

CURRICULUM VITAE



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ACADEMIC EDUCATION:

1993 **M.D.** College of Medicine, Hallym University, Chuncheon, Gangwon-Do, Korea
2003 **M.S.** Anatomy & Histology, Hallym University, Chuncheon, Gangwon-Do, Korea
2005 **Ph.D.** Anatomy & Histology, Hallym University, Chuncheon, Gangwon-Do, Korea
2014 Completion of Executive Programme in Health Policy & Management (**HPM**),
Graduate School of Public Health, Seoul National University, Seoul, Korea
2015 Completion of the Advanced Healthcare Management Program (**AHP**),
Seoul National University Hospital, Seoul, Korea
2018 **MBA (Economic Policy)** Graduate School of Business Administration
Korea National Open University, Seoul, Korea
2021 **MS (Bioinformatics)** Graduate School, Bioinformatics and Statistics
Korea National Open University, Seoul, Korea
- Data Science : Bio-statistics, big-data, data-mining, machine-learning, deep-learning, AI

APPOINTMENTS:

Mar.1993 - Feb.1994 Internship, Gangnam Sacred Heart Hospital, Hallym University, Seoul, Korea
Mar.1994 - Feb.1998 Residency in Department of Neurosurgery, Gangnam Sacred Heart Hospital, Hallym University, Seoul, Korea
May 2001 - Feb. 2002 Fellowship in Department of Neurosurgery(Brain Tumor & Spine), Seoul Asan Medical Center, Ulsan University, Seoul, Korea
Mar. 2002 - Feb. 2004 Clinical Full-time Lecturer, Department of Neurosurgery, Hangang Sacred Heart Hospital, College of Medicine, Hallym University, Seoul, Korea
Mar. 2004 - Sep. 2010 Assistant Professor, Department of Neurosurgery, Hangang Sacred Heart Hospital, College of Medicine, Hallym University, Seoul, Korea

- Oct. 2010 - Oct. 2012 Associate Professor, Department of Neurosurgery, Hangang Sacred Heart Hospital, College of Medicine, Hallym University, Seoul, Korea
- Nov. 2012 - Aug. 2015 Associate Professor, Department of Neurosurgery, Dongtan Sacred Heart Hospital, College of Medicine, Hallym University, Hwaseong, Korea
- Sept. 2015 – April. 2022 Professor, Department of Neurosurgery, Dongtan Sacred Heart Hospital, College of Medicine, Hallym University, Hwaseong, Korea
- May. 2022 - present Professor, Department of Neurosurgery, Kangnam Sacred Heart Hospital, College of Medicine, Hallym University, Seoul, Korea

PROFESSIONAL ACTIVITIES:

