

# Curriculum Vitae

## HYUN DON YUN, M.D. Curriculum Vitae

### **Current Professional Appointment**

09/2022- Current

Staff Physician, Hematology/Medical Oncology, VA Long Beach Healthcare System, Long Beach, CA

### **Previous Professional Appointments**

07/2021-07/2022

Physician, Hematology and Medical Oncology

Compassionate Cancer Care Medical Group, Riverside, CA (4500 Brockton Ave #107, Riverside, CA 92501, TEL: 951 276 2760)

07/2019-06/2021

Assistant Professor

Division of Hematology, Oncology and Stem Cell Transplantation, Department of Medicine, Rush University Medical Center, IL

### **Clinical Training**

07/2015 – 06/2018

Fellowship

**Division of Hematology, Oncology, and Transplantation, Department of Medicine, University of Minnesota**

Program Director: Yvonne Datta, MD, Division Chief: Charles Ryan, MD

07/2009 - 06/2012

**Internship, Residency**

Department of Medicine, Harbor Hospital Center, Maryland

Program Director: Richard Williams, MD

### **Education**

#### **Medical School**

Pusan National University, South Korea

02/2001 - 02/2005

#### **Undergraduate**

Pusan National University, Pusan, South Korea

Pre-medical course

03/1999 - 02/2001

### **Examinations/ Certification**

Hematology (ABIM) 2018-2028

Medical Oncology (ABIM) 2018-2028

American Board of Internal Medicine 2012-2022, 2023-2033

### **Medical Licensure**

Medical License:

California #A172166 04/2021-Current

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Illinois #036149386 2019-Current

## Awards/Accomplishments

- Honorable Mention in Poster Competition of 2009 American Medical Association-Resident and Fellow Section (AMA-RFS) Poster Symposium, Houston, Texas, in November 2009: *Eosinophilia Progressing Into Myelodysplasia*
- Awarded The Resident of Excellence In Research at Harbor Hospital Center (Residency Program) in 2010-2011 academic year
- Award of Outstanding Fellow for Research in Minnesota Society of Clinical Oncology (04/2017): *Trispecific Killer Engager CD16xIL15xCD33 enhances alloreactivity of NK cells against aberrant mast cells of patients with systemic mastocytosis (SM)*.
- Young Investigator Award, American Initiative in Mast Cell Disease (05/2019): Evolution of clonal dynamics and differential response to targeted therapy in a case of SM-MDS

## Public Services and Volunteer Activities

- 03/2022: Short-term medical mission trip to Mexico. Served medicine in Tijuana, Mexico. Providing treatment, education and counseling for underserved populations in limited resources
- 08/2022 – 08/2022: Short-term medical mission trip to Thailand. Served medicine in an Orphanage and Underserved Area in Chiang Rai, Thailand. Primarily Treating infections due to the COVID-19 pandemic, poor sanitation and poor hygiene. Provided public education for optimal prevention of communicable diseases, including COVID-19, various infectious diseases due to poor sanitation, and insect bites
- 11/2022, 04/2023: Short-term medical mission trip to Mexico. Served medicine in Tijuana, Mexico. Providing treatment, education, and counseling for underserved populations in limited resources
- 11/2023 – 12/2023: Short-term medical mission trip to Costa Rica. Service medicine in multiple locations across the country for underrepresented indigenous communities lacking access to healthcare and other essential services.
- 04/2024, 09/2024: Short-term medical mission trip to Tijuana, Mexico. Served medicine in a migrant shelter (refugee center) located in Divina Providencia. Providing treatment, education, and counseling for the refugees
- 03/2025: Short-term medical mission trip to Mexico. Served medicine in Tijuana, Mexico. Providing treatment, education, and counseling for underserved populations in limited resources

## Research Experience

09/2022-current

### Funding sources:

CFCCC-ACC pilot project (\$20,000)

Long Beach VA Startup Funding Award (\$50,000)

### Project:

- Tumor-Infiltrating NK Cells and Outcomes in NSCLC Treated with Checkpoint Inhibitors
- The impact of the function of natural killer (NK) cells in association with serum vitamin D levels on clinical outcomes of patients with advanced non-small cell lung cancer (NSCLC) treated with PD-1 or PD-L1 inhibitors
- The role of all-trans retinoic acid (ATRA) in NK cell-mediated cytotoxicity against glioblastoma multiforme
- The Role of Vitamin D on Mast Cell Activation and Neuroinflammation in Paclitaxel-Induced Peripheral Neuropathy

