

## CURRICULUM VITAE

**NAME:** Selvakumar Subbian, Ph.D

**PRESENT TITLE:** Associate Professor

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### **EDUCATION:**

<b>Institution and Location</b>	<b>Degree</b>	<b>Field of Study</b>
Bharathiar University Coimbatore, India.	BSc	Biochemistry
University of Madras, Chennai, India	MSc	Biomedical Genetics
Tuberculosis Research Center (The Tamilnadu Dr. MGR Medical University), Chennai, India	PhD	Basic Medical Sciences
Department of Veterinary and Basic Sciences, University of Nebraska, Lincoln, NE, USA	Postdoctoral fellow	Mycobacterial Pathogenesis
Department of Microbial and Molecular Pathogenesis, Texas A&M Health Science Center, College Station, TX, USA	Postdoctoral Research Associate	Host-Pathogen Interactions

### **ACADEMIC APPOINTMENTS:**

- 2001 – 2003     **Research Assistant**, Department of Immunology, Tuberculosis Research Center, Indian Council of Medical Research, Chennai, India
- 2002 – 2003     **Lecturer** (*Bioinformatics*), Punjab Technical University, Chennai, India
- 2008 – 2013     **Research Teaching Specialist**, Public Health Research Institute center and Department of Medicine at University of Medicine and Dentistry of New Jersey (now Rutgers University), Newark, New Jersey
- 2013 – 2019     **Assistant Professor**, Public Health Research Institute Center and Department of Medicine at Rutgers, New Jersey Medical School, Newark, New Jersey
- 2019 – present   **Associate Professor**, Public Health Research Institute Center and Department of Medicine at Rutgers, New Jersey Medical School, Newark, New Jersey

### **HONORS AND AWARDS:**

- 2023     Invited Guest Speaker, Vaccine Summit-2023, Boston, MA.
- 2023     Invited Guest Speaker, University of Texas at El Paso, TX
- 2022     Invited Guest Speaker, the ninth Many Hosts of Mycobacteria (MHM) symposium, Columbus, OH.
- 2022     Invited Guest Speaker, American Society for Investigative Pathology (ASIP) meeting, Philadelphia, PA.
- 2021     Faculty of the Year-2021, New Jersey Medical School, RBHS, Rutgers University, NJ.
- 2021     Invited Guest Speaker, Delaware Valley Branch of American Association for Laboratory Animals Sciences (DVBAALAS) meeting, Philadelphia, PA.
- 2020     Travel Award for the EMBO-India Research Symposia at New Delhi, India
- 2019     Invited Guest Speaker at the University of Tennessee, Knoxville, TN.
- 2019     Mentor of the Month featured at the National Research Mentoring Network (NRMN).
- 2019     Best Poster Award, 17<sup>th</sup> Annual Department of Medicine Research Day, New Jersey Medical School, NJ.
- 2019     Invited Guest Speaker, NIH/NIAID workshop on Small Animal Models for HIV and Co-Morbid Conditions,

NIH, Bethesda, MD.

12. 2019 Invited Guest Speaker, World TB Day-2019, Albany Medical Center, Albany, NY.
13. 2019 Invited Guest Speaker, Houston Methodist Hospital Research Institute, Houston, TX.
14. 2018 Invited Guest Speaker at the Dept. of Microbiology, University of Tennessee, Knoxville, TN.
15. 2017 Keynote Speaker, Theobald Smith Society, New Jersey branch of American Society for Microbiology (ASM).
16. 2017 Young Investigator-2017, Theobald Smith Society of American Society for Microbiology.
17. 2014 Invited guest speaker, Keystone Symposium on Novel Therapeutic Approaches to Tuberculosis (C7-2014), Keystone, CO.
18. 2013 Best poster award, Symposium on “Innate Immune Mechanisms Controlling Inflammation and Infection” University of Medicine and Dentistry of New Jersey-School of Medicine, Newark, NJ.
19. 2008 Awarded second prize for Best Research Posters, Molecular Basis of Infectious Diseases Retreat Texas A&M Health Science Center, Houston, TX.
20. 2007 Travel award, Keystone symposium on Tuberculosis: From Lab Research to Field Trials, Vancouver, Canada.
21. 1998 Senior Research Fellowship, Council for Scientific and Industrial Research, India.
22. 1996 Junior Research Fellowship, Council for Scientific and Industrial Research, India.
23. 1996 Qualified National Level Eligibility Test for Research and Lectureship, Council for Scientific and Industrial Research, India.
24. 1993 Silver medal for academic proficiency (B.Sc. Biochemistry), Bharathiar University, Coimbatore, India.

