

## RESUME

**CHANDRA SHEKHAR BAKSHI, Ph.D.**  
**Associate Professor of Pathology, Microbiology and Immunology**  
**Department of Pathology, Microbiology and Immunology**  
**School of Medicine,**  
**New York Medical College**  
**15 Dana Road Valhalla, New York 10595**  
Phone number: **914-594-4814 (Office)/ 518-810-8243 (Cell)**  
Email address: **Shekhar\_Bakshi@nymc.edu**

### EDUCATION

#### UNDERGRADUATE

<u>YEAR</u>	<u>DEGREE</u>	<u>INSTITUTION</u>
<b>1984-1989</b>	Bachelor of Veterinary Science and Animal Husbandry (B.V.Sc. & A.H. ( <b>Equivalent to DVM in the USA</b> ))	College of Veterinary Science and Animal Husbandry, Jawaharlal Nehru Krishi Vishwa Vidyalaya, (JNKVV) Jabalpur, India

#### GRADUATE

<u>YEAR</u>	<u>DEGREE</u>	<u>INSTITUTION</u>	<u>Mentor, Thesis Title</u>
<b>1989-1992</b>	Master of Veterinary Science (Bacteriology)	Indian Veterinary Research Institute, India	Dr. Asim Sikdar, Effect of graded dietary levels of aflatoxin on immunity in commercial broilers
<b>1995-1998</b>	Ph.D. (Bacteriology)	Indian Veterinary Research Institute, India	Dr. V.P. Singh, Molecular typing of Indian isolates of <i>Salmonella</i> Enteritidis

### POSTDOCTORAL FELLOWSHIP

<u>YEAR</u>	<u>SUBJECT</u>	<u>INSTITUTION</u>	<u>MENTOR</u>
<b>1999</b>	Bacteriology	Institute for Animal Health, Compton, Newbury UK	Dr. Edouard Galyov
<b>2003-2005</b>	Host-Pathogen Interactions	Albany Medical College, Albany, New York, USA	Dr. Timothy J. Sellati

### FULL-TIME EMPLOYMENT

<u>YEAR</u>	<u>POSITION</u>	<u>INSTITUTION</u>
<b>1993-1995</b>	Scientist (Bacteriology and Virology)	National Biotechnology Center, Indian Veterinary Research Institute, India
<b>2000-2003</b>	Senior Scientist (Bacteriology and Virology)	National Biotechnology Center, Indian Veterinary Research Institute, India
<b>2005-2010</b>	Assistant Professor (non Tenure Track)	Center for Immunology and Microbial Diseases, Albany Medical College, Albany, New York

<b>YEAR</b>	<b>POSITION</b>	<b>INSTITUTION</b>
<b>2010-2016</b>	Assistant Professor (Tenure Track)	Department of Microbiology and Immunology, New York Medical College, Valhalla, New York
<b>2016-Present</b>	Associate Professor	Department of Pathology, Microbiology and Immunology, New York Medical College, Valhalla, New York

## **OTHER PROFESSIONAL SERVICES**

### **REVIEWER RESEARCH GRANTS**

#### Years

#### Organizations & Societies

<b>2011-Present</b>	<b>Reviewer, Basic Science and Immunology Study Section American Heart Association</b>
<b>2016-Present</b>	<b>Reviewer, Center for Scientific Review, National Institutes of Health</b>
<b>2018</b>	<b>Co-Chair, Fellowships Microbiology and Basic Science Study Section, American Heart Association</b>
<b>2020</b>	<b>Reviewer, NIH/NIAID Study Section ZRG1 IDM-X 50 - PAR19-065: Phage Biology and Bacteriophage Therapy Special Emphasis Panel. National Institutes of Health</b>
<b>2020-Present</b>	<b>Reviewer, NIH Small business: Non-HIV Microbial Vaccine Development- IMM12, National Institutes of Health</b>
	<b>Reviewer, NIH Small business: Microbial Vaccine Development- AIDC (11), National Institutes of Health</b>
<b>2021-Present</b>	<b>Co-Chair and Reviewer, Reviewer, NIH Small business: Microbial Vaccine Development- AIDC (11), National Institutes of Health</b>

### **EDITORIAL SERVICES**

#### Years

<b>2010-Present</b>	<b>Reviewer, PLoS Pathogens, PLoS One, FEMS Microbiology Letters, Journal of Bacteriology, Journal of Immunology, Infection and Immunity, Free Radical Biology and Medicine, Journal of Biological Chemistry, Frontiers in Microbiology, Journal of Infectious Diseases, The American Journal of Pathology, and Nature Publishing Group Journals.</b>
<b>2015-Present</b>	<b>Academic Editor, PLoS One Journal</b>
<b>2019-Present</b>	<b>Review Editor, Frontiers in Microbiology and Infectious Diseases Journal</b>