07/2019-07/2021

## **Laboratory research on NK cell biology and tumor immunology**

Mentee: Josef Goldufsky, PhD (post-doc fellow)

### Funding sources

- Rush Cancer Center Faculty OCM grant funding (\$35,000)
- Investigator Sponsored Research Award, Astellas (A total of \$246,000)

### Projects

1. Effect of hypomethylating agents combined with gemcitabine on NK cell function in pancreatic adenocarcinoma
2. Effect of gilteritinib treatment on NK cell function in acute myeloid leukemia
3. Soluble urokinase plasminogen activator receptor and NK cell cytotoxicity against malignant cells
4. The role of ruxolitinib treatment in augmenting antitumor activity of NK cells in acute myeloid leukemia
5. Impact of acute GVHD on NK cell function: the role of proinflammatory cytokines in NK cell cytotoxicity
6. The impact of sirolimus-based treatment for acute graft-versus-host disease on disease relapse in acute leukemia

patients

07/2016- 06/2019

**Laboratory research on NK cell-based cancer immunotherapy**

Mentor: Jeffrey Miller, MD, Craig Eckfeldt, MD, PhD

- Laboratory technique
  1. NK cell activation assay (measuring intracellular IFN-gamma, TNF-alpha production, CD107a expression)
  2. Phenotyping assay
  3. Flow cytometry based NK cell cytotoxicity assay
  4. NK cell proliferation assay
  5. Construction of TriKE molecule 16KIR33: cloning, PCR, Gibson assembly, bacteria cell transformation, etc.
- 3 projects: 2 laboratory and 1 clinical project
  1. Testing TriKE 161533 on neoplastic mast cells in the setting of allogeneic hematopoietic stem cell transplantation using normal donors' NK cells, and autologous setting using patients' PBMCs
    - a. Cell lines: HMC 1.1, HMC 1.2, ROSA KIT, HL-60 (as positive control)
    - b. Patients' samples (bone marrow aspirates, peripheral blood)
  2. Evaluating the potential for small molecules to enhance NK cell killing of leukemia targets
    - a. Target: THP-1, KG-1 cell line  
Primary AML cells
  3. Association of KIR and HLA typing with Outcome of Stem Cell Transplantation with Matched Related Donors

07/2012 – 05/2015

**Clinical and Research Program of Stem Cell Transplantation, Bone Marrow and Stem Cell Transplantation Center, Winship Cancer Institute, Emory University, Georgia**

Mentor: Edmund K. Waller, MD, PhD, FACP

- Learned laboratory techniques
  - Murine model: subcutaneous, intra-peritoneal, tail vein injection, blood sampling, procedures for stem cell harvest, GvHD scoring in murine models, imaging techniques
- Involved in clinical studies
  1. Designed and wrote *“Phase I/II Dose-Escalation Clinical Trial: Evaluation of High-Dose Vitamin D Therapy in Combination with Chemotherapy, G-CSF, and Plerixafor for CD34+ Cell Mobilization in Patients with Non-Hodgkin's Lymphoma Undergoing Autologous Stem Cell Transplantation”* as an **investigator-initiated institutional clinical study**.
  2. Access to Hematopoietic Stem Cell Transplant: An Institutional Overview

08/2010 – 06/2012

**Sidney Kimmel Cancer Center at Johns Hopkins, Maryland**

Mentor: Hetty Carraway, MD

- Phase 1 Dose- Escalation Trial of Clofarabine Followed by Escalating Dose of Fractionated Cyclophosphamide in Adults with Relapsed or Refractory Acute Leukemias