- Aug 23 - Aug 26, 2001 4th Hands-on Cadaver Workshop, The Korean Skull Base Society, Korea
Prof. Albert L. Rhoton, Jr., M.D.
- Feb. 28 - Mar. 12, 2005 Klinikum-Karlsbad, Germany
Prof. Juergen Harms, M.D.
- July 19 - July 26, 2005 Bibai Rosai Hospital, Japan
Prof. Kiyoshi Kaneda, M.D.
- Sept. 18 - Sept. 28, 2006 Orthozentrum München, Orthpädische Klinik, Germany
Prof. H. Michael Mayer, M.D.
- Mar. 25 - Apr. 5, 2007 Cervical and Lumbar Spine Arthroplasty Course & St. Elizabeth Hospital,
Germany / Dr. Rudolf Bertagnoli, M.D.
- May 14 - May 19, 2007 Clinique du Parc, Montpellier, France
Dr. Thierry Marnay, M.D.
- July 1 - July 14, 2007 Centre Hospitalo-Universitaire Marseille Nord, Marseille, France
Prof. Patrick Tropiano, M.D.
- Oct. 1, 2006 - Sept. 30, 2007 Clinical and Research Fellowship
Thomas Jefferson University Hospital & the Rothman Institute,
USA / Prof. Alexander R. Vaccaro, M.D.
- June 15 – June 17, 2008 Adolescent Spinal Deformity Course (NUHS Spinal Workshop),
NUHS, Singapore, Prof. Wong Hee Kit
- Dec. 14 – Dec. 19, 2008 AOSpine Advances Course Emerging Concepts in Deformity Care
Davos, Switzerland
- Jan. 11 – Jan. 22, 2010 Kanazawa University Hospital, Kanazawa, Japan
(Total En Bloc Spondylectomy and Chemotherapy for spinal tumors)
Prof. K. Tomita, N. Kawahara, H. Murakami
- July 12 – July 23, 2010 Hokkaido University Hospital, Hokkaido, Japan
(Occipitocervical fusion using cervical pedicle screws,
The 14th Hokkaido University Spinal Reconstruction Seminar)
Prof. Kuniyoshi Abumi
- Jan 4 – Mar 25, 2011 AOSpine fellowship
The Centre for Spinal Studies and Surgery, Queens Medical Centre
Nottingham University Hospital, Nottingham, UK
(Spinal deformity surgery and sagittal balance)
Consultant Spinal Surgeon, Michael P Grevitt
- Aug 5 – Aug 11, 2012 King Edward VII Memorial Hospital and Seth G. S. Medical College,
Parel, Mumbai, India (Surgery of the craniovertebral junction
anomalies)
Prof. Atul Goel / Dr. Abhidha Shah
- Sept 5 – Sept 13, 2012 National Center for Spinal Disorders, Budapest, Hungary
(Surgery of the sacral tumors)
Peter Paul Varga, MD

Seung-Myung MOON, MD, PhD, MBA, MS (Bioinformatics)

- Feb 10 – Feb 16, 2013 BORDEAUX University Hospital, Bordeaux, France
(Biomechanical study of the sagittal balance)
Prof. Jean Charles Le Huec
- Mar 12 – Aug 27, 2014 Completion of executive programme in Health Policy & Management
(HPM), Graduate School of Public Health, Seoul National University,
Seoul, Korea
- Mar 5 – June 25, 2015 Completion of the Advanced Healthcare Management Program (AHP),
Seoul National University Hospital, Seoul, Korea
- June 19 – Nov. 30, 2014 **Clinical trial**, [Effect of *Dendropanax morbifera* Léveille extracts on
cadmium and mercury secretion as well as oxidative capacity: A
randomized, double-blind, placebo-controlled trial](#)
IRB No. 2014-074

SOCIETIES:

1. The Korean Neurosurgical society
2. The Korean Brain Tumor Society
3. Korean Society of Cerebrovascular surgeons

4. The Korean Spinal Neurosurgery Society
 - a. Textbook Compilation Committee
 - b. Review Board of Korean Journal of Spine
 - c. General Board Member : 2014 - 2015
 - d. Director of Information Board : 2015-2017
 - e. Director of Medical, Disability Assessment : 2017-2018
 - f. Ethics Committee Chair : 2018-2019
5. Korean Neurotraumatology Society
 - a. Auditor : 2010 - 2012
 - b. Editorial Board of Journal of Korean Neurotraumatology
 - c. Director of Scientific Board (WFNS2013) : 2012-2014
 - d. Director of Member Services : 2014-2015
 - e. Director of Clinical Guideline : 2015-2016
 - f. Executive Director : 2016-2017
 - g. Director of Treasury : 2017-2019
6. Korean Cervical Spine Research Society
 - a. Auditor : 2017- 2019
7. Korean Spinal Deformity Society
 - a. Director of Treasury : 2013-2017
 - b. Director of Scientific Board : 2017-2019
8. Korean Spine Oncology Research Society
 - a. Auditor : 2012- 2014
 - b. Steering committee : 2015-2020
 - c. Director of Member Services : 2018-2020
9. Korean Spinal Research Society
 - a. Steering committee : 2016 -
10. Korean Academy of Independent Medical Examiners
 - a. Auditor : 2016- 2017

