

CURRICULUM VITAE



Heung Kyu Lee, Ph.D.

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Education

- May/2009 Doctor of Philosophy in Immunobiology
Yale University, New Haven, CT, USA
Thesis title: Dendritic cells, Autophagy and Antiviral immunity
- Aug/1998 Master of Science in Biotechnology
Yonsei University, Seoul, Korea
- Aug/1995 Bachelor of Engineering in Food Science and Technology
Dongguk University, Seoul, Korea

Positions and Employment

- Sep/2016- present Associate Professor (tenured) of Graduate School of Medical Science and Engineering, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea
- Apr/2017-present Adjunct Associate Professor of KAIST Institute for Health Science and Technology, KAIST, Daejeon, Korea
- Mar/2013-Feb/2015 Adjunct Assistant Professor of Dept. of Biological Sciences, KAIST, Daejeon, Korea
- Nov/2009-Aug/2016 Assistant Professor of Graduate School of Medical Science and Engineering, KAIST, Daejeon, Korea
- Mar/2009-Jan/2010 Post-doctoral Associate of Immunobiology, HHMI, Yale University School of Medicine, New Haven, CT
(PI: Ruslan Medzhitov, Ph.D.)
- Sep/2004-Feb/2009 Graduate Research Assistant of Immunobiology, Yale University, New Haven, CT (PI: Akiko Iwasaki, Ph.D.)
- Sep/2003-Aug/2004 Graduate Research Assistant of Immunology, University of Texas M.D. Anderson Cancer Center, Houston, TX
(PI: Yong-Jun Liu, M.D., Ph.D.)
- Jun/2001-Oct/2001 Researcher of Immunology and Transplantation, Asan Institute for Life Sciences and Asan Medical Center, Seoul, Korea
- Oct/1998-Dec/2000 Military service of Republic of Korea Army, Yong In, Korea
- Sep/1996-Aug/1998 Graduate Research Assistant of Biotechnology, Yonsei University, Seoul, Korea

Major Administrative Responsibilities

- Feb/2017-present Chair, Institutional Animal Care and Use Committee of KAIST
- June/2019-present Member, Organizing Committee of KAIST Laboratory Animal Resource Center
- Mar/2014-Jan/2017 Member, Institutional Animal Care and Use Committee of KAIST
- Sep/2012-present Member, Academic Affairs Committee of College of Life Science and Bioengineering, KAIST
- Sep/2012-present Member, Curriculum Evaluation Committee of College of Life Science

CURRICULUM VITAE

and Bioengineering, KAIST

Fellowships

2007-2008	Richard K. Gershon Predoctoral Training Fellowship Yale University
2006-2007	Anna Fuller Cancer Research Fellowship Yale University
2003-2005	Graduate Study Abroad Scholarship Ministry of Science and Technology of Korea

Awards and Honors

2017	KAIST's TOP10 Research Achievements of 2016 Award by KAIST
2016	Best Paper Award by Korean Association of Immunologists
2016	26 th KOFST Best Paper Award by The Korean Federation of Science and Technology Societies (KOFST)
2014	Distinguished service award for the excellent teaching service in BD FACS CAMP by Becton Dickinson and Company in Korea
2013	Distinguished service award for the successful achievement of DC2012, 13 th international symposium by Korean Dendritic Cell Academy Society
2009	Council of Graduate Schools (CGS)/University Microfilm International Distinguished Dissertation Award Semi-Finalist Award by Council of Graduate Schools Annual Meeting, San Francisco, CA
2009	A Yale Nominee for CGS/UMI Dissertation Award
2008	KASBP/Daewoong Pharmaceutical Co. Young Generation Award The 8 th Annual Symposium of Korean American Society in Biotech and Pharmaceuticals, Piscataway, NJ
2008	Best Poster Award of RCAI International Summer Program 2008 RIKEN Research Center for Allergy and Immunology, Yokohama, Japan
2008	American Association of Immunologists Trainee Abstract Award The 95 th AAI Annual Meeting, San Diego, CA