## PUBLICATIONS:

### A. Peer-reviewed, Refereed Article in Scientific Journals:

1. Xie YL, Modi N, Handler D, Yu S, Rao P, Kagan L, Petros de Guex K, Reiss R, Siemiątkowska A, Narang A, Narayanan N, Hearn J, Khalil A, Woods P, Young L, Lardizabal A, **Subbian S**, Peloquin CA, Vinnard C, Thomas TA, Heysell SK. Simplified urine-based method to detect rifampin underexposure in adults with tuberculosis: a prospective diagnostic accuracy study. *Antimicrob Agents Chemother.* 2023 Oct 25:e0093223. doi: 10.1128/aac.00932-23. PMID: 37877727.
2. Ravindran R, Kang H, McReynolds C, Sanghar GK, Chang WLW, Ramasamy S, Kolloli A, Kumar R, **Subbian S**, Hammock BD, Hartigan-O'Connor DJ, Ikram A, Haczku A, Khan IH. Dynamics of temporal immune responses in nonhuman primates and humans immunized with COVID-19 vaccines. *PLoS One.* 2023 Oct 19;18(10):e0287377. doi: 10.1371/journal.pone.0287377. PMID: 37856429.
3. Kolloli A, Ramasamy S, Kumar R, Nisa A, Kaplan G, **Subbian S**. A phosphodiesterase-4 inhibitor reduces lung inflammation and fibrosis in a hamster model of SARS-CoV-2 infection. *Front Immunol.* 2023 Oct 2;14:1270414. doi: 10.3389/fimmu.2023.1270414. PMID: 37854602.
4. Finkel DA, Malfa A, Liao Y, Purohit D, Hu F, Sulaymankhil D, Narra SA, Hussein K, **Subbian S**, Cairo MS, Vinukonda G, La Gamma EF. Early Postnatal Expression of Tgfb-1 and Fgf-2 Correlates With Regenerative Functions of Unrestricted Somatic Stem Cell Infusion After Rabbit GMH-IVH. *Stem Cells Transl Med.* 2023 Sep 29:szad064. doi: 10.1093/steltn/szad064. PMID: 37774396.
5. Navasardyan I, Yeganyan S, Nguyen H, Vaghashia P, **Subbian S**, Venketaraman V. Role of Oxidative Stress in Tuberculosis Meningitis Infection in Diabetics. *Biomedicines.* 2023 Sep 19;11(9):2568. doi: 10.3390/biomedicines11092568. PMID: 37761009.
6. Sasaninia K, Kelley M, Abnousian A, Owens J, Yoon S, Beever A, Kachour N, Yegiazaryan A, Kolloli A, Kumar R, Ramasamy S, **Subbian S**, Venketaraman V. Liposomal Glutathione Supplementation Mitigates Extrapulmonary Tuberculosis in the Liver and Spleen. *Front Biosci (Elite Ed).* 2023 Jul 6;15(3):15. doi: 10.31083/j.fbe1503015. PMID: 37743234.
7. Klever AM, Alexander KA, Almeida D...**Subbian S**, Sunstrum J, Tobin DM, Vijayan KKV, Wright CTO, Robinson RT. The Many Hosts of Mycobacteria 9 (MHM9): A conference report. *Tuberculosis (Edinb).* 2023 Sep;142:102377. doi: 10.1016/j.tube.2023.102377. PMID: 37531864.
8. Campbell E, Dobkin J, Osorio LJ, Kolloli A, Ramasamy S, Kumar R, Sant'Angelo DB, **Subbian S**, Denzin LK, Anderson S. A SARS-CoV-2 Vaccine Designed for Manufacturability Results in Unexpected Potency and Non-Waning Humoral Response. *Vaccines (Basel).* 2023 Apr 12;11(4):832. doi: 10.3390/vaccines11040832. PMID: 37112744; PMCID: PMC10145385.
9. Xu C, Wang A, Ebrahim L, Sullivan L, Tasker C, Pizutelli V, Couret J, Hernandez C, Deb PQ, Fritzky L, **Subbian S**, Gao N, Lo Y, Salvatore M, Rivera A, Lemenze A, Fitzgerald-Bocarsly P, Tyagi S, Lu W, Beaulieu A, Chang TL. Interferon  $\epsilon$  restricts Zika virus infection in the female reproductive tract. *bioRxiv [Preprint].* 2023 Apr 7:2023.04.06.535968. doi:10.1101/2023.04.06.535968. PMID: 37066223; PMCID: PMC10104157.
10. Puri M, Miranda-Hernandez S, **Subbian S**, Kupz A. Repurposing mucosal delivery devices for live attenuated tuberculosis vaccines. *Front Immunol.* 2023 Mar 30;14:1159084. doi: 10.3389/fimmu.2023.1159084. PMID: 37063870; PMCID:PMC10098179.