- b. Executive Director : 2018-2020
- 11. The Korean Society of Peripheral Nervous System
 - a. Auditor : 2018 – 2019
- 12. AOSpine
 - a. AOSpine Korea Nominated Delegate (2018 – 2021)
 - b. AOSpine Korea Secretary General (2018 – 2021)
- 13. Korean Academy of Medical Sciences
- 14. Korean Spinal Osteoporosis Research Society
- 15. Korean Society for the Advancement of Spine Surgery
- 16. Korean Minimally Invasive Spinal Surgery Research Society
- 17. Korean Society of Geriatric Neurosurgery
 - a. Auditor : 2019 – 2020
- 18. North American Spine Society (NASS)

AWARDS

- April 14, 2006 The Best Poster Award
 at 24th Korean Neurosurgical Society Spring Meeting, 2006
- May 31, 2014 The Best Academic Award
 at 21th Korean Neurotraumatology Society Annual Meeting, 2014
- Sep. 19, 2019 The Best Clinical Research Award (as PI on behalf of the Korean Spinal
 Deformity Society)
 at 33rd Annual Meeting of the Korean Spinal Neurosurgical Society, 2019
 (KW : 5,000,000)
- July. 31, 2020 The Best Research Award
 at 38th Korean Neurosurgical Society Spring Meeting, 2020
- May 28, 2022 The Best Academic Award
 at 29th Korean Neurotraumatology Society Annual Meeting, 2022

RESEARCH FIELDS AND INTERESTS

- 1. Spinal deformity surgery**
- 2. Spinal tumors (primary and metastatic) and Brain tumors (skull base tumors and pituitary tumors)**
- 3. Minimally invasive spinal surgery and non-fusion spinal arthroplasty**
- 4. Functional recovery of the spinal cord injury and/or ischemia**
- 5. Osteoporotic spinal diseases**
- 6. Traumatic brain injury**
- 7. Cerebrovascular surgery**
- 8. Endoscopic carpal tunnel release**

9. Data Science : Bio-statistics, big-data, data-mining, machine-learning, deep-learning, AI

REPRESENTATIVE PUBLICATIONS

2014

1. Kim W, Kim DW, Jeong HJ, Yoo DY, Jung HY, Nam SM, Kim JH, Choi JH, Won MH, Yoon YS, **Moon SM**, Choi SY, Hwang IK. Tat-DJ-1 Protects Neurons from Ischemic Damage in the Ventral Horn of Rabbit Spinal Cord via Increasing Antioxidant Levels. *Neurochem Res.* 2014 Jan;39(1):187-93. **SCI(E)_IF 2.561 (Co-Author)**
2. Yan BC, Ohk TG, Ahn JH, Park JH, Chen BH, Lee JC, Lee CH, Shin MC, Hwang IK, **Moon SM**, Cho JH, Won MH. Differences in neuronal damage and gliosis in the hippocampus between young and adult gerbils induced by long duration of transient cerebral ischemia. *J Neurol Sci.* 2014 Feb 15;337(1-2):129-36. **SCI(E)_IF 2.262 (Co-Author)**
3. **SM Moon**, W Kim, JY Chung, W Im, DY Yoo, HY Jung, MH Won, JH Choi, IK Hwang. Neuroprotective Effects of Adipose-derived Stem Cells Are Maintained for 3 Weeks Against Ischemic Damage in the Rabbit Spinal Cord. *Biomed Res Int.* 2014;2014:539051. **SCI(E)_IF 2.706 (1st Author)**
4. Ahn JH, Park JH, Kim IH, Lee JC, Yan BC, Yong MS, Lee CH, Choi JH, Yoo KY, Hwang IK, **Moon SM**, Shin HC, Won MH. Comparison of arylalkylamine N-acetyltransferase and melatonin receptor type 1B immunoreactivity between young adult and aged canine spinal cord. *J Vet Sci.* 2014 Sep;15(3):335-42. Epub 2014 Jun 20. **SCI(E)_IF 1.142 (Co-Author)**
5. Kim W, Kim DW, Yoo DY, Jung HY, Nam SM, Kim JW, Hong SM, Kim DW, Choi JH, **Moon SM**, Yoon YS, Hwang IK. Dendropanax morbifera Leveille extract facilitates cadmium excretion and prevents oxidative damage in the hippocampus by increasing antioxidant levels in cadmium-exposed rats. *BMC Complement Altern Med.* 2014 Oct 31;14:428. **SCI(E)_IF 1.877 (Co-Author)**