Publications

1. Kim CW, Yoo HJ, Park JH, Oh JE, **Lee HK**. Exogenous Interleukin-33 Contributes to Protective Immunity via Cytotoxic T-Cell Priming against Mucosal Influenza Viral Infection. Viruses. 2019 Sep. 8, 11(9), 840. (IF = 3.811)
2. Kim, TH, Oh DS, Jung HE, Chang J, **Lee HK**. Plasmacytoid Dendritic Cells Contribute to the Production of IFN- β via TLR7-MyD88-Dependent Pathway and CTL Priming during Respiratory Syncytial Virus Infection. Viruses. 2019 Aug. 8, 11(8), 730. (IF = 3.811)
3. Jung HE, Shim YR, Oh JE, Oh DS, **Lee HK**. The autophagy Protein Atg5 Plays a Crucial Role in the Maintenance and Reconstitution Ability of Hematopoietic Stem Cells. Immune Network. 2019. April;19(2):e12. (IF = 3.111)
4. Oh DS, **Lee HK**. Autophagy protein ATG5 regulates CD36 expression and anti-tumor MHC class II antigen presentation in dendritic cells. Autophagy. 2019. March 22. epub ahead of print (IF=11.1)

CURRICULUM VITAE

5. Oh JH, Kim MJ, Choi SJ, Ban YH, **Lee HK**, Shin EC, Lee KM, Ha SJ. Sustained Type I Interferon Reinforces NK Cell-Mediated Cancer Immunosurveillance during Chronic Virus Infection. Cancer Immunology Research. 2019. Feb. 26. Epub ahead of print (IF=9.188)
6. Park YJ, Kim CW, **Lee HK**. Interactions between Host Immunity and Skin-Colonizing Staphylococci: No Two Siblings Are Alike. International Journal of Molecular Science. 2019 Feb. 7;20(3).pii:E718 (IF=4.183)
7. Jung HE, Oh JE, **Lee HK**. Cell-Penetrating Mx1 Enhances Anti-Viral Resistance against Mucosal Influenza Viral Infection. Viruses. 2019 Jan 28;11(2). Pii: E109. (IF=3.811)
8. Oh DS, Kim TH, **Lee HK**. Differential Role of Anti-Viral Sensing Pathway for the Production of Type I Interferon β in Dendritic Cells and Macrophages Against Respiratory Syncytial Virus A2 Strain Infection. Viruses. 2019. Jan 15;11(1). Pii: E62. (IF=3.811)
9. Kim MH, Kang JO, Kim JY, Jung HE, **Lee HK**, Chang J. Single mucosal vaccination targeting nucleoprotein provides broad protection against two lineages of influenza B virus. Antiviral Research. 2019 Jan 9;163:19-28. (IF= 4.307)
10. Lee W, Lee SH, Kim M, Moon JS, Kim GW, Jung HG, Kim IH, Oh JE, Jung HE, **Lee HK**, Ku KB, Ahn DG, Kim SJ, Kim KS, Oh JW. Vibrio vulnificus quorum-sensing molecule cyclo (Phe-Pro) inhibits RIG-I-mediated antiviral innate immunity. Nature Communications. 2018. Apr 23;9(1):1606 (IF = 12.353)
11. Jung SB, Choi MJ, Ryu D, Yi HS, Lee SE, Chang JY, Chung HK, Kim YK, Kang SG, Lee JH, Kim KS, Kim HJ, Kim CS, Lee CH, Williams RW, Kim H, Lee HK, Auwerx J, Shong M. Reduced oxidative capacity in macrophages results in systemic insulin resistance. Nature Communications. 2018. Apr 19;9(1):1551 (IF = 12.353)
12. Kim IK, Kim K, Lee E, Oh DS, Park CS, Park S, Yang JM, Kim JH, Kim HS, Shima DT, Kim JH, Hong SH, Cho YH, Kim YH, Park JB, Koh GY, Ju YS, Lee HK, Lee S, Kim I. Sox7 promotes high-grade glioma by increasing VEGFR2-mediated vascular abnormality. Journal of Experimental Medicine. 2018. Mar 5;215(3):963-983 (IF = 10.790)
13. Park YJ, **Lee HK**. The Role of Skin and Orogenital Microbiota in Protective Immunity and Chronic Immune-Mediated Inflammatory Disease. Frontiers in Immunology. 2018. Jan 10;8:8:1955 (IF = 6.429)
14. Lee SE, Kang SG, Choi MJ, Jung SB, Ryu MJ, Chung HK, Chang JY, Kim YK, Lee JH, Kim KS, Kim HJ, **Lee HK**, Yi HS, Shong M. Growth Differentiation Factor 15 mediates systemic glucose regulatory action of T helper type 2 cytokines. Diabetes. 2017 September 5, Epub ahead of print. (IF = 8.684)
15. Oh DS, Oh JE, J HE, **Lee HK**. Transient Depletion of CD169+ Cells contributes to impaired protection and effector CD8+ T cell recruitment against mucosal respiratory syncytial virus infection. Frontiers in Immunology. 2017 July 13;8:819 (IF = 6.429)

