

Name	Seunghee Kim-Schulze
Current Position & Affiliation	Professor of Immunology and Immunotherapy; Director of Human Immune Monitoring Center; Co-Founder and CSO of OCCAMimmune (ARO)
Country	USA
Major Field	Cancer Immunology

Educational Background

B.S. in Chemistry, Chungnam National University, Taejeon, South Korea

Ph.D. in Biochemistry, University of Illinois, Chicago, IL

- Thesis Advisor: Yee-Kin Ho, PhD
- Thesis Focus: Enzymatic interaction of cGMP phosphodiesterase and HSP90 in rod photoreceptor cells

Postdoctoral Training

1. Northwestern University, Chicago, IL

- Mentor: Howard Schnaper, MD
- Research: Estrogen and growth factor signaling in endothelial cells

2. Mount Sinai Medical Center, New York, NY

- Mentor: Paul S. Frenette, MD, PhD
- Research: Adhesion mechanisms of hematopoietic and endothelial progenitor cell trafficking to bone marrow using SCID/NOD mice, intravital fluorescence microscopy

Professional Experience

Imperial College London, UK; Research Scientist

- Led a Phase I clinical study on detecting circulating colorectal cancer cells
- Developed novel circulating tumor cell (CTC) markers using flow cytometry, high-throughput IHC, and RT-PCR

Columbia University, NY; Assistant Professor, Director of Immune Monitoring Core

– Department of Pathology and Surgical Oncology

- Studied immune tolerance by T suppressor cells in allograft transplantation
- Developed and patented diagnostic biomarkers for cardiac transplant rejection
- Investigated ILT expression in endothelial cells
- Developed cancer vaccines using recombinant poxvirus vectors
- Conducted immune monitoring of patients receiving immunotherapy
- Explored anti-tumor immune mechanisms in vivo

– Director of Immune Monitoring Core

- Oversaw translational immunotherapy studies (melanoma, CRC, RCC)
- Characterized immune responses to experimental therapies
- Focused on checkpoint molecules (ILT, Tregs, MDSCs) in the tumor microenvironment



Mount Sinai School of Medicine, NY

Professor of Immunology and immunotherapy

Director of Human Immune Monitoring Center (HIMC)

- Founded HIMC; led immunologic assay development and biomarker discovery
 - Collaborated on clinical trials across cancer, inflammation, and immune modulation
 - Oversee high-throughput immune profiling for translational studies and trials
 - Lead HIMC's scientific and operational strategy in immunology research
 - Identify and evaluate cutting-edge technologies, guide HIMC toward sustained growth (\$8.7M operating budget in 2023)
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Other Experience and Professional Memberships

Scientific Advisory & Editorial Roles

- Editorial Board Member, *Human Immunology* (2005–present)
- Editor, *Nature Communications* (2021–present)
- Book Reviewer (2015): *Parallel Synapses: Information Exchange in the Immune and Nervous Systems*
- Scientific Advisory Board Member, BD Biosciences (2021–present)
- Consultant, SVB Leerink MEDACorp (2020–present)

Grant & Panel Reviewer

- 2024–2025: Multiple Myeloma Research Foundation (MMRF) Fellowship Grants
- 2024: Korea–U.S. Collaborative Research Program (first large-scale bilateral initiative)
- 2024: NCI Review Panel – RFA-CA-24-018, *Advanced Development of Informatics Technologies for Cancer Research and Management (U24)*
- 2025: NCI Review Panel – RFA-CA-24-016, *Development of Innovative Informatics Methods and Algorithms (R21)*

Entrepreneurial Activities

- Co-Founder & CSO, *OCCAMimmune* (2024–present)
 - Academic Research Organization (ARO) for biomarker discovery, immune monitoring, and clinical trial support
 - Established strategic industry partnerships and integrated cutting-edge technologies (multi-omics, spatial biology, proteomics)
- Exhibitor & Partner Outreach Lead, *IO360 Conference, 2024* (Boston, MA)
 - Led *OCCAMimmune*'s inaugural booth; initiated key partnerships with >150 stakeholders

Professional Memberships

- American Association for Cancer Research (AACR) – Member since 2015
 - American Association of Immunologists (AAI) – Member since 2017
 - Society for Immunotherapy of Cancer (SITC) – Member since 2011
 - Federation of Clinical Immunology Societies (FOCIS) – Member since 2020
 - Organized and served on the Steering Committee for the Immunoassay Panel in 2023
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Main Scientific Publications

[Multiparametric cellular and spatial organization in cancer tissue lesions with a streamlined pipeline.](#)

Nat Biomed Eng. 2025 Aug 25

[Immunological biomarkers of response and resistance to treatment with cabozantinib and nivolumab in recurrent endometrial cancer.](#)

J Immunother Cancer. 2025 Feb 25

[Myocardial infarction augments sleep to limit cardiac inflammation and damage.](#)

Nature. 2024 Nov;635(8037):168-177

[Gastrointestinal germinal center B cell depletion and reduction in IgA⁺ plasma cells in HIV-1 infection.](#)

Sci Immunol. 2024 Oct 25;9(100)

[High-dimensional analysis of NK cells in kidney transplantation uncovers subsets associated with antibody-independent graft dysfunction.](#)

JCI Insight. 2024 Nov 8;9(21)

[Hematopoietic aging promotes cancer by fueling IL-1 \$\alpha\$ -driven emergency myelopoiesis.](#)

Science. 2024 Oct 25;386(6720)

[*Proteomic analysis of cardiovascular disease-associated proteins in Korean patients with moderate-to-severe atopic dermatitis.](#)

World Allergy Organ J. 2024 Aug 8;17(8)

[A single-cell atlas characterizes dysregulation of the bone marrow immune microenvironment associated with outcomes in multiple myeloma.](#)

bioRxiv [Preprint]. 2024 May 17

[Iberdomide increases innate and adaptive immune cell subsets in the bone marrow of patients with relapsed/refractory multiple myeloma.](#)

Cell Rep Med. 2024 Jun 18;5(6)

[Phase 1 study combining elotuzumab with autologous stem cell transplant and lenalidomide for multiple myeloma.](#)

J Immunother Cancer. 2024 Apr 12;12(4)

[*A Phase II Open-Label Randomized Clinical Trial of Preoperative Durvalumab or Durvalumab plus Tremelimumab in Resectable Head and Neck Squamous Cell Carcinoma.](#)

Clin Cancer Res. 2024 May 15;30(10)

[*High-dimensional profiling of regulatory T cells in psoriasis reveals an impaired skin-](#)



[trafficking property.](#)

EBioMedicine. 2024 Feb;100

[Multi-omics Analysis Reveals Immune Features Associated with Immunotherapy Benefit in Patients with Squamous Cell Lung Cancer from Phase III Lung-MAP S1400I Trial.](#)

Clin Cancer Res. 2024 Apr 15;30(8)

[Features of acute COVID-19 associated with post-acute sequelae of SARS-CoV-2 phenotypes: results from the IMPACC study.](#)

Nat Commun. 2024 Jan 3;15(1)

[An IL-4 signalling axis in bone marrow drives pro-tumorigenic myelopoiesis.](#)

Nature. 2024 Jan;625(7993)

[Gemcitabine and cisplatin plus nivolumab as organ-sparing treatment for muscle-invasive bladder cancer: a phase 2 trial.](#)

Nat Med. 2023 Nov;29(11)