2015

1. Ahn JH, Shin MC, Park JH, Kim IH, Lee JC, Yan BC, Hwang IK, **Moon SM**, Ahn JY, Ohk TG, Lee TH, Cho JH, Shin HC, Won MH. Increased immunoreactivity of c Fos in the spinal cord of the aged mouse and dog. *Mol Med Rep.* 2015 Feb;11(2):1043-8. doi: 10.3892/mmr.2014.2800. Epub 2014 Oct 29. **SCI(E)_IF 1.484 (Co-Author)**
2. Lee SG, Yoo DY, Jung HY, Nam SM, Kim JW, Choi JH, Yi SS, Won MH, Yoon YS, Hwang IK, **Moon SM**. Neurons in the hippocampal CA1 region, but not the dentate gyrus, are susceptible to oxidative stress in rats with streptozotocin-induced type 1 diabetes. *Neural Regen Res.* 2015;10(3):451-456. **SCI(E)_IF 0.234 (Corresponding Author)**
3. **Moon SM**, Choi GM, Yoo DY, Jung HY, Yim HS, Kim DW, Hwang IK, Cho BM, Chang IB, Cho SM, Won MH. Differential Effects of Pioglitazone in the Hippocampal CA1 Region Following Transient Forebrain Ischemia in Low- and High-fat Diet-fed Gerbils. *Neurochem Res.* 2015 May;40(5):1063-73. doi: 10.1007/s11064-015-1568-3. Epub 2015 Apr 19. **SCI(E)_IF 2.377 (1st Author)**
4. Cho BM, Kim W, Yoo DY, Jung HY, Choi JH, Won MH, Hwang IK, **Moon SM**. Effects of adenosine monophosphate-activated kinase in the ventral horn of rabbit spinal cord after transient ischemia. *J Spinal Cord Med.* 2015 Jul;38(4):538-543. Epub 2014 May 3. **SCI(E)_IF 1.442 (Corresponding Author)**
5. Kim W, Kim DW, Yoo DY, Jung HY, Kim JW, Kim DW, Choi JH, **Moon SM**, Yoon YS, Hwang IK. Antioxidant effects of Dendropanax morbifera Leveille extract in the hippocampus of mercury-exposed rats. *BMC Complement Altern Med.* 2015 Jul 23;15:247. **SCI(E)_IF 2.195 (Co-Author)**

2016

1. Seo JS, Yoo DY, Jung HY, Kim DW, Hwang IK, Lee JY, **Moon SM**. Effect of Dendropanax morbifera Léveille extracts on cadmium and mercury secretion as well as oxidative capacity: A randomized, double-blind, placebo-controlled trial. *Biomed Rep.* 2016 May;4(5):623-627. **SCI(E) 후보지_ no IF (2014 년 임상시험후 발표한 논문임) (Corresponding Author)**
2. Yoo DY, Yoo KY, Park JH, Kwon HJ, Jung HY, Kim JW, Choi GM, **Moon SM**, Kim DW, Yoon YS, Won MH, In Koo Hwang. Time- and cell-type specific changes in iron, ferritin, and transferrin in the gerbil hippocampal CA1 region after transient forebrain ischemia. *Neural Regen Res.* 2016 Jun;11(6):924-30. **SCI(E)_IF 0.968 / JCR 90.6% (Co-Author)**
3. Yoo DY, Kim DW, Chung JY, Jung HY, Kim JW, Yoon YS, Hwang IK, Choi JH, Choi GM, Choi SY, **Moon SM**. Cu, Zn-Superoxide Dismutase Increases the Therapeutic Potential of Adipose-derived Mesenchymal Stem Cells by Maintaining Antioxidant Enzyme Levels. *Neurochem Res.* 2016 Dec;41(12):3300-3307. **SCI(E)_IF 2.472 / JCR 58.6% (Corresponding Author)**