04/2008 - 04/2009

### Asthma Epidemiology Research, Mayo Clinic, Minnesota

Research Fellow, Mentor: Young J. Juhn, MD, MPH

- Epidemiologic projects
  1. Asthma and Invasive Pneumococcal Disease (IPD): A Population-Based Case Control Study To Investigate Mechanisms for Susceptibility of IPD in Asthmatics.
  2. The Association between Asthma and Common Variable Immundeficiency/IgA deficiency: Collaborating in a blinded study with Sanford Hospital in South Dakota
  3. Asthma and Proinflammatory Conditions: A population Based Retrospective Cohort Study To Investigate Epidemiological Association between Asthma (a Th-2 condition) and Proinflammatory Chronic Diseases (Th-1 conditions)
  4. Socioeconomic Status and Health Outcome: Housing Data-Based Socioeconomic Index and Risk of Invasive Pneumococcal Disease

### Publications and Presentations

#### Peer Reviewed Journal Articles Published

Leifheit, M. E., Johnson, G., Kuzel, T. M., Schneider, J. R., Barker, E., **Yun, H. D.**, Ustun, C., Goldufsky, J. W., Gupta, K., & Marzo, A. L. (2024). Enhancing Therapeutic Efficacy of FLT3 Inhibitors with Combination Therapy for Treatment of Acute Myeloid Leukemia. *International Journal of Molecular Sciences*, 25(17), 9448.

**Yun, H.D.**, Goel, Y., Gupta, K. Crosstalk of Mast Cells and Natural Killer Cells with Neurons in Chemotherapy-Induced Peripheral Neuropathy. *Int J Mol Sci*. 2023 Aug 8;24(16):12543.

**Yun, H.D.**, Antony, M.L., Linden, M.A., Noble-Orcutt, K.E., Eckfeldt, C.E., Ustun, C., Nelson, A.C., Sachs, Z. Evolution of clonal dynamics and differential response to targeted therapy in a case of systemic mastocytosis with associated myelodysplastic syndrome. *Leukemia Research*, 2020 Aug;95:106404. doi: 10.1016/j.leukres.2020.106404.

Ustun, C., DeFor, T.E., Karadag, F.K., **Yun, H.D.**, Nathan, S., Brunstein, C. G., Blazar, B. R., Weisdorf, D. J., Holtan, S. G., & Amin, K. (2020). Tissue mast cell counts may be associated with decreased severity of gastrointestinal acute GVHD and nonrelapse mortality. *Blood advances*, 4(10), 2317–2324. <https://doi.org/10.1182/bloodadvances.2020001793>

Varma, A., Loya, J., Junaid Hussain, M., **Yun, H.D.**, Gobbi, E. K., Reimer, A., Nathan, S., Ustun, C., & Muffly, L. (2020). Calcineurin-inhibitor induced pain syndrome after stem cell transplant. *Leukemia & lymphoma*, 1–4. Advance online publication.

Nathan, S., Hussain, M.J., Baptista, J., **Yun, H.D.**, Varma, A., Vardouniotis, A., Weber, M., Miller, M., Ustun, C. DLBCL after Allogeneic HCT in a Patient with Transformed DLBCL: Does it matter Whether Relapse or PTLD? *Clinical Lymphoma, Myeloma and Leukemia* (2020) S2152-2650(19)32214-1

**Yun, H.D.**, Nathan, S., Larson, M., Hussain, J.M., Katz, A.D., Varma, A., Miller, I., Ustun, C. Erythroid differentiation of myeloblast induced by gilteritinib in relapsed FLT3-ITD-positive acute myeloid leukemia. *Blood Advances*. 2019 Nov 26;3(22):3709-3712.

**Yun, H.D.**, Varma, A., Hussain, J.M., Nathan, S., Brunstein, C. Clinical relevance of immunobiology in umbilical cord blood transplantation. *Journal of Clinical Medicine*. 2019, 8(11), 1968

**Yun, H.D.**, Schirm, D.K., Felices, M., Miller, J.S., Eckfeldt, C.E. Dinaciclib enhances natural killer cell cytotoxicity against acute myelogenous leukemia. *Blood Advances*. 2019 Aug 27;3(16):2448-2452.

**Yun, H.D.**, Felices, M., Vallera, D.A., Hinderlie, P., Cooley, S.A., Arock, M., Gotlib, J.R., Ustun, C., and Miller J.S. Trispecific killer engager CD16xIL15xCD33 potently induces NK cell activation and cytotoxicity against neoplastic mast cells. *Blood Advances*. 2018 Jul 10;2(13):1580-1584.

