

# **Curriculum Vitae**

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**Yoonha Hwang (황윤하), Ph.D.**

## **Education**

- Feb 2010 – Aug 2016      **M.S./Ph.D. (Advisor Prof. Pilhan Kim)**  
Graduate School of Nanoscience and Technology  
Korea Advanced Institute of Science and Technology (KAIST), Daejeon,  
Republic of Korea
- Mar 2006 – Feb 2010      **B. S.**  
Department of Physics  
Korea Advanced Institute of Science and Technology (KAIST), Daejeon,  
Republic of Korea

## **Employment**

- Sep 2016 – Aug 2017      **Post-doctoral Researcher**  
In Vivo Micro-Visualization Laboratory  
KAIST Natural Research Institute  
Korea Advanced Institute of Science and Technology (KAIST), Daejeon,  
Republic of Korea
- Sep 2017 – Present      **Senior Engineer**  
IVIM Technology, Daejeon, Republic of Korea

## **Awards**

- 2016, Young Investigator's award in 2016 Annual Meeting of the Korean Society of Molecular Imaging
- 2015, Best poster award in International 6th THz-Bio Workshop Spring Annual Meeting

## **Publications**

Park I, Choe K, Seo H, **Hwang Y**, Song E, Ahn J, Jo YH Kim, P, "Intravital imaging of a pulmonary endothelial surface layer in a murine sepsis model", ***Biomedical Optics Express***, 9(5), 2383-2393, 2018.

Oh BJ\*, Jin SM\*, **Hwang Y**\*, Choi JM, Lee HS, Kim G, Kim G, Park HJ, Kim P, Kim SJ, Kim JH. "Highly Angiogenic, Non-Thrombogenic Bone Marrow Mononuclear Cells-Derived Spheroids in Intraportal Islet Transplantation," ***Diabetes***, 67(3), 473-485, 2018. (\*co-first authors)

**Hwang Y**, Yoon H, Choe K, Ahn J, Jung J, Park J, Kim P. "In Vivo Cellular-level Real-time Pharmacokinetic Imaging of Free-form and Liposomal Indocyanine Green in Liver," ***Biomedical Optics Express***, 8(10), 4706-4716, 2017.

Ogura S, Kurata K, Hattori Y, Takase H, Ishiguro-Oonuma T, **Hwang Y**, Ahn S, Park I, Ikeda W, Kusuhara S, Fukushima Y, Nara H, Sakai H, Fujiwara T, Matsushita J, Ema M, Hirashima M, Minami T,

Shibuya M, Takakura N, Kim P, Miyata T, Ogura Y, Uemura A. "Sustained inflammation after pericyte depletion induces irreversible blood-retina barrier breakdown," *JCI insight*, 2(3), e90905, 2017.

Lee JY\*, **Hwang Y\***, Kim JH, Kim YS, Jung BK, Kim P, Lee H, "In vivo fluorescence retinal imaging following AAV2-mediated gene delivery in the rat retina," *Investigative Ophthalmology & Visual Science*, 57(7), 3390-96, 2016 (\*co-first authors).

Park JR, Choi W, Hong HK, Kim Y, Park SJ, **Hwang Y**, Kim P, Woo SJ, Park KH, Oh W-Y, "Imaging laser-induced choroidal neovascularization in the rodent retina using optical coherence tomography angiography," *Investigative Ophthalmology & Visual Science*, 57(9), OCT331-40, 2016.

Song E, Seo H, Choe K, **Hwang Y**, Ahn J, Ahn S, Kim, P, "Optical clearing based cellular-level 3D visualization of intact lymph node cortex", *Biomedical Optics Express*, 6(10), 4154, 2015.

Ahn J, Choe K, Wang T, **Hwang Y**, Song E, Kim KH, Kim P, "In vivo longitudinal cellular imaging of small intestine by side-view endomicroscopy", *Biomedical Optics Express*, 6(10), 3963, 2015.

Seo H, **Hwang Y**, Choe K, Kim P, "In vivo Quantitation of Circulating Tumor Cells from Great Saphenous Vein Based on Video-rate Confocal Microscopy", *Biomedical Optics Express*, 6(6), 2158-67, 2015.