11. Kumar R, Kolloli A, **Subbian S**, Kaushal D, Shi L, Tyagi S. Imaging Architecture of Granulomas Induced by Mycobacterium tuberculosis Infections with Single-Molecule FISH. bioRxiv [Preprint]. 2023 Feb 3:2023.02.02.526702. doi: 10.1101/2023.02.02.526702. PMID: 36778404; PMCID: PMC9915589.
12. Narang A, Marras SAE, Kurepina N, Chauhan V, Shashkina E, Kreiswirth B, Varma-Basil M, Vinnard C, **Subbian S**. Ultrasensitive Detection of Multidrug-Resistant Mycobacterium tuberculosis Using SuperSelective Primer-Based Real-Time PCR Assays. *Int J Mol Sci*. 2022 Dec 12;23(24):15752. doi: 10.3390/ijms232415752. PMID: 36555395; PMCID: PMC9779475.
13. Mehta K, Narayanan N, Heysell SK, Bisson GP, **Subbian S**, Kurepina N, Kreiswirth BN, Vinnard C. Pharmacogenetic variability and the probability of site of action target attainment during tuberculosis meningitis treatment: A physiologically based pharmacokinetic modeling and simulations study. *Tuberculosis (Edinb)*. 2022 Dec;137:102271. doi: 10.1016/j.tube.2022.102271. Epub 2022 Oct 20. PMID: 36375279.
14. Flores-Valdez MA, Kupz A, **Subbian S**. Recent Developments in Mycobacteria-Based Live Attenuated Vaccine Candidates for Tuberculosis. *Biomedicines*. 2022 Oct 29;10(11):2749. doi: 10.3390/biomedicines10112749. PMID: 36359269; PMCID:PMC9687462.
15. Nisa A, Kipper FC, Panigrahy D, Tiwari S, Kupz A, **Subbian S**. Different modalities of host cell death and their impact on Mycobacterium tuberculosis infection. *Am J Physiol Cell Physiol*. 2022 Nov 1;323(5):C1444-C1474. doi: 10.1152/ajpcell.00246.2022. Epub 2022 Oct 3. PMID:36189975; PMCID: PMC9662802.
16. Li Z, Zhang XQ, Ho W, Bai X, Jaijyan DK, Li F, Kumar R, Kolloli A, **Subbian S**, Zhu H, Xu X. Lipid-Polymer Hybrid "Particle-in-Particle" Nanostructure Gene Delivery Platform Explored for Lyophilizable DNA and mRNA COVID-19 Vaccines. *Adv Funct Mater*. 2022; Jul 22:2204462. doi: 10.1002/adfm.202204462. PMID: 35942271; PMCID: PMC9349454.
17. Beever A, Kachour N, Owens J, Sasaninia K, Kolloli A, Kumar R, Ramasamy S, Sisliyan C, Khamas W, **Subbian S**, Venketaraman V. L-GSH Supplementation in Conjunction With Rifampicin Augments the Treatment Response to Mycobacterium tuberculosis in a Diabetic Mouse Model. *Front Pharmacol*. 2022; Jun 24;13:879729. doi: 0.3389/fphar.2022.879729. PMID: 35814213; PMCID: PMC9263396.
18. Jiang Q, Qiu Y, Kurland IJ, Drlica K, **Subbian S**, Tyagi S, Shi L. Glutamine Is Required for M1-like Polarization of Macrophages in Response to Mycobacterium tuberculosis Infection. *mBio*. 2022; Jun 28:e0127422. doi: 10.1128/mbio.01274-22. Epub ahead of print. PMID: 35762591.
19. Ramasamy S, Kolloli A, Kumar R, Husain S, Soteropoulos P, Chang TL, **Subbian S**. Comprehensive Analysis of Disease Pathology in Immunocompetent and Immunocompromised Hosts following Pulmonary SARS-CoV-2 Infection. *Biomedicines*. 2022; Jun 7;10(6):1343. doi: 10.3390/biomedicines10061343. PMID: 35740365; PMCID: PMC9219777.
20. Mishra A, Singh VK, Jagannath C, **Subbian S**, Restrepo BI, Gauduin MC, Khan A. Human Macrophages Exhibit GM-CSF Dependent Restriction of Mycobacterium tuberculosis Infection via Regulating Their Self-Survival, Differentiation and Metabolism. *Front Immunol*. 2022; May 12;13:859116. doi:10.3389/fimmu.2022.859116. PMID: 35634283; PMCID: PMC9134823.
21. Kachour N, Beever A, Owens J, Cao R, Kolloli A, Kumar R, Sasaninia K, Vaughn C, Singh M, Truong E, Khatchadourian C, Sisliyan C, Zakery K, Khamas W, **Subbian S**, Venketaraman V. Liposomal Glutathione Helps to Mitigate Mycobacterium tuberculosis Infection in the Lungs. *Antioxidants (Basel)*. 2022 Mar30;11(4):673. doi: 10.3390/antiox11040673. PMID: 35453358; PMCID: PMC9031130.
22. Kumar, R.; **Subbian S**. Immune Correlates of Non-Necrotic and Necrotic Granulomas in Pulmonary Tuberculosis: A Pilot Study. *J. Respir*. 2021, 1, 248-259. <https://doi.org/10.3390/jor1040023>.
23. Cao R, Kolloli A, Kumar R, Owens J, Sasaninia K, Vaughn C, Singh M, Truong E, Kachour N, Beever A, Khamas W, **Subbian S**, Venketaraman V. Effects of Glutathione Diminishment on the Immune Responses against Mycobacterium tuberculosis Infection. *Appl Sci (Basel)*. 2021 Sep;11(17):8274. doi: 10.3390/app11178274. Epub 2021 Sep 6. PMID: 35371562; PMCID: PMC8972068.
24. **Subbian S**. The Abstruse Side of Type I Interferon Immunotherapy for COVID-19 Cases with Comorbidities. *J. Respir*. 2021, 1, 49-59. <https://doi.org/10.3390/jor1010005>
25. Yang S, Zhou H, Liu M, Jaijyan D, Cruz-Cosme R, Ramasamy S, **Subbian S**, Liu D, Xu J, Niu X, Li Y, Xiao L, Tyagi S, Wang Q, Zhu H, Tang Q. SARS-CoV-2, SARS-CoV, and MERS-CoV encode circular RNAs of spliceosome-independent origin. *J Med Virol*. 2022 Jul;94(7):3203-3222. doi: 10.1002/jmv.27734. Epub 2022 Mar 31. PMID: 35318674; PMCID: PMC9088628.
26. Merolli A, Kasaei L, Ramasamy S, Kolloli A, Kumar R, **Subbian S**, Feldman LC. An intra-cytoplasmic route for SARS-CoV-2 transmission unveiled by Helium-ion microscopy. *Sci Rep*. 2022 Mar 8;12(1):3794. doi: 10.1038/s41598-022-07867-0. PMID: 35260703; PMCID: PMC8904465.
27. Barksdale C, Kipper FC, Tripathy S, **Subbian S**, Serhan CN, Panigrahy D. COVID-19 and cancer: start the resolution! *Cancer Metastasis Rev*. 2022 Mar;41(1):1-15. doi: 10.1007/s10555-021-10017-z. PMID: 35190921; PMCID: PMC8860263.
28. Chiang KC, Rizk JG, Nelson DJ, Krishnamurti L, **Subbian S**, Imig JD, Khan I, Reddy ST, Gupta A. Ramatroban for chemoprophylaxis and treatment of COVID-19: David takes on Goliath. *Expert Opin Ther Targets*. 2022 Jan;26(1):13-28. doi:10.1080/14728222.2022.2031975. Epub 2022 Feb 22. PMID: 35068281.