CURRICULUM VITAE

16. Oh DS, Kim H, Oh JE, Jung HE, Lee YS, Park JH*, **Lee HK***. Intratumoral depletion of regulatory T cells using CD25-targeted photodynamic therapy in a mouse melanoma model induces antitumoral immune responses. Oncotarget. 2017. July 18;8(29):47440-47453. (*equally contributed) (IF = 5.168)
17. Oh JE, Oh DS, J HE, **Lee HK**. A mechanism for the induction of type 2 immune responses by a protease allergen in the genital tract. Proc. Natl. Acad. Sci. U. S. A. 2017 Jan 30. Ahead of print doi:10.1073/pnas.1612997114 (IF = 9.661)
18. Ryu JK, Kim SJ, Rah SH, Kang JI, Jung HE, Lee D, **Lee HK**, Lee JO, Park BS, Yoon TY, Kim HM. Reconstruction of LPS Transfer Cascade Reveals Structural Determinants within LBP, CD14, and TLR4-MD2 for Efficient LPS Recognition and Transfer. Immunity. 2017 Jan 17. 46(1):38-50 (IF = 22.845)
19. Hong GH, Kwon HS, Moon KA, Park SY, Park S, Lee KY, Ha EH, Kim TB, Moon HB, **Lee HK**, Cho YS. Clusterin Modulates Allergic Airway Inflammation by Attenuating CCL20-Mediated Dendritic Cell Recruitment. Journal of Immunology 2016 Mar 1. 1;196(5):2021-30 (IF = 4.856)
20. Oh JE, Kim B, Chang DH, Kwon M, Lee SY, Kang D, Kim JY, Hwang I, Yu JW, Nakae S, **Lee HK**. Dysbiosis-induced IL-33 contributes to impaired antiviral immunity in the genital mucosa. Proc. Natl. Acad. Sci. U. S. A. 2016 Feb 9;113(6):E762-71 (IF = 9.661) Introduced as highlight journal in “**In This Issue**” section of PNAS 2016 Feb 9;113(6)
21. Oh JE, Lee MS, Kim YJ, **Lee HK**. OASL1 deficiency promotes antiviral protection against genital herpes simplex virus type 2 infection by enhancing type I interferon production. Scientific Reports 2016 Jan. 11. (IF = 4.259)
22. Park S, Won JH, Hwang I, Hong S, **Lee HK**, Yu JW. Defective mitochondrial fission augments NLRP3 inflammasome activation. Scientific Reports 2015 Oct 22;5:15489. doi: 10.1038/srep15489 (IF = 4.259)
23. Chang DH, Rhee MS, Ahn S, Bang BH, Oh JE, **Lee HK**, Kim BC. Faecalibaculum rodentium gen. nov., sp. nov., isolated from the faeces of a laboratory mouse. Antonie Van Leeuwenhoek International Journal of General and Molecular Microbiology. 2015 Sep 8[Epub ahead of print] (IF = 1.795)
24. Shim YR, **Lee HK**. Caspase-1 independent viral clearance and adaptive immunity against mucosal respiratory syncytial virus infection. Immune Network. 2015 Apr 15(2):73-82 (IF unavailable)
25. Oh JE, **Lee HK**. Pattern recognition receptors and autophagy. Frontiers in Immunology. 2014 Jun 25;5:300 (IF = 6.429)
26. Kim TH, **Lee HK**. Differential roles of lung dendritic cell subsets against respiratory virus infection. Immune Network. 2014 Jun 14(3):128-137 (IF unavailable) Invited Review Article

