BIOGRAPHICAL SKETCH

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NAME	POSITION TITLE
Seong K. Mun	Professor, Physics Director, Arlington Innovation Center for Health Research, Virginia Tech
eRA COMMONS USER NAME (credential, e.g., agency login) seongmun	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	MM/YY	FIELD OF STUDY
University of California, Riverside, CA	BA	03/69	Physics
State University of New York, Albany, NY	PhD	06/79	Physics
University of Colorado Medical Center, CO	NIH PostDoc	07/81	Medical Physics

A. Positions and Honors

Positions and Employment

2008- Director of Arlington Innovation Center for Health Research and Professor of Physics, Virginia Polytechnic Institute and State University, National Capital Region, Arlington, VA
2017- Adjunct Professor, School of Nursing and Health Systems, Georgetown University
2011- President and CEO, Open Source Electronic Health Record Agent (OSEHRA), a not for profit agency established by the Department of Veterans Affairs to bring rapid innovation to health information technology
2013-2016 Adjunct Professor of Medical Informatics, the Catholic University of Korea
2013-2017 Executive Secretary of Advisory Board to the President of POSTECH University, Korea
2008- Adjunct Professor of Radiology, Georgetown University Medical Center, Washington, DC
2004-2008 Associate Vice President for Special Programs, Georgetown University Medical Center Office of Federal Relations, Georgetown University, Washington, DC
1998-2004 Director, Special Initiatives (Federal Relations), Georgetown University Medical Center,
1984-2008 Director, Imaging Science and Information Systems (ISIS) Center, Professor of Radiology, Georgetown University Medical Center, Washington, DC
1983-1984 Assistant Professor, Managing NMR Physicist, Columbia University–Philips Medical Systems 1.5T MRI R and D Project; Neurological Institute of New York, Columbia Presbyterian Hospital, New York, NY
1982-1983 Director, Division of Imaging Physics, Assistant Professor of Radiology, Department of Radiology, Georgetown University Hospital, Washington, DC
1981-1983 Assistant Professor of Radiation Medicine, Georgetown University Medical Center
1979-1981 Summer Research Fellow – MRI Lab of Paul Lauterber, PhD, Stony Brook, NY

Other Experience and Professional Memberships

Founder: International Conference: Image Management and Communication System (1989-2004) Meeting held in Washington, DC, Kyoto Japan, Seoul, Korea, Honolulu, HI

Organizer/ Chair
National Forum: Telemedicine On-Line Today, March 1995-96; Washington, DC
Pacific Medical Technology Symposium, August 1998, Honolulu, HI
Network Security Workshop, April, 2006, Washington, DC
Distributed Care and Home Care: IEEE-EMBS Special Symposium, April 2006
Multicenter Information Management Symposium (2006-2007)
National Forum in the Future of Defense Health Information Technology – DC- 2008
Organizing Committee, Traumatic Brain Injury Imaging Workshop, 2008, St. Louis.
Workshop on Patient Centered Medical Home, Alexandria, VA – 2010
Workshop on Neuro-Performance and Imaging, Alexandria, VA, 2010
Co-Chair: Workshop- Open Source Software and Military Health Service (2011)
Co-chair, IEEE-AMA Medical Technology Symposium on Heath Informatics (2010)
Chair: Open Source OSEHRA Summit (2012-)

President:	Board of Scientific Counselors, National Library of Medicine, NIH, 1992-1996
Fellow:	American Institute of Medical and Biological Engineering
Member:	Editorial Board of Int. Journal of Computer-Assisted Radiology and Surgery
	Editorial Board of Journal of Telemedicine and e-Health
	Editorial Board of Frontiers in Cancer Research
Guest Editor	IEEE Transactions on Information Technology in Biomedicine (TITB) -2007
Guest Editor	Journal of Military Medicine Supplement of Health Information Tech -2008
Head:	Consulting Team for Digital Conversion of Coal Workers' Health Surveillance Program, National Institute for Occupational Health and Safety, Center for Disease Control and Prevention (2009-2011)
Sr. Member	Consulting for the Developing Research Management Enterprise Systems (RMES) for US Army Medical Research and Material Command, Ft. Detrick, MD (2009-2011)
Member:	Member of the Board for Particle Therapy Institute of Cure Foundation (2010-2013)
Member:	Advisory Board, Department of Electrical Engineering, Catholic University of America
Member:	Treasure and Member of the Ex. Board of American Telemedicine Association (2007 -2011)
Member:	Advisory Board for CiTE Program, POSTECH University, Korea(2013-)
Patent:	Internet-based Diabetes Management System, MyCareTeam (Awarded in 2010)