29. Gopaldaswamy R, **Subbian S**. An Update on Tuberculosis Vaccines. *Methods Mol Biol*. 2022;2410:387-409. doi: 10.1007/978-1-0716-1884-4\_20. PMID: 34914059.
30. Kolloli A, Kumar R, Singh P, Narang A, Kaplan G, Sigal A, **Subbian S**. Aggregation state of Mycobacterium tuberculosis impacts host immunity and augments pulmonary disease pathology. *Commun Biol*. 2021 Nov 3;4(1):1256. doi: 10.1038/s42003-021-02769-9. PMID: 34732811; PMCID: PMC8566596.
31. Deng J, Yang H, Haak VM, Yang J, Kipper FC, Barksdale C, Hwang SH, Gartung A, Bielenberg DR, **Subbian S**, Ho KK, Ye X, Fan D, Sun Y, Hammock BD, Panigrahy D. Eicosanoid regulation of debris-stimulated metastasis. *Proc Natl Acad Sci U S A*. 2021 Oct 12;118(41):e2107771118. doi: 10.1073/pnas.2107771118. PMID: 34607951; PMCID: PMC8521662.
32. Mukundan S, Singh P, Shah A, Kumar R, O'Neill KC, Carter CL, Russell DG, **Subbian S**, Parekkadan B. In Vitro Miniaturized Tuberculosis Spheroid Model. *Biomedicines*. 2021 Sep 13;9(9):1209. doi: 10.3390/biomedicines9091209. PMID:34572395; PMCID: PMC8470281.
33. Mukundan S, Bhatt R, Lucas J, Tereyek M, Chang TL, **Subbian S**, Parekkadan B. 3D host cell and pathogen-based bioassay development for testing anti-tuberculosis (TB) drug response and modeling immunodeficiency. *Biomol Concepts*. 2021 Sep 2;12(1):117-128. doi: 10.1515/bmc-2021-0013. PMID: 34473918.
34. Costa DL, Maiga M, **Subbian S**. Editorial: Host-Directed Therapies for Tuberculosis. *Front Cell Infect Microbiol*. 2021 Aug 6;11:742053. doi: 10.3389/fcimb.2021.742053. PMID: 34422685; PMCID: PMC8377667.
35. Ramasamy S, **Subbian S**. Erratum for Ramasamy and Subbian, "Critical Determinants of Cytokine Storm and Type I Interferon Response in COVID-19 Pathogenesis". *Clin Microbiol Rev*. 2021 Dec 15;34(4):e0016321. doi: 10.1128/CMR.00163-21. Epub 2021 Jul 14. Erratum for: *Clin Microbiol Rev*. 2021 May 12;34(3): PMID: 34259566; PMCID: PMC8404690.
36. Xu C, Wang A, Marin M, Honnen W, Ramasamy S, Porter E, **Subbian S**, Pinter A, Melikyan GB, Lu W, Chang TL. Human Defensins Inhibit SARS-CoV-2 Infection by Blocking Viral Entry. *Viruses*. 2021 Jun 26;13(7):1246. doi: 10.3390/v13071246. PMID: 34206990; PMCID: PMC8310277.
37. Cao R, To K, Kachour N, Beever A, Owens J, Sathananthan A, Singh P, Kolloli A, **Subbian S**, Venketaraman V. Everolimus-induced effector mechanism in macrophages and survivability of Erdman, CDC1551 and HN878 strains of Mycobacterium tuberculosis infection. *Biomol Concepts*. 2021 Jun 1;12(1):46-54. doi: 10.1515/bmc-2021-0006. PMID: 34062056; PMCID: PMC8993225.
38. Ramasamy S, **Subbian S**. Critical Determinants of Cytokine Storm and Type I Interferon Response in COVID-19 Pathogenesis. *Clin Microbiol Rev*. 2021 May 12;34(3):e00299-20. doi: 10.1128/CMR.00299-20. PMID: 33980688.
39. Gopaldaswamy R, **Subbian S**, Shanmugam S, Mondal R, Padmapriyadarsini C. Recent developments in the diagnosis and treatment of extrapulmonary non-tuberculous mycobacterial diseases. *Int J Tuberc Lung Dis*. 2021 May 1;25(5):340-349. doi: 10.5588/ijtld.21.0002. PMID: 33977901.
40. Gopaldaswamy R, **Subbian S**. Corticosteroids for COVID-19 Therapy: Potential Implications on Tuberculosis. *Int J Mol Sci*. 2021 Apr 6;22(7):3773. doi:10.3390/ijms22073773. PMID: 33917321; PMCID: PMC8038708.
41. Kumar R, Kolloli A, **Subbian S**. Inactivation and Elimination of SARS-CoV-2 in Biosamples Using Simple Fixatives and Ultrafiltration. *Methods Protoc*. 2021 Feb 27;4(1):18. doi: 10.3390/mps4010018. PMID: 33673589; PMCID: PMC7930937. Klionsky DJ, Abdel-Aziz AK,
42. Abdelfatah S,.....**Subbian S**.....Guidelines for the use and interpretation of assays for monitoring autophagy (4<sup>th</sup> edition). *Autophagy*. 2021 Feb 8;1-382. Doi:10.1080/15548627.2020.1797280. PMID:33634751.
43. **Subbian S**, Singh P, Kolloli A, Nemes E, Scriba T, Hanekom WA, Kaplan G. BCG vaccination of infants confers Mycobacterium tuberculosis strain-specific immune responses by leukocytes. *ACS Infect Dis*. 2020 Dec 11;6(12):3141-3146. doi: 10.1021/acsinfecdis.0c00696. PMID:33226778.
44. Gopaldaswamy R, Ganesan N, Velmurugan K, Aravindhan V, **Subbian S**. The strange case of BCG and COVID-19: the verdict is still up in the air. *Vaccines (Basel)*. 2020 Oct 16;8(4):E612. doi: 10.3390/vaccines8040612. PMID: 33081331.
45. Zentner I, Back HM, Kagan L, **Subbian S**, Nagajyothi J, Srivastava S, Pasipanodya J, Gumbo T, Bisson GP, Vinnard C. Redox imbalance and oxidative DNA damage during isoniazid treatment of HIV-associated tuberculosis: a clinical and translational pharmacokinetic study. *Front Pharmacol*. 2020 Jul 29;11:1103. doi: 10.3389/fphar.2020.01103. eCollection 2020. PMID: 32848735.
46. Mishra A, Singh VK, Actor JK, Hunter RL, Jagannath C, **Subbian S**, Khan A. GM-CSF dependent differential control of Mycobacterium tuberculosis infection in human and mouse macrophages: Is macrophage source of GM-CSF critical to tuberculosis immunity. *Front Immunol*. 2020 Jul 23;11:1599. doi: 10.3389/fimmu.2020.01599. eCollection 2020. PMID:32793233.
47. Mika-Gospodorz B, Giengkam S, Westermann AJ, Wongsantichon J, Kion-Crosby W, Chuenklin S, Wang LC, Sunyakumthorn P, Sobota RM, **Subbian S**, Vogel J, Barquist L, Salje J. Dual RNA-seq of Orientia tsutsugamushi informs on host-pathogen interactions for this neglected intracellular human pathogen. *Nat Commun*. 2020 Jul 3;11(1):3363. doi: 10.1038/s41467-020-17094-8. PMID:32620750.
48. Ashley D, Hernandez J, Cao R, To K, Yegiazaryan A, Abraham R, Nguyen T, Owens J, Lambros M, **Subbian S**, Venketaraman V. Antimycobacterial effects of everolimus in a human granuloma model. *J Clin Med*. 2020 Jun 29;9(7):2043. doi: 10.3390/jcm9072043. PMID: 32610643.