CURRICULUM VITAE

27. Nish SA, Schenten D, Wunderlich FT, Pope SD, Gao Y, Hoshi N, Yu S, Yan X, **Lee HK**, Pasman L, Brodsky I, Yordy B, Zhao H, Bruning J, Medzhitov R. T cell-intrinsic role of IL-6 signaling in primary and memory responses. Elife. 2014 May 19;3:e01949 (IF = 7.725)
28. Kim TH, **Lee HK**. Innate immune recognition of respiratory syncytial virus infection. BMB Reports. 2014 Apr;47(4):184-191 (IF = 3.089)
29. Schenten D, Nish SA, Yu S, Yan X, **Lee HK**, Brodsky I, Pasman L, Yordy B, Wunderlich FT, Bruning JC, Zhao H, Medzhitov R. Signaling through the adaptor molecule MyD88 in CD4+ T cells is required to overcome suppression by regulatory T cells. Immunity. 2014 Jan 16;40(1):78-90 (IF = 22.845)
30. Oh JE and **Lee HK**. 2013. Autophagy as an innate immune modulator. Immune Network. 2013 Feb;13(1):1-9 (IF unavailable) Invited Review Article
31. Shin JH, Min SH, Kim SJ, Kim YI, Park J, **Lee HK***, Yoo OJ*. 2013. TAK1 regulates autophagic cell death by suppressing the phosphorylation of p70 S6 kinase 1. Scientific Reports. 2013 Mar 27;3:1561 (* Co-corresponding author) (IF = 4.259)
32. **Lee HK**, Bae YS. 2013. 12th International Dendritic Cell Symposium, October 7-11, 2012; Daegu, Korea: New Paradigm of Dendritic Cell Science and application. Oncoimmunology. 2013 Feb 1;2(2) (IF = 7.719)
33. Oh JE and **Lee HK**. 2012. Modulation of pathogen recognition by autophagy. Frontiers in Immunology. 3:44. doi: 10.3389/fimmu.2012.00044 (IF = 6.429)
34. Oh JE, **Lee HK**. 2012. Autophagy in innate recognition of pathogens and adaptive immunity. Yonsei Medical Journal. 53(2):241-247 (IF = 1.537)
35. Lee DH, Kim SH, Kang W, Choi YS, Lee SH, Lee SR, You S, **Lee HK**, Chang KT, Shin EC. 2011. Adjuvant effect of bacterial outer membrane vesicles with penta-acylated lipopolysaccharide on antigen-specific T cell priming. Vaccine. 26;29(46):8293-301 (IF = 3.235)
36. Choi MS, Min SH, Jung H, Lee JD, **Lee HK***, Yoo OJ*. 2011. The essential role of FKBP38 in regulating phosphatase of regenerating liver 3 (PRL-3) protein stability. Biochemical and Biophysical Research Communications. 406, 305-309 (Co-corresponding) (IF = 2.466)
37. Lee S, Nishio H, Nishio S, Choi BS, **LEE HK**, Cantley LG. 2011. Macrophage heterogeneity regulates renal injury and repair. Journal of the American Society of Nephrology. 22 (2):317-326 (IF = 8.966)
38. Shin MJ, Shim JH, Lee JY, Chae WJ, **Lee HK**, Morio T, Park JH, Chang EJ, Lee SK. 2010. Qualitative and quantitative differences in the intensity of Fas-mediated intracellular signals determine life and death in T cells. International Journal of Hematology. 92(2):262-70 (IF = 1.610)

