KCNE2 (Mirp1) mutations in acquired long QT syndrome". Annual meeting of the American Heart Association, talk.
22. **Sesti F.**, G.W. Abbott, M. Buck, S.A.N. Goldstein (1999). "MiRPs: Small transmembrane proteins that dictate the essential functional characteristics of mixed ion channel complexes". Biophysical Society annual meeting, talk.
23. Abbott G.W., **F. Sesti**, M. Buck, S.A.N. Goldstein (1999). "A new superfamily of small ion channel subunits". Biophysical Society meeting, poster.
24. Frings S., C. Dzeja, W. Bonigk, F. Muller, J. Bradley, **F. Sesti**, U.B. Kaupp (1998). "cAMP-gated channels of olfactory sensory neurons: Subunit composition; Ca<sup>2+</sup> permeation, and modulation of ligand sensitivity". Meeting of the European Society of Neuroscience, poster.

25. **Sesti F.** and S.A.N. Goldstein (1998). "I-Ks channels: minK/KvLQT1 heteromultimers have a larger unitary conductance than homomeric KvLQT1 channels". Biophysical Society annual meeting, poster.
26. **Sesti F.** and E. Eismann (1997). "Gating of cyclic-nucleotide gated channels by voltage and permeant ion". Biophysical Society annual meeting, talk.
27. Bucossi G., E. Eismann, **F. Sesti**, M. Nizzari, M. Seri, U.B. Kaupp, V. Torre (1996). "The cGMP-gated channel from vertebrate rods: Permeation and gating". Meeting of the Physiological Society, talk.
28. Bucossi G., E. Eismann, **F. Sesti**, M. Nizzari, M. Seri, U.B. Kaupp, V. Torre (1996). "The single channel conductance of the cyclic GMP-gated channel from vertebrate rods". Meeting of the Physiological Society, poster.
29. Bucossi G., E. Eismann, **F. Sesti**, M. Nizzari, M. Seri, U.B. Kaupp, V. Torre (1996). "Gating and permeation through the cyclic GMP-gated channel of vertebrate rods are tightly coupled". Biophysical Society annual meeting, talk.
30. Bucossi G., E. Eismann, **F. Sesti**, M. Nizzari, M. Seri, U.B. Kaupp, V. Torre (1996). "The cyclic GMP-gated channel from vertebrate rods has multiple open states". Biophysical Society annual meeting, talk.
31. **Sesti F.**, E. Eismann, S. Frings, U.B. Kaupp (1996). "Three distinct gating modes control cyclic nucleotide-gated channels". Meeting of European Biophysical Societies, poster.
32. **Sesti F.** and V. Torre (1994). "Enthalpic and entropic contribution to the Ionic Selectivity of the Cyclic-GMP Activated Channel in Vertebrate Photoreceptors". Biophysical Society annual meeting, talk.
33. **Sesti F.** and V. Torre (1993). "The Blocking Effect of Ca<sup>2+</sup> and Mg<sup>2+</sup> on the cGMP Activated Current in Retinal Rods". Biophysical Society annual meeting, talk.
34. **Sesti F.**, M. Straforini, L. Spadavecchia, V. Torre (1992). "Properties of single channels activated by cGMP in retinal rods". Experimental Eye Research Conference, poster.
35. Torre V., **Sesti F.**, L. Spadavecchia (1992). "The Effect of Temperature on the Cyclic-GMP Gated Channel from Rod Outer Segments of the Tiger Salamander". FASEB conference, poster.