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Nationality: Indian

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Countries Resided: Germany and Argentina

**Education:**

- **2011-15, PhD** in the Faculties of Medicine and Veterinary Medicine of the Justus-Liebig University Giessen, Germany. \*Graduated in Molecular Biology and Medicine of Lung (MBML) within the Giessen Graduate School of Life Sciences (GGL)
- **2007–09, M.Sc. Biochemistry** (Distinction), Bharathidasan University, India
- **2004 –07, B.Sc. Biochemistry** (First Class), Thiruvalluvar University, India.

**Research Experiences:**

- Nov-2021 to Present: **Post-Doctoral Research Associate** at The University of Sharjah, Research institute for medical and health sciences (RIMHS), Sharjah, UAE.
- Oct-2020 to Aug-2021: **Senior Post-Doc** at The University Medical Center Schleswig-Holstein is a university hospital, located in Kiel, Germany.
- Jan-2016 to Sep-2020: **Post-Doc** at Max-Planck Institute for heart and lung research, Bad Nauheim, Germany. (*Established lab at Instituto de Investigaciones Biomedicina de Buenos Aires–A partner Institute of the Society of Max Planck (IBioBA-MPSP), BsAs, Argentina*)
- Aug-2011 to Dec- 2015: **PhD scholar** at Justus Liebig University Giessen, Germany. Thesis titled "*Functional phenotypes of macrophages and their role in influenza*". Date of the thesis Defence: 11.May 2016.
- March- 2011 to Aug-2011: **Research Assistant** at Excellence Cluster Cardio-Pulmonary system (ECCPS), Giessen, Germany.
- Oct- 2009 to Oct- 2010: **Junior Research Fellow** of University Grants Commission (UGC) at Dr. B. R. Ambedkar Center for Biomedical Research (ACBR) - University of Delhi, India

**Current teaching Experience:** Tutoring by Problem based learning (PBL) methodology for 3<sup>rd</sup>-Year Medical college students, Mentoring PhD Research students.

**Publications:**

1. Saheb Sharif-Askari N, Saheb Sharif-Askari F, Bayram OS, Hafezi S, Alsayed HAH, Kasim F, Mdkhana B, **Selvakumar B**, Alsafar HS, Halwani R. Salivary autoantibodies to type I IFNs: Mirror plasma levels, predispose to severe COVID-19, and enhance feasibility for clinical screening. *Heart Lung*. 2024 Jun-Aug;66:31-36. PMID: 38547583
2. **Selvakumar B**. The Intricate Involvement of Macrophages in Pulmonary Emphysema: Insights, Mechanisms, and Therapeutic Perspectives" Book chapter, accepted for the book "Pulmonary Emphysema - Recent Updates," ISBN 978-0-85466-329-3 published by *IntechOpen Jan. 2024*. DOI: 10.5772/intechopen.1004282.
3. **Selvakumar B**, Sekar P, Samsudin R. Intestinal macrophages in pathogenesis and treatment of gut leakage: current strategies and future perspectives. *J Leukoc Biol*. 2024 Jan 10; qiad165. PMID: 38198217
4. **Selvakumar B**<sup>#</sup>, Pervizaj-Oruqaj L<sup>#</sup>, Ferrero MR, Heiner M, Malainou C, Glaser RD, Wilhelm J, Bartkuhn M, Weiss A, Alexopoulos I, Witte B, Gattenlöhner S, Vadász I, Morty RE, Seeger W, Schermuly RT, Vazquez-Armendariz AI, Herold S. Alveolar macrophage-expressed Plet1 is a driver of lung epithelial repair after viral pneumonia. *Nat Commun*. 2024 Jan 2;15(1):87. PMID: 38167746. **#Shared First author**
5. Eladham MW, **Selvakumar B**, Sharif-Askari NS, Sharif-Askari FS, Ibrahim SM, Halwani R. Unraveling the gut-Lung axis: Exploring complex mechanisms in disease interplay. *Heliyon*. Volume 10, Issue 1, 15 January 2024, e24032.
6. Sharif-Askari FS, Sharif-Askari NS, Hafezi S, Alsayed HAH, **Selvakumar B**, Eladham MWA, Mdkhana B, Bayram OS, Temsah MH, Halwani R. Increased blood immune regulatory cells in severe COVID-19 with autoantibodies to type I interferon. *Sci Rep*. 2023 Oct 13;13(1):17344. PMID: 37833265.
7. **Selvakumar B**, Eladham MW, Hafezi S, Ramakrishnan R, Hachim IY, Bayram OS, Sharif-Askari NS, Sharif-Askari FS, Ibrahim SM, Halwani R. Development of allergic asthma emerge with gut leakage and associated inflammatory manifestations. *Adv Biol (Weinh)*. 2023 Sep 26; e2300350. PMID: 37752729.
8. Elsa T, Oleg P, Stefan H, Claudia FG, Marija G, Pichl A, **Selvakumar B**, Spiegelberg D, Bednorz M, Schäfer K, Kraut S, Kosanovic D....., Seeger W, Sommer N & Weissmann N. Nicotine promotes e-cigarette vapour-induced lung inflammation and structural alterations. *Eur Respir J*. 2023 Jun 22;61(6):2200951. PMID: 37105573.