CURRICULUM VITAE

39. **Lee HK**, Seinberg BE, Alberts P, Lee YH, Chervonsky A, Mizushima N, Grinstein S, Iwasaki A. 2010. In vivo requirements for atg5 in antigen presentation by dendritic cells. Immunity 32 (2):227-239 (IF = 22.845)
40. Tal MC, Sasai M, **Lee HK**, Yordy B, Shadel GS, Iwasaki A. 2009. Absence of autophagy results in reactive oxygen species-dependent amplification of RLR signaling. Proc Natl Acad Sci U S A 106, 2770-2775 (IF = 9.661)
41. **Lee HK**, Zamora M, Linehan MM, Iijima N, Gonzales D, Haberman A, Iwasaki A. 2009. Differential role of migratory and resident DCs in T cell priming after mucosal vs. skin HSV-1 infection. Journal of Experimental Medicine, 206, 359-370 (IF = 11.991)
42. Takeshi I, **Lee HK**, Ogura Y, Flavell RM, Iwasaki A. 2009. The requirement of inflammasome in the generation of adaptive immunity against influenza virus infection. Journal of Experimental Medicine, 206, 79-87 (IF = 11.991)
43. **Lee HK**, Iwasaki A. 2008. Autophagy and antiviral immunity. Current Opinion in Immunology, 20(1):23-29. (IF = 8.384)
44. Miller BC, Zhao Z, Stephenson LM, Cadwell K, Pua HH, **Lee HK**, Mizushima NN, Iwasaki A, He YW, Swat W, Virgin HW. 2007. The autophagy gene Atg5 plays an essential role in B lymphocyte development. Autophagy, 24;4(3) (IF = 8.593)
45. Joshi NS, Cui W, Chandele A, **Lee HK**, Urso D, Hagman J, Gapin L, Kaech SM. 2007. Inflammation directs a gradient of T-bet expression that specifies memory precursor and short-lived effector CD8 T cells. Immunity 27:281-295 (IF = 22.845)
46. **Lee HK***, Lund JM*, Ramanathan B*, Mizushima N, Iwasaki A. 2007. Autophagy-dependent viral recognition by plasmacytoid dendritic cells. Science 315:1398-401 (*equally contributed) (IF = 37.205)
Introduced in Perspective: Reis e Sousa C. 2007. Eating in to avoid infection. Science 315:1376-7
47. **Lee HK**, Iwasaki A. 2007. Innate control of adaptive immunity: dendritic cells and beyond. Seminars in Immunology 19:48-55 (IF = 9.611)
48. Watanabe N, Wang YH, **Lee HK**, Ito T, Wang YH, Cao W, Liu YJ. 2005. Hassall's corpuscles instruct dendritic cells to induce CD4+CD25+ regulatory T cells in human thymus. Nature 436:1181-5 (IF = 40.137)
49. Chae WJ, **Lee HK**, Han JH, Kim SW, Bothwell AL, Morio T, Lee SK. Qualitatively Differential Regulation of T cell Activation and Apoptosis by T cell receptor ζ chain ITAMs and their Tyrosine residues, International Immunology. 2004, 16(9):1225-1236 (IF = 3.748)
50. Han DJ, Jeong YL, Wee YM, Lee AY, **Lee HK**, Ha JC, Lee SK, Kim SC. 2003. Tautomycetin as a novel immunosuppressant in transplantation. Transplantation Proceedings 35:547 (IF = 0.908)

CURRICULUM VITAE

51. Shim JH*, **Lee HK***, Chang EJ, Chae WJ, Han JH, Han DJ, Morio T, Yang JJ, Bothwell A, Lee SK. 2002. Immunosuppressive effects of tautomycetin in vivo and in vitro via T cell-specific apoptosis induction. Proc Natl Acad Sci U S A 99:10617-22 (equally contributed) (IF = 9.661)
52. **Lee HK**, Cho KM, Chun HS, Son HJ, Lee SK. 1998. Immunosuppressive effects of tautomycetin on T cells, Korean J. Immunology 20, 2: 85-90. ((IF unavailable))

Patents

- A pharmaceutical composition comprising inhibitor of scavenger receptor

Inventor: Heung Kyu Lee, Dong Sun Oh

Registration number: 10-1994677, June 25, 2019

- A role of autophagy-related protein Atg5 in tumor antigen presentation by dendritic cells

Inventor: Heung Kyu Lee, Dong Sun Oh

Registration number: 10-1789868, October 18, 2017

- The use of IL-33 to diagnose the susceptibility of intravaginal viral infection

Inventor: Heung Kyu Lee, Ji Eun Oh

Registration number: 10-1765397, July 31, 2017

- Pharmaceutical composition comprising anti-CD25 monoclonal antibody-photosensitizer complex for preventing or treating cancer

Inventor: Heung Kyu Lee, Ji Ho Park, Dong Sun Oh, Heegon Kim, Ji Eun Oh

Registration number: 10-1732149, April 25, 2017

- Cell permeable MX1 recombinant protein

Inventor: Heung Kyu Lee, Hi Eun Jung

Registration number: 10-1650100, August 16, 2016

Scientific Oral Presentation (International)