Park DY, Lee J, Park I, Choi D, Lee S, Song S, **Hwang Y**, Hong KY, Nakaoka Y, Makinen T, Kim P, Alitalo K, Hong YK, Koh GY, "Lymphatic regulator PROX1 determines Schlemm's canal integrity and identity", *Journal of Clinical Investigation*, 124(9), 3960-74, 2014.

**Hwang Y**, Ahn J, Mun J, Bae S, Jeong YU, Vinokurov NA, Kim P, "In vivo analysis of THz wave irradiation induced acute inflammatory response in skin by laser-scanning confocal microscopy", *Optics Express*, 22(10):11465-75, 2014

Choe K, **Hwang Y**, Seo H, Kim P, "In vivo high spatiotemporal resolution visualization of circulating T lymphocytes in high endothelial venules of lymph nodes," *Journal of Biomedical Optics*, 18(3):036005, Mar. 2013.

## **Presentations [International]**

**Hwang Y**, Choe K, Yoon H, Park J, Kim P, "In vivo cellular-level visualization by multi-color and multi-purpose laser-scanning microscopy," *11<sup>th</sup> Annual Meeting of Japanese Society for Molecular Imaging (FASMI)*, Kobe, Japan, May 2016. (Poster)

**Hwang Y**, Mun J, Ahn J, Bae S, Jeong YU, Vinokurov NA, Kim P, "In vivo analysis of immune cell motility after THz wave irradiation", *Conference on Lasers and Electro-Optics Pacific Rim '2015*, 27B2-4, Busan, Korea, Aug. 2015. (Oral)

**Hwang Y**, Yoon HJ, Choe K, Park JH, Kim P, "In vivo real-time observation of ICG pharmacokinetics by NIR laser-scanning confocal microscopy", *Conference on Laser and Electro-Optics (CLEO) '2015*, AT4J.5, San Jose, USA, May 2015. (Oral)

**Hwang Y**, Choe K, Ahn J, Kim P, "In vivo visualization of ICG pharmacokinetics by NIR laser-scanning confocal microscopy", *International Conference on Nano-Bio Sensing, Imaging & Spectroscopy '2015*, Jeju, Korea, Feb. 2015. (Oral)

**Hwang Y**, Choe K, Ahn J, Kim P, "Intravital video-rate near infrared laser-scanning confocal microscopy", *World Molecular Imaging Congress (WMIC) '2014*, P337, Seoul, Korea, Sep. 2014. (Poster)

**Hwang Y**, Mun J, Ahn J, Bae S, Jeong YU, Vinokurov NA, Kim P, "In Vivo Analysis of Cellular-level Inflammatory Response Induced by Pulsed THz Irradiation," ***SPIE Photonics West BiOS '2014***, 8941-55, San Francisco, USA, Feb. 2014. (Oral)

### **Presentations [Domestic]**

**Hwang Y**, Ahn S, Park I, Uemura A, Kim P, "Intravital Retinal Imaging of Cellular Dynamics in Retinopathy Model", ***Annual Meeting of Vascular Science & Medicine Organization '2017***, Muju, Korea, Aug. 2017. (Poster)

**Hwang Y**, Ahn S, Park I, Uemura A, Kim P, "Analysis of Cellular Dynamics by Intravital Retinal Imaging", ***Optics and Photonics Congress***, Busan, Korea, Jul. 2017. (Oral)

**Hwang Y**, Kim P, "In vivo retinal imaging of rodent model by laser-scanning microscopy," ***Annual Biophotonics Conference '2016***, Daejeon, Korea, Nov 2016. (Poster)

**Hwang Y**, Choe K, Yoon H, Park J, Kim P, "Intravital visualization of rodent model based on multicolor laser-scanning microscopy," ***Annual Meeting of Vascular Science & Medicine Organization '2016***, Daejeon, Korea, May 2016. (Poster)