9. Sharif-Askari NS, Alabed M, **Selvakumar B**, Mdkhana B, Salam Bayram O, Kalaji Z, Hafezi S, Elemam NM, Sharif-Askari FS, Halwani R. Simvastatin reduced infiltration of memory subsets of T lymphocytes in the lung tissue during Th2 allergic inflammation. *Int Immunopharmacol*. 2022 Dec;113(Pt A):109347. PMID: 36332451.
10. Sharif-Askari FS, Hafezi S, Sharif-Askari NS, Alsayed HAH, Mdkhana B, **Selvakumar B**, Temsah MH, Saddik B, Al Anouti F, Halwani R. Vitamin D modulates systemic inflammation in patients with severe COVID-19. *Life Sci*. 2022 Aug 24;307:120909. PMID:36028169.
11. Kirschke S, Ogunsulire I, **Selvakumar B**, Schumacher N, Sezin T, Rose-John S, Scheffold A, Garbers C, Lokau J. The metalloprotease ADAM10 generates soluble interleukin-2 receptor alpha (sCD25) in vivo. *J Biol Chem*. 2022 Jun;298(6):101910. PMID:35398356.
12. Sezin T, **Selvakumar B**, Scheffold A. The role of A Disintegrin and Metalloproteinase (ADAM)-10 in T helper cell biology. *Biochim Biophys Acta Mol Cell Res*. 2022 Apr;1869(4):119192. PMID: 34982961.
13. Langelage M, Better J, Wetstein M, **Selvakumar B**,...,Herold S, Matt U. Acid Aspiration Impairs Antibacterial Properties of Liver Macrophages. *Am J Respir Cell Mol Biol*. 2021 May;64(5):641-643. PMID: 33929292.
14. Feddersen S, Nardiello C, **Selvakumar B**, et al... and Morty RE. Impact of litter size on survival, growth and lung alveolarization of newborn mouse pups. *Ann Anat*. 2020;151579. PMID: 32688019.
15. Schmoldt C, Vazquez-Armendariz AI, Shalashova I, **Selvakumar B**, et al... and Herold S. IRE1 Signaling as a Putative Therapeutic Target in Influenza Virus-induced Pneumonia. *Am J Respir Cell Mol Biol*. 2019 Oct;61(4):537-540. PMID: 31573336.
16. Kosanovic D, Deo U, Gall H, **Selvakumar B**, Herold S, Weiss A, Petrovic A, Sydykov A, Ghofrani A, Schermuly R. Enhanced circulating levels of CD3 cells-derived extracellular vesicles in different forms of pulmonary hypertension. *Pulm Circ* 2019 Jul-Sep;9(3):2045894019864357. PMID: 31250703.
17. Kalymbetova TV, **Selvakumar B**, Vadász I, Mayer K, Lohmeyer J, Seeger W, Herold S, and Morty RE. Resident alveolar macrophages are master regulators of arrested alveolarization in experimental bronchopulmonary dysplasia. *J Pathol* 2018 Jun;245(2):153-159. PMID: 29574785.
18. Petersen H, Mostafa A, Tantawy MA, Iqbal AA, Hoffmann D, Tallam A, **Selvakumar B**, Pessler F, Beer M, Rautenschlein S, Pleschka S. NS Segment of a 1918 Influenza A Virus-Descendent Enhances Replication of H1N1pdm09 and Virus-Induced Cellular Immune Response in Mammalian and Avian Systems. *Front Microbiol*. 2018 Mar 22;9:526. PMID: 29623073.