- 4th International Symposium of the Priority Research Center, Myunggok Medical Research Institute. College of Medicine, Konyang University. Daejeon, South Korea, Nov. 21, 2018
- 6th World Congress on Targeting Microbiota 2018, Porto, Portugal, Oct. 29, 2018
- The 4th International Symposium of Wide River Institute of Immunology, Hongcheon, South Korea, Oct. 13, 2017
- 18th International Congress of Mucosal Immunology (ICMI) 2017, Washington D.C., U.S.A. July 19, 2017
- 45th Annual Meeting of The Japanese Society for Immunology, Okinawa, Japan, Dec. 5, 2016
- 2016 KAI-IBS Joint International Conference, Seoul, Korea, Nov. 16, 2016
- 15th Awaji International Forum on Infection and Immunity, Awaji, Japan, Sep. 8, 2016
- International Congress of Immunology 2016, Melbourne, Australia, August 21, 2016
- Mucosal Immunology Course and Symposium of Society for Mucosal Immunology, Toronto, Canada, July 27, 2016
- American Association of Immunologists Annual Meeting, Seattle, WA, USA, May 13, 2016
- Dr. Takeshi Ichinohe laboratory seminar, University of Tokyo, Tokyo, Japan. Nov.16, 2015
- 2013 International Annual Meeting of Korean Society for Biochemistry and Molecular Biology, Seoul, May 14, 2013
- 2011 International Annual Meeting of KSBMB, Seoul, May 18, 2011

CURRICULUM VITAE

- International Meeting of the Federation of Korean Microbiological Societies, Seoul, October 14, 2010
- 14th International Congress of Immunology, Kobe, Japan. August 24, 2010
- The 8th Annual Symposium of Korean American Society in Biotech and Pharmaceuticals, Piscataway, NJ, 2009
- RIKEN Research Center for Allergy and Immunology International Summer Program Symposium, Yokohama, Japan. Jun 22, 2008
- Dept. of Immunobiology RIP Seminar, Yale University School of Medicine, New Haven, May 16, 2008
- 95th AAI Annual Meeting, San Diego, CA. April 7, 2008
- Yale Korean Bioscience Society Seminar, New Haven, CT, Oct. 18, 2007

Scientific Oral Presentation (Domestic)

- Invited Seminar, Genexine, Inc., Seongnam-si, Gyeonggi-do, August 16, 2019
- Invited Seminar, Samsung Bioepis, Suwon, May 20, 2019
- Invited Seminar, Graduate School of Public Health, Seoul National University, Seoul, May 3, 2019
- Annual Symposium of The Korean Academy of Asthma, Allergy and Clinical Immunology (KAAACI), Daegu, South Korea. Nov. 3, 2018
- KAIST Immunology Symposium, KAIST, Daejeon, November 7, 2017
- Future System Healthcare Research Project Symposium, KAIST, Daejeon, August 21, 2017
- Department of Biomedical Science Seminar, Kyung Hee University School of Medicine, April 6, 2017
- Department of Biotechnology Seminar, Yonsei University, March 17, 2017
- Department of Biomedical Sciences Seminar, Seoul National University School of Medicine, March 8, 2017
- Chungnam University School of Medicine Seminar, Daejeon, Korea, Sep. 28, 2016
- Invited Seminar in Genexine, Inc., Seongnam, July 9, 2016
- 24th Federation Meeting of Korean Basic Medical Scientists, Incheon, June 24, 2016
- 17th Korean Society for Dendritic Cells Symposium, Seoul, June 10, 2016
- Future System Health Care Symposium, KAIST, Daejeon, May 11, 2016
- Chuncheon branch of Korea Basic Science Institute (KBSI) Seminar, Chuncheon, Nov. 30, 2015
- POSTEC-CATHOLIC Biomedical Engineering Institute Seminar, POSTECH, Seoul, Mar. 6, 2015
- Korean Collection for Type Cultures, Biological Resource Center Seminar, Korea Research Institute of Bioscience and Biotechnology (KRIBB), Daejeon, Dec. 16, 2014
- Dep. Of Integrated OMICS for Biomedical Science Seminar, Yonsei University, Seoul, Nov. 24, 2014
- Korean Collection for Type Cultures, Biological Resource Center Seminar, KRIBB, Daejeon, Jun 17, 2014
- Research Center for Endocrine and Metabolic Diseases Seminar, Chungnam National University Hospital, Daejeon, Mar. 26, 2014
- Biomedical Symposium, Kunkook University School of Medicine, Seoul, Jan. 28, 2014
- Dept. of Internal Medicine Seminar, Chonbuk University School of Medicine,