Awards

1998	Global IT Infrastructure Award on Deployable Radiology for US Troops in Bosnia, 1998
2007	General Maxwell Thurman Award for Excellence in Telemedicine & Advanced Medical Technology USAMRMC, US Army (Previous winner includes Dr. Cassells, former Assistant Secretary of Defense – Health Affairs)

Military Service

1973-76 Army of Republic of Korea

Book Published:

- Kim, Youngho and Mun, Seong K," Opendatopia" Published by Book Ocean, Seoul, Korea, July 28, 2017

Peer-reviewed Publications-

- Multimedia Military Medic Smartphone for Combat Casualty Care: Conceptual Validation and Prototype Development – K.H. Wong, S.K. Mun, B. Levine, S. Bayarsaikhan Accepted for Publication. Publish Date: 2020
- SCB Lo, M.T. Freedman, S.K. Mun, HP Chan, Geared Rotationally Identical and Invariant Convolutional Neural Network Systems, *arXiv preprint arXiv:1808.01280*, August 2018
- Mun, SK, Park, JW, Dritschilo A, Collins SP, Suy S, Choi IY, Rho MJ. "The Prostate Clinical Outlook (PCO) Classifier Application for Predicting Biochemical Recurrences in Patients Treated by Stereotactic Body Radiation Therapy (SBRT)", *Appl. Sci.* 2018, *8*, 1620; doi:10.3390/app8091620
- Park JW, Rho MJ, Dritschilo A, Choi IY, Mun SK;" Prostate Clinical Outlook Visualization System for Patients and Clinicians Considering Cyberknife Treatment – A Personalized Approach; Applied Science, March, 2018, 8:471
- Lo, SB, Freedman MT, Mun SK, Gu S, "Transformationally Identical and Invariant Convolutional Neural Networks through Symmetric Element Operators, https://arxiv.org/abs/1806.03636, July, 2018
- Lo SB, Freedman MT, Mun SK, "Transformationally Identical and Invariant Convolutional Neural Networks by Combining Symmetric Operations or Input Vectors", https://arxiv.org/abs/1807.11156, , Aug 2018

- Lo SB, Freedman MT, Gillis LB, White CS, Mun SK," Journal Club: "Computer Assisted Detection of Lung Nodules on CT with a Computerized Pulmonary Vessel Suppressed Function," AJR Am J. Roentgenology, 2018 Mar; 210(3) 480-488
- Robinson, James, Turner, J, Tian, Yan, Neustadtl, Al and, Mun, Seong, Levin, Betty: "The Relationship between Emotional and Esteem Social Support Messages and Health Communication", Health Communication. 2017 Nov 28:1-7
- Alpay Özcan · Barş Türkbey · Peter L Choyke · Oguz Akin · Ömer Aras · Seong K Mun, Interactive Feature Space Explorer© for Multi–Modal Magnetic Resonance Imaging, Magnetic Resonance Imaging 04/2015; 33(6). DOI:10.1016/j.mri.2015.03.007
- Mi Jung Rho,Si Ra Kim, Hun-Sung Kim, Jae-Hyoung Cho, Kun-Ho Yoon, Seong K. Mun, and In Young Choi; Exploring the Relationship Among User Satisfaction Compliance, and Clinical Outcomes of Telemedicine Services for Glucose Control, J. Telemedicine and e-health, Vol 20, 1-9, 2014
- Inyoung Choi, Tae-min Kim, Myung Shin Kim, Seong K. Mun, Yeun-Jun Chung," Perspective on Clinical Informatics; Integrating large-Scale Clinical Genomics, and Health Information for Clinical Care", Genomics Inform. 2013 Dec;11(4):186-190
- Alpay Özcan[1,*], Kenneth H. Wong[1], Linda Larson-Prior[2], Zang-Hee Cho[3] and Seong K. Mun, Backgound and Mathematical Analysis of Defusion MRI Methods, International J of Imaging Systems and Technology Vol 22, 44-52, 2012
- Turner, J, Robinson, James, Tian, Yan, Neustadtl, Aland, Russell, Marie, Mun, Seong, Can Messages make a Difference? Association between e-mail messages and health outcomes in diabetes patients, ' Journal of Human Communication Vol39, 252-268, 2013
- Marshall R, Doperak M, Milner M, Motsinger C, Newton T, Padden M, Pastoor S, Hughes CL, LeFurgy J, and Mun SK.; Medical Home: An Emerging Primary Care Model and the Military Health System, Journal of Military Medicine. Vol 176, Number 11, Nov 2012, pp1253-1259(7)
- Green E, Wendland J, Carver MC, Hughes CL, and Mun SK.; Lessons Learned from Implementing the Patient-Centered Medical Home, Health Expectations; International Journal of Telemedicine, http://www.hindawi.com/journals/ijta/2012/103685/
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- Hughes CL, Marshall R, Murphy E, and Mun SK.Technologies in the Patient Centered Medical Home: Examining the Model from an Enterprise Perspective, Journal of Telemedicine and e-Health , 2011
- Benzinger, T, Brody, D, Cardin S, Curley, K, Mintun M., Mun, SK, Wong K,,Wrathall.J, Blast-Related Brain Injury: Imaging for Clinical and Research Applications, JOURNAL OF NEUROTRAUMA 26:2127–2144 (December 2009)
- Weng, C, Levine, B., Min, SK, Software Architecture and Engineering for Patient Records; Current and Future, Military Medicine, Vol 174,27-34 Supplement, May 2009
- Mun, SK, and Prior, F, Image Management in Enterprise Environment in Healthcare, IEEE Transactions on Information Technology in Biomedicine (TITB) Vol. 11, 1-5 (2007)
- Cleary, K, Kinsella A, Mun, SK OR2020 Workshop Report: Operating Room Of the Future: International Congress Series, Vol 1281, pp 832-838, May 2005
- "Managing Diabetes Using MyCareTeam Internet Application", BA Levine, S Clement, MJT Hu, A Alaoui, SK Mun, On the Cutting Edge, Spring 2001, Vol 22, No. 2, pp. 9-11.
- "Impact of MyCareTeam for Poorly Controlled DM", KE Smith, B Levine, SC Clement, MJ Hu, A Alaoui, SK Mun. Diabetes Technology and Therapeutics, 2004, Vol 6. 828-835.
- "Doctor and Patient Interactions During Telemedicine: Clashes of Perceptions and Reality", JW Turner, JD Robinson, A Alaoui, J Winchester, A Neustadtl, BA Levine, J Collmann, SK Mun, In Understanding Health Communication Technologies, P. Whitten and D. Cook, (Eds.) Jossey-Bass, John Wiley & Sons, Inc., 2004, pp 118-126
- "Understanding the communicative context created through telemedicine interactions" JW Turner, JD Robinson, A Alaoui, J Winchester, A Neustadtl, B Levine, J Collmann, SK Mun, In Health Communication (Gesundheitskommunikation), A. Schorr (Ed.) Verlag, Gottingen, Germany, Hogrefe & Huber Publishers.