19. Becker C, Morales-Nebreda L, **Selvakumar B**, Lecuona E, Schmoldt C, Vadasz I, Morty RE,..., Lohmeyer J, Seeger W, Sznajder JJ, Mutlu GM, Budinger GRS, Herold S. Macrophage-epithelial paracrine crosstalk inhibits lung edema clearance during influenza infection. *J Clin Invest.* **2016 Apr. 1**;126(4):1566-80. PMID: 26999599.
20. **Balachandar S**, Katyal A. Peroxisome proliferator activating receptor (PPAR) in cerebral malaria (CM): a novel target for an additional therapy. *Eur J Clin Microbiol Infect Dis.* **2011 Apr**;30(4):483-98. PMID: 21140187.
21. Ram A, **Balachandar S**, Vijayananth P, Singh VP. Medicinal plants useful for treating chronic obstructive pulmonary disease (COPD): current status and future perspectives. *Fitoterapia.* **2011 Mar**;82(2):141-51. PMID: 20851752.

### **Recent Presentations:**

- Development of OVA induced allergic airway inflammation emerge with gut inflammatory manifestations. International Congress: European Respiratory Society. Sep 9-13. **2023, Milan, Italy.**
- Lactobacillus reuteri attenuates the intestinal barrier damage induced by Porphyromonas gingivalis via promoting M2 macrophage polarization. International Conference on Microbiome: UAE University, Nov 21-22. **2023, Abu Dhabi, UAE.**
- Functional Role of Plet1+ Alveolar Macrophages in Lung Repair After Influenza Virus Induced Injury at American thoracic society (ATS) Am J Respir Crit Care Med **2019, Dallas, TX, USA.**
- Functional phenotypes and role of alveolar macrophages in influenza virus-induced lung injury and repair at 18th International congress on Infectious Diseases (ICID) - March **2018, Buenos Aires, Argentina.**
- Functional re-programming of bone marrow derived macrophages in influenza virus-induced lung injury and repair. American Thoracic Society International Conference – **2017, Washington D.C, USA.**
- Functional role of bone marrow derived M2-polarized macrophages in influenza virus-induced acute lung injury. The European Macrophage and Dendritic Cell Society (EMDS) **2015, Krakow, Poland.**
- M2-polarized macrophages attenuate influenza virus-induced acute lung injury. 12th ERS Lung Science Conference- Lung inflammation and immunity. **2014, Lisbon, Portugal.**

### **Honors and Awards:**

- Finalist** in "Dragon's Den Scientific elevator pitch competition" at 18th International congress on Infectious Diseases (ICID) - March 2018, Buenos Aires, Argentina
- Travel Grant** from "European Respiratory Society" for ERS Lung Science Conference- Estoril March 2014
- Distinct Presentation Award** of "European Respiratory Society" at ERS Lung Science Conference- Estoril March 2015

### **Active Professional Memberships and editorials:**

- Early Career member of European Respiratory Society (ERS)
- Early Career member of Society of Leukocyte Biology (SLB)
- Life-time member of Pulmonary Vascular Research Institute (PVRI)
- Life-time member of Indian Association of Immunological Society (IAIS)
- Reviewer in Journal of Frontiers Immunology
- Editorial member in Journal of Pulmonology Research & Reports

### **Additional Qualifications:**

Project Management Basic course, IBMI, Berlin, Germany.

Advanced training in Fluorescence-activated cell sorting, BD, Brussels, Belgium.

Training in "Scientific animal procedures" (FELASA), London, U.K.

Advance training course in PATENTS, IPO Lucknow, India.

Diploma in "Medical Lab Technician" (DMLT), Cuddalore, India.

### **References**

#### **Prof. Rabih Halwani**

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Center for Infections and Geonomics of the Lung (CIGL), Justus Liebig University, **Germany**  
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