**Yun, H.D.**, Dossul, T., Bernal-Mizrachi, L., Switchenko, J., Ndibe, C., Ibraheem, A., Dixon, M.D., Langston, A., Nooka, A.K.,

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Flowers, C.R., Pentz, R., Waller, E.K. Referral Patterns and Clinical Outcomes for Transplant-eligible Lymphoma and Myeloma Patients Evaluated at an Urban County Hospital. *Journal of Stem Cell Research and Therapy* 6:328. doi:10.4172/2157-7633.1000328

Urm, S.H., **Yun, H.D.**, Fenta, Y.A., Yoo, K.H., Abraham, R.S., Hagan, J., Juhn, Y.J. Asthma and Risk of Selective IgA Deficiency or Common Variable Immunodeficiency: A Population-Based Case-Control Study. *Mayo Clinic Proceedings*. Volume 88, Issue 8, August 2013, Pages 813-821

**Yun, H.D.**, Waller, E.K. Smudge cells following treatment with pentostatin in a patient with B-cell prolymphocytic leukemia. *Blood*. 2013 122 (4):474

**Yun, H.D.**, Waller, E.K. Finding the sweet spot for donor lymphocyte infusions. *Biology of Blood and Marrow Transplantation*. 2013 Apr;19(4):507-508.

Johnson, M.D., Urm, S.H., Jung, J.A., **Yun, H.D.**, Munitz, G.E., Tsigrelis, C., Baddour, L.M., Juhn, Y.J. Housing data-based socioeconomic index and risk of invasive pneumococcal disease: an exploratory study. *Epidemiology and Infection*. 2013 Apr;141(4):880-7.

**Yun, H.D.**, Yawn B.P., Leibson C.L., Juhn, Y.J. In reply. *Mayo Clinic Proceedings*. 2013 Feb; 88(2) : 211-2.

**Yun, H.D.**, Knoebel, E., Fenta, Y., Gabriel, S.E., Leibson, C.L., Loftus, E.V. Jr, Roger, V., Yawn, B.P., Li, B., Juhn, Y.J. Asthma and proinflammatory conditions: a population-based retrospective matched cohort study. *Mayo Clinic Proceedings*. 2012 Oct;87(10):953-60.

**Yun, H.D.**, Ershler, W. B. Superior vena cava syndrome as a presentation of metastatic prostate cancer. *BMJ Case Reports*. 2012 Sep 3;2012. pii: bcr2012006480. doi: 10.1136/bcr-2012-006480.

Zeidan, A.M., Ricklis, R.M., Carraway, H.E., **Yun, H.D.**, Greer, J.M., Smith, B.D., Levis, M.J., McDevitt, M.A., Pratz, K.W., Showel, M.M., Gladstone, D.E., Gore, S.D., Karp, J.E. Phase 1 dose- escalation trial of clofarabine followed by escalating dose of fractionated cyclophosphamide in adults with relapsed or refractory acute leukaemias. *British journal of haematology*. Jul 2012;158(2):198-207.

### Peer Reviewed Journal Abstracts Published

**Yun, H.D.**, Schirm, D.K., Felices, M., Miller, J.S., Eckfeldt, C.E. Cyclin-dependent kinases (CDK) signaling blockade potentiates natural killer (NK) cell mediated cytotoxicity against acute myelogenous leukemia. *Blood* 2018 132:4538

**Yun, H.D.**, Felices, M., Vallera, D.A., Cooley, S., Gotlib, J.R., Ustun, C. and Miller, J.S. Trispecific Killer Engager CD16xIL15xCD33 Enhances Alloreactivity of NK Cells Against Aberrant Mast Cells of Patients with Systemic Mastocytosis accepted to biology of blood and marrow transplantation for 2018 ASBMT Annual Meeting

**Yun, H.D.**, Dossul, T., Bernal-Mizrachi, L., Switchenko, J., Ndibe, C., Ibraheem, A., Langston, A., Pentz, R., Waller, E.K. Non-Inferior Clinical Outcomes for Lymphoma and Myeloma Patients Referred from a County Hospital to an Academic Transplant Center for Autologous Stem Cell Transplantation. *Blood* Dec 2014 124 (21)