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B. Funded Major Research Projects – Selected

- Ruggedized Medic Smart Phone (2012- 2018): $1,357,000
  Development of Rugged Smartphone for Medics in the Battlefield
  US Army Medical Research and Material Command
  Role: Co-PI with Kenneth Wong
- TATRC, US Army (2011-2015): $1.49 Million-
  Neuro-Performance Study of Sleep (lack of) on Behavior
  Role: P.I.
- OSEHRA – Veterans Affairs (2012-2019) $24 million, approximately $4.5 million per year

Management Leadership for Open Source Electronic Health Record Agent
VT is a subcontract to OSEHRA
Role: P.I. Serving CEO of OSEHRA

- Veterans Affairs through Tiag and RGI (2011-2012): $270,000
  Management Leadership for Open Source Electronic Health Record Agent
  Role: P.I. Serving CEO of OSEHRA
- Department of Defense: (2003): $7.1 Million
  Periscopic Surgery
  To develop a series of image-guided robotic systems for surgical and rehabilitative medicine
  Role: Co-P.I.
- National Library of Medicine: (2003-2007): $6.5 Million
  Project Sentinel
  To develop IT for information sharing for normal disease surveillance and emergency operations
  Role: PI
- Department of Defense: (2003): $4.0 million
  Medical Vanguard Diabetes Management Project
  Internet-based diabetes management system for the US Navy and American Indians
  Role: PI
- Department of Defense (2003): $7.1 Million
  Project Argus Research
  Global disease surveillance based on open source multimedia sources
  Role: Co-P.I.
- National Library of Medicine (2004): $200,000
  Refugee Health Information Network
  Electronic document management for refugee health
  Role: PI
- Department of Defense (1996): $12 Million
  Project Vanguard
  Advance Medical Technology and Network Systems Research for PACS and Teleradiology
  Role: PI
- Dept of Health and Human Services, (2002): $395,408
  Project SRIN: secure teleradiology
  Teleradiology Project with Avera Health System
  Role: Co-P.I.
- National Library of Medicine (2003): $2.8 Million
  “Project Phoenix: Scrutinizing a Telemedicine Testbed”,
  Telemedicine Project for Kidney Dialysis Service
  Role: P.I.
- Medicare (2000): $6.0 Million
  Medicare Demonstration Project for Coordinated Care of Congestive Heart Failure Patients
  Demonstrating Coordinated Care with the use of telehealth in home monitoring of CHF patients
  Role: P.I.