49. Singh VK, Mishra A, Bark S, Mani A, **Subbian S**, Hunter RL, Jagannath C, Khan A. Human mesenchymal stem cell based intracellular dormancy model of *Mycobacterium tuberculosis*. *Microbes Infect.* 2020 Oct;22(9):423-431. doi: 10.1016/j.micinf.2020.05.015. Epub 2020 Jun 17. PMID:32562667.
50. Gopalswamy R, Shanmugam S, Mondal R, **Subbian S**. Of tuberculosis and non-tuberculous mycobacterial infections-a comparative analysis of epidemiology, diagnosis and treatment. *J Biomed Sci.* 2020 Jun 17;27(1):74. doi: 10.1186/s12929-020-00667-6. PMID:32552732.
51. O'Brien P, Vinnard C, **Subbian S**. An improved protocol to establish experimental tuberculous meningitis in the rabbit. *MethodsX.* 2020 Feb 21;7:100832. doi: 10.1016/j.mex.2020.100832. PMID: 32195146
52. Tsenova L, Fallows D, Kolloli A, Singh P, O'Brien P, Kushner N, Kaplan G, **Subbian S**. Inoculum size and traits of the infecting clinical strain define the protection level against *Mycobacterium tuberculosis* infection in a rabbit model. *Eur J Immunol.* 2020 Mar 4. doi: 10.1002/eji.201948448. PMID: 32130727
53. Kumar R, Kolloli A, Singh P, Vinnard C, Kaplan G, **Subbian S**. Thalidomide and Phosphodiesterase 4 Inhibitors as Host Directed Therapeutics for Tuberculous Meningitis: Insights From the Rabbit Model. *Front Cell Infect Microbiol.* 2020 Jan 14;9:450. doi: 10.3389/fcimb.2019.00450. PMID: 32010638
54. Akkina R, Barber DL, Bility MT, Bissig KD, Burwitz BJ, Eichelberg K, Endsley JJ, Garcia JV, Hafner R, Karakousis PC, Korba BE, Koshy R, Lambros C, Menne S, Nuernberger EL, Ploss A, Podell BK, Poluektova LY, Sanders-Beer BE, **Subbian S**, Wahl A. Small Animal Models for Human Immunodeficiency Virus (HIV), Hepatitis B, and Tuberculosis: Proceedings of an NIAID Workshop. *Curr HIV Res.* 2019 Dec 22. doi: 10.2174/1570162X18666191223114019. PMID:31870268.
55. Dusthacker A, Balasubramanian M, Shanmugam G, Priya S, Nirmal CR, Sam Ebenezer R, Balasubramanian A, Mondal RK, Thiruvendakam K, Hemanth Kumar AK, Ramachandran G, **Subbian S**. Differential Culturability of *Mycobacterium tuberculosis* in Culture-Negative Sputum of Patients With Pulmonary Tuberculosis and in a Simulated Model of Dormancy. *Front Microbiol.* 2019 Oct 23;10:2381. doi: 10.3389/fmicb.2019.02381. eCollection 2019. PMID:31749768
56. Kumar R, Singh P, Kolloli A, Shi L, Bushkin Y, Tyagi S, **Subbian S**. Immunometabolism of Phagocytes During *Mycobacterium tuberculosis* Infection. *Front Mol Biosci.* 2019 Oct 14;6:105. doi: 10.3389/fmolb.2019.00105. eCollection 2019. PMID:31681793
57. Li J, Fu L, Wang G, **Subbian S**, Qin C, Zhao A. Unmethylated CpG motif-containing genomic DNA fragment of *Bacillus calmette-guerin* promotes macrophage functions through TLR9-mediated activation of NF- $\kappa$ B and MAPKs signaling pathways. *Innate Immun.* 2019 Oct 15:1753425919879997. doi: 10.1177/1753425919879997. PMID:31615313
58. Kolloli A, Singh P, Rodriguez GM, **Subbian S**. Effect of Iron Supplementation on the Outcome of Non-Progressive Pulmonary *Mycobacterium tuberculosis* Infection. *J Clin Med.* 2019 Aug 2;8(8). pii: E1155. doi: 10.3390/jcm8081155. PMID:31382404
59. Mezocho A, Thakur KT, Zentner I, **Subbian S**, Kagan L, Vinnard C. Attainment of target rifampicin concentrations in cerebrospinal fluid during treatment of tuberculous meningitis. *Int J Infect Dis.* Apr 30;84:15-21. PMID:31051278.
60. Ayyappan JP, Ganapathi U, Lizardo K, Vinnard C, **Subbian S**, Perlin DS, Nagajyothi JF. Adipose Tissue Regulates Pulmonary Pathology during TB Infection. *MBio.* Apr 16;10(2). pii: e02771-18. PMID:30992360.
61. Shi L, Jiang Q, Bushkin Y, **Subbian S**, Tyagi S. 2019. Biphasic Dynamics of Macrophage Immunometabolism during *Mycobacterium tuberculosis* Infection. *MBio.* Mar 26;10(2). pii: e02550-18. PMID:30914513.
62. Teskey G, Cao R, Islamoglu H, Medina A, Prasad C, Prasad R, Sathananthan A, Fraix M, **Subbian S**, Zhong L, Venketaraman V. 2018. The Synergistic Effects of the Glutathione Precursor, NAC and First-Line Antibiotics in the Granulomatous Response Against *Mycobacterium tuberculosis*. *Frontiers in Immunology.* Sep 12;9:2069. PMID:30258443.
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## **B. Books, Monographs and Chapters:**