2017

1. Yoo DY, Park JH, Lee KY, Kwon HJ, Jung HY, Kim JW, Kim DW, Choi JH, **Moon SM**, Yoon YS, Won MH, Hwang IK. Temporal and spatial changes of monocarboxylate transporter 4 expression in the hippocampal CA1 region following transient forebrain ischemia in the Mongolian gerbil. *Mol Med Rep.* 2017 Jun;15(6):4225-4230. **SCI(E)_IF 1.692 / JCR 66.4% (Co-Author)**
2. Jung HY, Kim DW, Kwon HJ, Yoo DY, Hwang IK, Won MH, Cho TG, Choi SY, **Moon SM**. SUMO-1 delays neuronal damage in the spinal cord following ischemia/reperfusion. *Mol Med Rep.* 2017 Jun;15(6):4312-4318. **SCI(E)_IF 1.692 / JCR 66.4% (Corresponding Author)**
3. Hwang IK, Park JH, Lee TK, Kim DW, Yoo Kym Ahn JH, Kim YH, Cho JH, Kim YM, Won MH, **Moon SM**. CD74-immunoreactive activated M1 microglia are shown late in the gerbil hippocampal CA1 region following transient cerebral ischemia. *Mol Med Rep.* 2017 Jun;15(6):4148-4154. **SCI(E)_IF 1.692 / JCR 66.4% (Corresponding Author)**
4. Yoo DY, Cho SB, Jung HY, Choi GM, Won MH, Kim DW, Hwang IK, Choi SY, **Moon SM**. Tat-protein disulfide-isomerase A3: A possible candidate for preventing ischemic damage in the spinal cord. *Cell Death Dis.* 2017 Oct 5;8(10):e3075. doi: 10.1038/cddis.2017.473. **SCI(E)_IF 5.965, JCR 20.6% (Corresponding Author)**

2018

1. Jung HY, Cho SB, Kim W, Yoo DY, Won MH, Choi GM, Cho TG, Kim DW, Hwang IK, Choi SY, **Moon SM**. Phosphatidylethanolamine-binding protein 1 protects CA1 neurons against ischemic damage via ERK-CREB signaling in Mongolian gerbils. *Neurochem Int.* 2018 Sep;118:265-274. doi: 10.1016/j.neuint.2018.05.005. **SCI(E)_IF 3.262, JCR 37.414% (Corresponding Author)**
2. Park JC, Chang IB, Ahn JH, Kim JH, Song JH, **Moon SM**, Park YH. Nerve Growth Factor Stimulates Glioblastoma Proliferation through Notch1 Receptor Signaling. *J Korean Neurosurg Soc.* 2018 Jul;61(4):441-449. doi: 10.3340/jkns.2017.0219. Epub 2018 Jul 1. **SCI(E)_IF 0.860, JCR 98% (Co-Author)**

2019

1. Yoo DY, Cho SB, Jung HY, Kim W, Lee KY, Kim JW, **Moon SM**, Won MH, Choi JH, Yoon YS, Kim DW, Choi SY, Hwang IK. Protein disulfide-isomerase A3 significantly reduces ischemia-induced damage by reducing oxidative and endoplasmic reticulum stress. *Neurochem Int.* 2019 Jan;122:19-30. doi: 10.1016/j.neuint.2018.11.002. Epub 2018 Nov 3. **SCI(E)_IF 3.994, JCR 28.84% (Co-Author)**