Li, J., Peterson, C.T., Darlak, K.A., **Yun, H.D.**, Blazar, B.R., Waller, E.K. VIP-Receptor Antagonist Enhanced Antileukemic Activity in Mice. *Blood*. Nov 2013 122 (21):1664

Waller, E.K., **Yun, H.D.**, Li, J. Blocking VIP-signaling after allogeneic bone marrow transplantation (allo-BMT) enhances the cytotoxic graft-versus-leukemia activity of donor T-cells. *Bone Marrow Transplantation*. 48, S68 (April 2013)

Li, J., **Yun, H.D.**, Waller, E.K. Blockade of VIP-Signaling Enhanced Anti-Leukemic Activity in Murine Allogeneic BMT without Significantly Increased GvHD. *Blood*. American Society of Hematology Annual Meeting Abstracts 2012 Nov 16; 120(21):3001

Zeidan, A.M., Carraway, H.E., **Yun, H.D.**, Greer, J., Karp, J.E. Escalation Trial of Clofarabine Followed by Escalating Dose of



Fractionated Cyclophosphamide in Adults with Relapsed or Refractory Acute Leukemias. *Blood*. American Society of Hematology Annual Meeting Abstracts 2011 Nov 18;118(21):3615

Juhn, Y., **Yun, H.D.**, Urm, S., et al. Assessment of The Association of Asthma Status with Selective IgA Deficiency and Common Variable Immunodeficiency: A Population-Based Case-Control Study. *The Journal of allergy and clinical immunology*. 127(2):AB153.

**Yun, H.D.**, Knoebel, E., Fenta, Y., et al. Asthma And Proinflammatory Conditions: A Population-based Retrospective Matched Cohort Study. *The Journal of allergy and clinical immunology*. 127(2):AB79.

**Yun, H.D.**, Jung, J., Kita, H., et al. Atopic Coniditions and Pneumococcal Polysaccharide Serotype-Specific Antibody Levels. *The Journal of allergy and clinical immunology*. 2009;123(2):S40.

### Chapter in a Book

**Yun, H.D.**, Ustun C. (2020) Management of Hematologic Disease in Mastocytosis. In: Akin C. (eds) Mastocytosis. Springer, Cham

### National and International Presentations

**Yun, H.D.**, Antony, M.L., Linden, M., Eckfeldt, C.E., Noble-Orcutt K., Nelson, A., Sachs, Z., Ustun, C./**Yun, H.D.** (2019, May) *Evolution of clonal dynamics and differential response to targeted therapy in a case of systemic mastocytosis with associated myelodysplastic syndrome*. Oral presentation at Mast Cell Diseases (AIM) Investigator Conference, Stanford, CA.

**Yun, H.D.**, Schirm, D.K., Felices, M., Miller, J.S., Eckfeldt, C.E. / **Yun, H.D.** (2018, December). *Cyclin-dependent kinases (CDK) signaling blockade potentiates natural killer (NK) cell mediated cytotoxicity against acute myelogenous leukemia*. Poster presented in 2018 60<sup>th</sup> Annual Meeting of American Society of Hematology; San Diego, CA

**Yun, H.D.**, Felices, M., Vallera, D.A., Cooley, S., Gotlib, J.R., Ustun, C. and Miller, J.S./ **Yun, H.D.** (2018, February) *Trispecific Killer Engager CD16xIL15xCD33 Enhances Alloreactivity of NK Cells Against Aberrant Mast Cells of Patients with Systemic Mastocytosis* Poster presented at 2018 ASBMT Annual Metting; Salt Lake City, Utah

**Yun, H.D.**, Edmund J., Linden, M., Vercellotti, G./ **Yun, H.D.** (2017, March). *Pure red cell aplasia as a presentation of multiple myeloma*. Poster presented at: 2017 4<sup>th</sup> Annual Summit on Hematologic Malignancies; Whistler, British Columbia, Canada

**Yun, H.D.**, Dossul, T., Bernal-Mizrachi, L., Switchenko, J., Ndibe, C., Ibraheem, A., Dixon, M.D., Langston, A., Nooka, A.K., Flowers, C.R., Pentz, R., Waller, E.K. / **Yun, H.D.** (2016, March) *Referral Patterns and Clinical Outcomes for Transplant-eligible Lymphoma and Myeloma Patients Evaluated at an Urban County Hospital*. Poster presented at: 2016 3<sup>rd</sup> Annual Summit on Hematologic Malignancies; Whistler, British Columbia, Canada