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**C. Other Articles (Reviews, Editorials, etc. In Journals; Chapters; Books; other Professional Communications)**

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**D. Abstracts (National/international; Last 20 years; 2003 onwards)**

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39. Mehta PK, **Subbian S**, Cirillo SLG and Cirillo JD. Association of mycobacterial mel2 locus with enhanced TNF-alpha production and increased intracellular survival in murine macrophages. International Symposium on New Frontiers in Tuberculosis Research. International Centre for Genetic Engineering and Biotechnology (ICGEB), New Delhi, India. December 4-6, 2006.
40. **Subbian S**, Cirillo SLG and Cirillo JD. Illuminating reactive oxygen and nitrogen species resistance mechanisms through analysis of bioluminescence-like genes in mycobacteria. (Abstract # 433). Keystone symposia on Tuberculosis: From Lab Research to Field Trials at Vancouver, Canada during March 20-25, 2007.
41. Haight J, Campbell M, Williams AM, **Subbian S**, Cirillo SLG, Willey J, and Cirillo JD. Use of streptomyces to study quorum sensing in mycobacteria. Sixth Annual Nebraska-BRIN/INBRE meeting, Lincoln, NE. Jul. 2007.
42. Williams AM, Campbell M, Perlinger T, **Subbian S**, Cirillo SLG, Willey J and Cirillo JD. Isolation of a biologically active quorum sensing molecule from *Mycobacterium smegmatis*. Sixth Annual Nebraska-BRIN/INBRE meeting, Lincoln, NE. Jul. 2007.
43. **Subbian S**, Mehta PK, Cirillo SLG, Cirillo JD. The mycobacterial mel2 locus displays similarity to microbial bioluminescence systems and affects survival in macrophages. 106<sup>th</sup> ASM meeting, Orlando, Florida, USA. May. 2006.
44. **Subbian S**, Narayanan S, Narayanan PR. Regulators and operators involved in the regulation of the highly inducible acetamidase operon from *M. smegmatis*. Bioinformatics in Tuberculosis Research. Indian Institute of Technology (IIT), Karaghpur, India. Jan. 2003.