2. Kim W, Kwon HJ, Jung HY, Yoo DY, **Moon SM**, Kim DW, Hwang IK. Tat-HSP70 protects neurons from oxidative damage in the NSC34 cells and ischemic damage in the ventral horn of rabbit spinal cord. *Neurochem Int.* 2019 Oct;129:104477. doi: 10.1016/j.neuint.2019.104477. Epub 2019 May 27. **SCI(E)_IF 3.994, JCR 28.84% (Co-Author)**
3. Kim W, Cho SB, Jung HY, Yoo DY, Oh JK, Choi GM, Cho TG, Kim DW, Hwang IK, Choi SY, **Moon SM**. Phosphatidylethanolamine-Binding Protein 1 Ameliorates Ischemia-Induced Inflammation and Neuronal Damage in the Rabbit Spinal Cord. *Cells.* 2019 Oct 31;8(11). pii: E1370. doi: 10.3390/cells8111370. **SCI(E)_IF 5.656, JCR 20.73% (Corresponding Author)**

2020

1. Yoo DY, Cho SB, Jung HY, Kim W, Nam SM, Kim JW, **Moon SM**, Yoon YS, Kim DW, Choi SY, Hwang IK. Differential roles of exogenous protein disulfide isomerase A3 on proliferating cell and neuroblast numbers in the normal and ischemic gerbils. *Brain Behav.* 2020 Mar;10(3):e01534. doi: 10.1002/brb3.1534. Epub 2020 Jan 20. **SCI(E)_IF 2.091, JCR 36.79% (Co-Author)**
2. Jung HY, Kwon HJ, Kim W, Hahn KR, **Moon SM**, Yoon YS, Kim DW, Hwang IK. Phosphoglycerate Mutase 1 Prevents Neuronal Death from Ischemic Damage by Reducing Neuroinflammation in the Rabbit Spinal Cord. *Int J Mol Sci.* 2020 Oct 8;21(19):E7425. doi: 10.3390/ijms21197425. **SCI(E)_IF 4.556, JCR 24.75% (Co-Author)**

2021

1. Jung HY, Kwon HJ, Kim W, Hwang IK, Kim DW, Choi GM, Chang IB, **Moon SM**. Tat-Endophilin A1 Fusion Protein Protects Neurons from Ischemic Damage in the Gerbil Hippocampus: A Possible Mechanism of Lipid Peroxidation and Neuroinflammation Mitigation as well as Synaptic Plasticity. *Cells.* 2021 Feb 9;10(2):357. doi: 10.3390/cells10020357. **SCI(E)_IF 6.600, JCR 26.923% (Corresponding Author)**
2. Kim W, Kwon HJ, Jung HY, Hahn KR, **Moon SM**, Yoon YS, Hwang IK, Choi SY, Kim DW. Tat-p27 Ameliorates Neuronal Damage Reducing α -Synuclein and Inflammatory Responses in Motor Neurons After Spinal Cord Ischemia. *Neurochem Res.* 2021 Dec;46(12):3123-3134. doi: 10.1007/s11064-021-03392-0. Epub 2021 Aug 17. **SCI(E)_IF 3.996, JCR 43.040% (Co-Author)**

2022

1. The neuroprotective effects of phosphoglycerate mutase 5 are mediated by decreasing oxidative stress in HT22 hippocampal cells and gerbil hippocampus. Jung HY, Kwon HJ, Kim W, Hahn KR, **Moon SM**, Yoon YS, Kim DW, Hwang IK. *Neurochem Int.* 2022 Jul;157:105346. doi:10.1016/j.neuint. 2022. 105346. Epub 2022 May 2. **SCI(E)_IF 4.297, JCR 51.35% (Co-Author)**