Li, J., Peterson, C.T., Darlak, K.A., **Yun, H.D.**, Blazar, B.R., Waller, E.K. / Li, J. (2013, December) *VIP-Receptor Antagonist Enhanced Antileukemic Activity in Mice*. Poster presented at: 2013 55<sup>th</sup> Annual Meeting of American Society of Hematology; New Orleans, LA

Waller, E.K., **Yun, H.D.**, Li, J. / Waller, E.K. (2013, April) *Blocking VIP-signaling after allogeneic bone marrow transplantation (allo-BMT) enhances the cytotoxic graft-versus-leukemia activity of donor T-cells*. **Oral presenatation** at: 2013 39<sup>th</sup> Annual Meeting of the European Group for Blood and Marrow Transplantation; London, UK

Li, J., **Yun, H.D.**, Waller, E.K. / Li, J. (2012, December) *Blockade of VIP-Signaling Enhanced Anti-Leukemic Activity in Murine Allogeneic BMT without Significantly Increased GvHD*. Poster presented at: 2012 54<sup>th</sup> Annual Meeting of American Society of Hematology; Atlanta, GA

**Yun, H.D.**, Knoebel, E., Fenta, Y., Gabriel, S., Leibson, C., Loftus, Jr., E., Roger, V., Yawn, B., Li, B., Juhn, Y./ **Yun, H.D.** (2011, March). *Asthma and Proinflammatory Conditions: A Population-based Retrospective Matched Cohort Study*. Poster presented at: 2011 Annual Meeting of American Academy of Allergy, Asthma and Immunology; San Francisco, CA.

## Curriculum Vitae

**Yun, H.D.**, Williams R./**Yun, H.D.** (2010, April). *Massive Hemothorax and Numerous Masses in the Pleural Cavity: A Rare Case of Thoracic Endometriosis Syndrome*. Poster presented at: 2010 Annual Meeting of American College of Physicians; Toronto, Ontario, Canada.

**Yun, H.D.**, Williams, R./ **Yun, H.D.** (2009, November). *Eosinophilia Progressing Into Myelodysplasia*. Poster presented at: 2009 American Medical Association-Resident and Fellow Section (AMA-RFS) Poster Symposium; Houston, TX.

**Yun, H.D.**, Jung, J., Kita, H., Dhillon, R., Jacobson, R., Juhn, Y./ **Yun, H.D.** (2009, March). *Atopic Conditions and Pneumococcal Polysaccharide Serotype-Specific Antibody Levels*. Poster presented at: 2009 Annual Meeting of American Academy of Allergy, Asthma and Immunology; Washington, DC.

### Competitive Research Grants

**“Effect of microvesicles of neoplastic mast cells in peroliferation of mast cells and anti-tumor immunity of NK cells”**. PI: **Yun, H.D.**, Rush Cancer Center Faculty OCM grant funding.

- \$35,000. 02/2020-02/2021

**“Effect of gilteritinib treatment on allogeneic NK cell-mediated cytotoxicity in FLT3-ITD mutant acute myeloid leukemia”**. PI: **Yun, H.D.**, Investigator Sponsored Research Award, Astellas.

- \$244,625 for a total of 2 years. 03/2021-02/2023

**“The impact of the function of natural killer (NK) cells in association with serum vitamin D levels on clinical outcomes of patients with advanced non-small cell lung cancer (NSCLC) treated with PD-1 or PD-L1 inhibitors”**. PI: **Yun, H.D.**, Long Beach VA Startup Funding Award.

- \$50,000 for a total of 2 years. 02/2023-02/2025

**“The Role of Vitamin D on Mast Cell Activation and Neuroinflammation in Paclitaxel-Induced Peripheral Neuropathy”** PI: **Yun, H.D.**, UCI Chao Family Comprehensive Cancer Center Pilot Projects Anti-Cancer Challenge Award

- \$20,000 for 1 year. 07/2023 – 07/2024