## PRESENTATIONS:

### A. Scientific Lectures (*last 10 yrs; 2013 onwards*)

1. 2023 **Subbian S**. Immune response to BCG vaccination is shaped by the nature and infectious inoculum of pathogenic *Mycobacterium tuberculosis*. Vaccine Summit-2023, Boston, MA,
2. 2023 The rabbit model of pulmonary *Mycobacterium tuberculosis* infection. University of Texas El Paso, TX.
3. 2023 Hamster models of SARS-CoV-2 infection. University of Texas El Paso, TX.
4. 2022 Many Hosts of Mycobacteria, Ohio State University, Columbus, OH.
5. 2022 Inflammation and tuberculosis. American Society for Investigative Pathology (ASIP)/Experimental Biology (EB), Philadelphia, PA.
6. 2022 Host directed therapies for infectious diseases. NJMS-I3D Retreat. Rutgers University, NJ.
7. 2021 Hamster model of SARS-CoV-2 infection. COVID-19 Research Retreat-2021. NJMS, Rutgers University, NJ.
8. 2021 Tale of two diseases: TB and COVID-19- insights from model animals. Delaware Valley Branch of American Association of Laboratory Animal Sciences (AALAS). Philadelphia, PA.

9. 2021 Pulmonary *Mycobacterium tuberculosis* infection in rabbits. Rutgers Comparative Medal Research (CMR) Veterinary Grand Rounds. Rutgers University, NJ.
10. 2021 Collaboration for TB vaccine discovery (CTVD), 7<sup>th</sup> Annual meeting, Virtual.
11. 2020 BCG vaccination of infants confers protection against *Mycobacterium tuberculosis* disease that is clinical Mtb strain specific. 38<sup>th</sup> European Society for Pediatric Infectious Diseases (ESPID). Virtual meeting.
12. 2019 Exploration of a Rabbit model of pulmonary *Mycobacterium tuberculosis* infection, the University of Tennessee, Knoxville, TN.
13. 2019 Pulmonary *Mycobacterium tuberculosis* infection in rabbits. Public Health Research Institute, NJMS, Newark, NJ.
14. 2019 Exploring the Rabbit Model of Pulmonary Tuberculosis. NIH/NIAID workshop on small animal models for HIV and co-morbid conditions, NIH, Bethesda, MD.
15. 2019 Pulmonary Mixed *Mycobacterium tuberculosis* infection in a Rabbit Model. World TB Day-2019. Albany Medical Center, Albany, NY.
16. 2019 Rabbit Model of Pulmonary Tuberculosis for Host-directed therapy. Houston Methodist Hospital Research Institute, Houston, TX.
17. 2018 Host-directed therapy for tuberculosis. Dept. of Microbiology, University of Tennessee, Knoxville, TN.
18. 2018 Serial Killing of Macrophages by *Mycobacterium tuberculosis*. American Society for Microbiology (ASM) NJ branch, Seton Hall University, NJ.
19. 2017 Pathogenicity of clumped and de-clumped Mtb in animal models of pulmonary TB, Bill and Melinda Gates Foundation Meeting on Aerobiology, Seattle, WA.
20. 2015 Lesion specific immune response in granulomas of patients with pulmonary tuberculosis. Keystone Symposia on Host response in Tuberculosis (J3 & J4), Santa Fe, NM.
21. 2014 Changing the course of TB pathogenesis and treatment. Keystone Symposia on Novel Therapeutic Approaches to Tuberculosis (C7-2014), Keystone, CO.
22. 2013 Early immune response to *Mycobacterium tuberculosis* infection in rabbit lungs. TB club of UMDNJ, NJ.

**SERVICE ON NATIONAL GRANT REVIEW PANELS, STUDY SECTIONS, COMMITTEES:**

- 1) 2013- present NIH grant review panel member, (U19 and ZRG study sections)
- 2) 2008- present Judge Annual Biomedical Research Conference for Minoritized Students (ABRCMS), a body of the American Society for Microbiology.
- 3) 2023- present Department of Defense (DoD) Grants Review Panel Member.

**SERVICE ON MAJOR COMMITTEES:**

**A. International**

- 1) 2021- present Reviewer for research presentations to the European Society for Pediatric Infectious Diseases (ESPID).
- 2) 2020- present Wellcome Trust-South Africa Grants Reviewer, South Africa.
- 3) 2020- present Reviewer for Ireland Medical Research Foundation, Ireland.
- 4) 2020- present Reviewer for UK Medical Research Foundation, UK.
- 5) 2018- present Scientific Expert for the Agence Nationale de la Recherche (ANR), France.
- 6) 2016- present Wellcome Trust-India Alliance Grants Reviewer, India.

**B. Medical School/University**

- 1) 2021- present Rutgers University Faculty Investigators Committee (FIC).
- 2) 2019-present Rutgers University Faculty Committee on Appointments and Promotions (FCAP).
- 3) 2020-present Rutgers University Biosafety Committee for COVID-19 research.
- 4) 2020-present Rutgers University Revitalizing Committee for Biological, Biochemical and Biomedical Research after COVID-19.
- 5) 2016-2018 Rutgers University IACUC committee member.
- 6) 2014-2019 Rutgers University IBC committee member
- 7) 2018-present NJMS, Rutgers University Graduate Recruitment Committee (candidate interviewer) member.
- 8) 2017-present Judge, Annual Graduate Student Research Conference, NJMS, Rutgers University.
- 9) 2017-present Judge, Annual Department of Medicine Research Day, NJMS, Rutgers University.