CURRICULUM VITAE

- Jeonju, Dec. 11, 2013
- Division of Medical Sciences Seminar of Korea Research Foundation, Nov. 21, 2013
- 2013 Annual Meeting of The Korean Academy of Pediatric Allergy and Respiratory Disease, Oct. 19, 2013
- BD FACS Advanced Seminar, Seoul, Aug. 8, 2013
- GT10 Symposium, Samsung Medical Hospital, Seoul, May 24, 2013
- Dept. of Biomedical Sciences Seminar, Yonsei University College of Medicine, May 21, 2013
- Korean Intellectual Property Office seminar, Daejeon, March 18, 2013
- BD FACS Camp seminar, Cheonan, Feb. 22, 2013
- Core-facility invited seminar, Chungbuk National University, Cheongju, Dec.18, 2012
- Sorak Conference 2012, Korean Society for Biochemistry and Molecular Biology, Yangyang, Jun 20, 2012
- Korean society for Reproductive Immunology Conference, Taeon, Korea, June 16, 2012
- The Spring Conference of The Korean Association of Immunologists, Seoul, Korea. April 13, 2012
- Dep. of Integrated OMICS for Biomedical Science Seminar, Yonsei University, Seoul, April 2, 2012
- 14th Gosari Symposium, Ewha Woman's University, Gosari Dorm, Feb. 11, 2012
- Seoul National University School of Medicine Immunology Research Group Seminar, Seoul, Dec. 13, 2011
- Medical Research Center Seminar, Chungnam National University School of Medicine, Daejeon, Dec. 9, 2011
- Dental School Seminar, Pusan University Dental School, Yangsan, Nov. 24, 2011
- Dept. of Biological Sciences Seminar, Sungkyunkwan University, Suwon, Nov. 10, 2011
- College of Pharmacy Seminar, Ewha Womans University, Seoul, Sep. 29, 2011
- Vaccine Study Group Seminar, Osong, Sep. 27, 2011
- IRICT Seoul National University Hospital Symposium, Seoul, Korea, May 26, 2011
- Biomedical Science Dept. Seminar, Catholic University of Korea, May 16, 2011
- Airway Vista 2011 Symposium, Asan Medical Center, Seoul, Korea, April 2, 2011
- Korean Academy of Asthma, Allergy and Clinical Immunology Conference, Seoul, March 15, 2011
- Dept. of Animal Biotechnology Seminar, Seoul National University, Dec. 22, 2010
- Medical Research Center Seminar, Chungnam National University School of Medicine, Daejeon, Dec. 16, 2010
- Dendritic Cell Symposium, Pusan University School of Medicine, Yangsan, Dec. 15, 2011
- The 10th International Symposium of Rheumatism Research Center, Seoul, Korea. Dec. 2, 2010
- Psoriasis Study Semiar, Daejeon, Nov. 29, 2010
- Immunology Seminar, Sungkyunkwan University School of Medicine, Suwon, Oct. 27, 2011
- The Korean Society for Investigative Dermatology Symposium, Chonan, Aug. 21, 2010
- BD FACS CAMP Seminar, Chonan, August 19, 2010

CURRICULUM VITAE

- Integrative Biosciences & Biotechnology Seminar, POSTECH, Pohang, Korea. June 11, 2010
- The 18th Federation Meeting of Korean Basic Medical Scientists 2010, Seoul, May 21, 2010
- Immunology Interest Group Seminar, Seoul National University School of Medicine, Seoul, May 6, 2010
- Biomedical Science Seminar, Konkuk University School of Medicine, Seoul, April 28, 2010
- Department of Biology Seminar, Dongguk University, Seoul, April 27, 2010
- The 12th Dendritic Cell Symposium, Chungju, April 23, 2010
- The Spring Conference of The Korean Association of Immunologists, Daejeon, April 9, 2010
- National Creative Research Initiatives of Inflammatory Response Modulation Seminar, Yonsei University, Seoul, Feb. 24, 2010
- Transplantation laboratory Seminar, Asan Medical Center, Seoul, Nov. 17, 2009
- Department of Biotechnology Seminar, Yonsei University, Seoul, Nov. 11, 2009
- Graduate School of Medical Science and Engineering Seminar, KAIST, Daejeon, Dec. 11, 2009