

# Sungtae Park

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## Education

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<b>PhD</b>	Biological Science, Purdue University	Advisor: <b>Dr. Matthew R Olson</b>	<b>2023</b>
<b>BS</b>	Food Science, Chonnam National University		<b>2010</b>

## Work Experience

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Senior scientist, AstraZeneca Manager : Brian Naiman	Gaithersburg, MD, USA Mar 2023 - Present
Graduate research assistant, Purdue University Mentor : Matthew R Olson, PhD	West Lafayette, IN, USA Jan 2018 - Mar 2023
<ul style="list-style-type: none"><li>- Investigating the role of granzyme A producing CD4 T cells in Graft-versus-Host and inflammatory bowel disease.</li><li>- Investigating the transcriptional pathways to regulate granzyme A producing CD4 T cells differentiation.</li></ul>	
Graduate research assistant, Purdue University Mentor : Chang Kim, PhD	West Lafayette, IN, USA Aug 2016 - Dec 2017
<ul style="list-style-type: none"><li>- Investigating the role of RAR<math>\alpha</math> in the development of Langerhans cells and langerin-expressing conventional dendritic cells.</li><li>- Investigating the effect of estrogen on immune cells during ZIKA virus infection.</li><li>- Determining potential JAK inhibitory chemotype candidates using in-vitro primary T cell culture system.</li></ul>	
Research assistant & Lab manager, Yonsei University Mentor : Jungsik Jason Song, MD, PhD	Seoul, Korea Apr 2012 - May 2016
<ul style="list-style-type: none"><li>- Investigating the role of energy metabolism on macrophage activation and the role of stem cell growth factor on leukocytes.</li><li>- Investigating the effect of metabolic inhibitor in rheumatoid arthritis model using mouse model.</li><li>- Setting up a starting lab.</li></ul>	
Lab technician, Korea Institute of Science and Technology (KIST) Mentor : Jinny Kim, PhD	Seoul, Korea May 2011 - Dec 2011
<ul style="list-style-type: none"><li>- Brain mapping by visualizing of connection between pre and post synapse using confocal microscopy.</li><li>- Setting up a starting lab.</li></ul>	
Lab technician, Chonnam National University Mentor : Myoung-Ha Yoon, MD, PhD	Gwangju, Korea Jan 2010 - Dec 2010
<ul style="list-style-type: none"><li>- Investigating the effectiveness of drug samples for pain reliever using intrathecal catheterized rat model.</li></ul>	
Undergraduate research assistant, Chonnam National University Mentor : Jae-Hak Moon, PhD	Gwangju, Korea Jan 2007 - Dec 2007
<ul style="list-style-type: none"><li>- Determining the anti-oxidant properties in Korean traditional food using HPLC and NMR analysis.</li></ul>	

## Publications

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1. D. Alejandro Canaria, Maia G. Clare, Bingyu Yan, Cahrlotte B. Campbell, Zachariah A. Ismaio, Nicole L Anderson, **Sungtae Park**, Alexander L Dent, Majid Kazemian and Matthew R. Olson. "IL-1 $\beta$  promotes IL-9-producing Th cell differentiation in IL-2-limiting conditions through the inhibition of BCL6." *Frontiers in immunology*, 6692 (2022).
2. Datta, Abhishek, Juan F. Hernandez-Franco, **Sungtae Park**, Matthew R. Olson, Harm HogenEsch, and Shankar Thangamani. "Bile Acid Regulates Mononuclear Phagocytes and T Helper 17 Cells to Control Candida albicans in the Intestine." *Journal of Fungi* 8, no. 6 (2022): 610.
3. **Sungtae Park**, Nicole L. Anderson, D. Alejandro Canaria, and Matthew R. Olson. "Granzyme-Producing CD4 T Cells in Cancer and Autoimmune Disease." *ImmunoHorizons* 5, no. 12 (2021): 909-917.
4. **Sungtae Park**, Brad Griesenauer, Hua Jiang, Djamilatou Adom, Pegah Mehrpouya-Bahrami, Srishti Chakravorty, Majid Kazemian et al. "Granzyme A-producing T helper cells are critical for acute graft-versus-host disease." *JCI insight* 5, no. 18 (2020).
5. Elsayed Mohamed SA, Jeffery J. Nielsen, **Sungtae Park**, Jeongho Park, Qingyang Liu, Chang H. Kim, Yves Pommier, Keli Agama, Philip S. Low, and Mark Cushman. "Application of Sequential Palladium Catalysis for the

Discovery of Janus Kinase Inhibitors in the Benzo [c] pyrrolo [2, 3-h][1, 6] naphthyridin-5-one (BPN) Series." *Journal of medicinal chemistry* 61, no. 23 (2018): 10440-10462.

6. Hashimoto-Hill Seika, Leon Friesen, **Sungtae Park**, Suji Im, Mark H. Kaplan, and Chang H. Kim. "RAR $\alpha$  supports the development of Langerhans cells and langerin-expressing conventional dendritic cells." *Nature communications* 9, no. 1 (2018): 3896.
7. Imam, Tanbeena, **Sungtae Park**, Mark H. Kaplan, and Matthew R. Olson. "Effector T helper cell subsets in inflammatory bowel diseases." *Frontiers in immunology* 9 (2018).

### **Selected events & Presentation**

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1. **Oral and Poster presentation** Autumn Immunology Conference, Nov 2019 and Nov 2021, Chicago.
  - Transcriptional regulation of granzyme A-producing helper T cells in acute graft-versus-host-disease
2. **Poster Presentation:** Health and Disease: Science, Technology, Culture and Policy Research Poster Session, Feb 2019 and Feb 2020, Purdue University.
  - Transcriptional control of GrA+ CD4 T cells in intestinal inflammation,
3. **Oral Presentation:** Cell Identity and Signaling symposium, May 2018, Purdue University.
  - Granzyme A+ CD4 T cells contribute to intestinal homeostasis and disease.

### **Leadership & Organizational skills**

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Graduate Research Assistant, Purdue University

- Mentored and trained 4 undergraduates and 5 rotating graduate students

Teaching Assistant, Purdue University

- Mentored and taught the 4 lab classes (Genetics and Molecular Biology, Cell Structure and Function, Diet-Inflammation-Immunity and Disease, Human Anatomy and Physiology) for 3+ years

### **Awards & Honors**

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Graduate school summer research grant, Purdue University	2022
Grand prize in national competition of undergraduate research presentation, Korea Basic Science Institute	2007
Academic excellency scholarship, Chonnam National University	2006-2007
Grand prize in university group study project, Chonnam National University	2006