**C. Editorial Boards**

1. 2014- present PLOS ONE
2. 2014- present Nature Scientific Reports
3. 2014- present Journal of Global Infectious Diseases (JGID)
4. 2018- present Mycobacteriology
5. 2020- present Frontiers in Epidemiology
6. 2020- present Medicina

7. 2020- present      Frontiers in Cellular and Infection Microbiology
8. 2020- present      Journal of Respiration
9. 2021- present      Frontiers in Pharmacology
10. 2022- present     ASM-mSphere
11. 2023- present     Frontiers in Tuberculosis

**D. *AdHoc* Reviewer (notable ones listed; total 81 journals)**

1. ACS Nano, 2020-
2. Am J Respir Crit Care Med (AJRCCM), 2013-
3. ASM-Antimicrobial Agents and Chemotherapy, 2018-
4. ASM-mBio
5. ASM mSphere, 2019-
6. ASM-Spectrum
7. Autophagy, 2020-
8. Biochemica Biophysica Acta, 2016-
9. British Journal of Pharmacology, 2016-
10. Cell Death and Disease, 2023-
11. Cell Host Microbe, 2012-
12. Cellular Immunology, 2018-
13. EBioMedicine, 2015-
14. Frontiers in Cellular and Infectious Diseases, 2019-
15. Frontiers in Immunology, 2017-
16. Frontiers in Microbiology, 2019-
17. Immunobiology, 2015-
18. iScience, 2023-
19. Journal of Cellular and Molecular Medicine, 2020-
20. Journal of Clinical and Translational Research, 2022-
21. Journal of Interferon and Cytokine Research, 2015-
22. Life Sciences, 2023-
23. Molecular Microbiology, 2022-
24. Nature Communications, 2022-
25. Nature Scientific Reports, 2014-
26. Oxidative Medicine and Cellular Longevity, 2018-
27. Pathogen and Diseases, 2018-
28. PLoS Pathogens, 2020-
29. PNAS, 2013-
30. npjVaccines, 2020-

**MEMBERSHIPS, OFFICES AND COMMITTEE ASSIGNMENTS IN PROFESSIONAL SOCIETIES:**

- 1) 2003-present      American Society for Microbiology (ASM)
- 2) 2008-present      Annual Biomedical Research Conference for Minoritized Students (ABRCMS)
- 3) 2011-2020        New York Academy of Sciences (NYAS)
- 4) 2019-present      American Association of Immunologists (AAI)
- 5) 2019-2022        European Society of Pediatric Infectious Diseases (ESPID)
- 6) 2021-present      American Chemical Society (ACS)

**SERVICE ON GRADUATE SCHOOL COMMITTEES:**

1. 2017-present      Rutgers-NJMS Graduate Research Symposium Judge
2. 2017-present      Rutgers-NJMS Graduate thesis (qualifier and defense) committee

3. 2017-present Rutgers-NJMS Graduate student recruitment (interviewer)

**SERVICE TO THE COMMUNITY:**

1. Interviewed by Ms. Alexis Short, National Research Mentoring Network for “Mentor of the Month: Selvakumar Subbian”; May 21, 2019.
2. Interviewed by Ms. Edna M. Kunkel, Vector Laboratories for “Scientist Spotlight: Selvakumar Subbian”; April 15, 2021.
3. Three months shadowing experience of high-school student, Ms. Anjana Kottaiveedu, from Highland Park High School, Highland Park, NJ; 2022.

**SPONSORSHIP OF POSTDOCTORAL FELLOWS:**

1. 2016-present Afsal Kolloli
2. 2016-2021 Pooja Singh
3. 2018-present Ranjeet Kumar
4. 2018-2022 Anshika Narang
5. 2019-2022 Santhamani Ramasamy
6. 2021-2023 Annuurun Nissa.
7. 2023-present Gunapati Bhargavi

**TEACHING RESPONSIBILITIES:**

*A. Lectures or Course Directorships*

- 2002-2003 Punjab Technical University, Chennai, India  
Lecturer in Bioinformatics – Gene expression and regulation in pro and eukaryotes  
(4 hours per week)

*B. Predoctoral Student Research Training*

At PHRI/NJMS, Rutgers University

1. 2013 Viraj Khetani
2. 2016-2017 Sumaaya Mohamed
3. 2019-2020 Kiranjeet Singh
4. 2019-2021 Falisha Verma
5. 2019-2021 Manpreet Singh
6. 2022 Sami Asif
7. 2022-present Umber Kolkhar
8. 2023-present Tirtha Pandya
9. 2023-present Yuzen Vaghela
10. 2023-present Sheryn Low

At the Dept. of Microbial and Molecular Pathogenesis, Texas A&M Health Science Center at College Station, TX

1. 2007-2008 Alfredo Echeverria
2. 2007-2008 Greg Maberry
3. 2006-2007 Randy Eman
4. 2006-2008 Megan Files

At the Dept. of Veterinary and Basic Medical Sciences, University of Nebraska at Lincoln, Nebraska

1. 2003-2005 Elizabeth Thiemann
2. 2003-2005 Karen Lee
3. 2004-2005 Angela McKinney Williams
4. 2004-2005 Mikiko Oka