**Hwang Y**, Choe K, Yoon H, Park J, Kim P, "In vivo cellular-level visualization by multi-color and multi-purpose laser-scanning microscopy," ***The Korean Society of Molecular Imaging (KSMI) Spring Meeting '2016***, Yeosu, Korea, Feb. 2016. [YOUNG INVESTIGATOR'S AWARD] (Oral)

**Hwang Y**, Kim P, "In vivo retinal fluorescence imaging based on laser-scanning confocal microscope," ***Optical Society of Korea (OSK) Winter Meeting '2016***, Daejeon, Korea, Jan. 2016. (Oral)

**Hwang Y**, Yoon HJ, Choe K, Ahn J, Park JH, Kim P, "In vivo visualization and analysis of ICG pharmacokinetics utilizing NIR laser-scanning confocal microscopy", ***Annual Biophotonics Conference '2015***, Seoul, Korea, Oct. 2015. (Poster)

**Hwang Y**, Yoon HJ, Choe K, Park JH, Kim P, "In vivo analysis of ICG pharmacokinetics by video-rate NIR laser-scanning confocal microscopy", ***Optical Society of Korea (OSK) Summer Meeting '2015***, W2B-VI3, Kyoung-ju, Korea, Jul. 2015. (Oral)

**Hwang Y**, Mun J, Ahn J, Bae S, Jeong YU, Vinokurov NA, Kim P, "In vivo cellular-level analysis of immune cell motility after THz irradiation," ***Advanced Laser and Their Applications (ALTA) '2015***, Fri-P-63, Jeju, Korea, May 2015. (Poster)

**Hwang Y**, Mun J, Ahn J, Bae S, Jeong YU, Vinokurov NA, Kim P, "In vivo cellular-level analysis of immune cell motility after THz irradiation," ***International 6th THz-Bio Workshop Spring Annual Meeting '2015***, Seoul, Korea, Apr. 2015. [BEST POSTER AWARD] (Poster)

**Hwang Y**, Choe K, Ahn J, Kim P, "Intravital video-rate near infrared laser-scanning confocal microscopy," ***Optical Society of Korea (OSK) Summer Meeting '2014***, Jeju, Korea, Aug. 2014. (Poster)

**Hwang Y**, Ahn J, Mun J, Bae S, Jeong YU, Vinokurov NA, Kim P, "In vivo analysis of cellular-level inflammatory response induced by pulsed THz irradiation," ***Advanced Laser and Their Applications (ALTA) '2014***, Fri-P-77, Jeju, Korea, May 2014. (Poster)

**Hwang Y**, Mun J, Ahn J, Bae S, Jeong YU, Kim P, "In Vivo Analysis of Cellular-level Inflammatory Response Induced by Pulsed THz Irradiation," ***International 5th THz-Bio Workshop Spring Annual Meeting '2014***, P-17, Seoul, Korea, Apr. 2014. (Poster)

**Hwang Y**, Ahn J, Mun J, Bae S, Jeong YU, Vinokurov NA, Kim P, "In Vivo Observation of Inflammation Response Induced by THz Radiation with Intravital Microscopy," ***Advanced Laser and Their Applications (ALTA) '2013***, Fri-P-40, Jeju, Korea, May 2013. (Poster)

**Hwang Y**, Ahn J, Mun J, Bae S, Jeong YU, Vinokurov NA, Kim P, "In Vivo Analysis of Cellular Effect Induced by THz wave radiation with Intravital Microscopy," ***Optical Society of Korea (OSK) Summer Meeting '2012***, WP-VI21, Jeju, Korea, Aug. 2012. (Poster)

**Hwang Y**, Choe K, Seo H, Kim P, "In Vivo Analysis of Cellular Effect Induced by THz wave radiation with Intravital Microscopy," ***Advanced Lasers and Their Applications (ALTA) '2012***, Thu-R2-2, Jeju, Korea, May 2012. (Poster)

**Hwang Y**, Choe K, Kim P, "Confocal microscopy with near-infrared laser," Conference on ***Optoelectronics and Optical Communications (COOC) '2011***, TP-V3, Kyoung-ju, Korea, May 2011. (Poster)