**INSTITUTIONAL SERVICE**

<b>2012-2020</b>	<b>Member, Student Admissions Committee, Graduate School of Basic Medical Sciences (GSBMS), New York Medical College, Valhalla, New York</b>
<b>2012-Present</b>	<b>Judge for oral and Poster Presentations, Graduate and Medical Students' Research Forum, Graduate School of Basic Medical Sciences (GSBMS), and School of Medicine, New York Medical College, Valhalla, New York</b>
<b>2014</b>	<b>Member, Microbiology Faculty Search Committee, School of Medicine, New York Medical College, Valhalla, New York</b>
<b>2015-2019</b>	<b>Member, Graduate Faculty Council, Graduate School of Basic Medical Sciences (GSBMS), New York Medical College, Valhalla, New York</b>
<b>2015-Present</b>	<b>Member, Committee on Academic Integrity, Graduate School of Basic Medical Sciences (GSBMS), New York Medical College, Valhalla, New York</b>
<b>2018-Present</b>	<b>Program Director, Master's Program in the Department of Microbiology and Immunology, Graduate School of Basic Medical Sciences (GSBMS), Valhalla, New York</b>
<b>2019-Present</b>	<b>Course Director, Infectious Diseases Course, New York School of Podiatry Medicine (NYCPM), New York</b>
<b>2021-</b>	<b>Senator, New York Medical College Faculty Senate</b>

**RESEARCH****RESEARCH FUNDING**

<b>YEAR</b>	<b>AWARD</b>	<b>ROLE</b>	<b>SOURCE OF FUNDING</b>
<b>09-30-2003-8/31/2011</b>	1P01AI056320-07	Co-Investigator PI: Denis W. Metzger	NIH/NIAID
	<b>Title:</b> MUCOSAL IMMUNOPATHOGENESIS OF <i>FRANCISELLA TULARENSIS</i>		
<b>09/01/2010-08/31/2012</b>	7R56AI090072-02	Principle Investigator	NIH/NIAID
	<b>Title:</b> MODULATION OF MACROPHAGE FUNCTION BY <i>FRANCISELLA TULARENSIS</i>		
<b>08/01/2012-07/31/2017</b>	2P01AI056320-08	Co-Investigator PI: Denis W. Metzger	NIH/NIAID

	<b>Title:</b> IMMUNOBIOLOGY AND PATHOGENESIS OF PULMONARY TULAREMIA		
<b>09/06/2013-08/31/2016</b>	1R56AI101109-01A1	Principle Investigator	NIH/NIAID
	<b>Title:</b> MODULATION OF HOST INNATE IMMUNE RESPONSE BY <i>FRANCISELLA TULARENSIS</i>		
<b>05/01/2014-07/31/2015</b>	SEED FUNDING	Principle Investigator	Touro University Seed-Funding Grant
	<b>Title:</b> MULTIVALENT TULAREMIA VACCINE BASED ON TOBACCO MOSAIC VIRUS (TMV) DISPLAYING PROTECTIVE ANTIGENS		
<b>09/01/2016-08/31/2020</b>	TRANSLATIONAL RESEARCH GRANT	Principle Investigator	NEW YORK MEDICAL COLLEGE, SCHOOL OF MEDICINE, CHILD HEALTH TRANSLATIONAL SCIENCE INSTITUTE
	<b>Title:</b> RESISTANCE AIRFLOW OBSTRUCTION IN CHILDREN WITH ASTHMA- A NOVEL PHENOTYPE?		
<b>06/16/2016-05/31/2019</b>	5R21AI122108-02	Principle Investigator	<u>NIH/NIAID</u>
	<b>Title:</b> PRECLINICAL DEVELOPMENT OF A MULTIVALENT TULAREMIA VACCINE		
<b>05/01/2017-07/31/2019</b>	Touro Seed Funding	Principle Investigator	Touro University Seed-Funding Grant
	<b>Title:</b> DEVELOPMENT OF A NOVEL BACTERIOPHAGE THERAPY FOR THE TREATMENT OF TULAREMIA		
<b>02/18/2020-01/31/2022</b>	1R21AI151277	Principle Investigator	<u>NIH/NIAID</u>
	<b>Title:</b> ADVANCEMENT OF A MUCOSAL SUBUNIT VACCINE IN AN OUTBRED MODEL OF RESPIRATORY TULAREMIA		
<b>08/15/2020-07/31/2022</b>	3R01HL132574-04S1	Co-Investigator PI: Sachin Gupte	<u>NIH/NHLBI</u>
	<b>Title:</b> REGULATION OF VASCULAR SMOOTH MUSCLE CELL PHENOTYPE BY A NOVEL ISOFORM OF GLUCOSE-6-PHOSPHATE DEHYDROGENASE- (SUPPLEMENT ON COVID-19)		
<b>04/01/2021-03/31/2023</b>	1R03AI156522-01	Principle Investigator	<u>NIH/NIAID</u>
	<b>Title:</b> CHARACTERIZATION OF FRANCISELLA TULARENSIS SPECIFIC BACTERIOPHAGES		

**MENTORSHIP AND TRAINING****POSTDOCTORAL FELLOWS**

From	To	Activity	Mentor
2005	2008	Level	Postdoctoral Fellow
		Mentee(s)	Dr. Manish Mahawar
2009	2010		Dr. Rashed Mohmmad
2011	2012		Dr. Mythilipriya Rajendran
2011	2012		Dr. Mrudula Varanat
2012	2012		Dr. Kaisar Alam
2012	2016		Dr. Sukalyani Banik
2015	2016		Dr. Seham Rabadi
2020	2021		Dr. Ritu Gaur

**PH.D. STUDENTS**

From	To	Activity	Mentor
2011	2015	Level	Ph.D. Student
		Mentee(s)	Ms. Seham M. Rabadi
2014	2018		Mr. Varadharajan Suresh Ragavan
2015	2018		Ms. Ahd Mansour
2014	2019		Ms. Dina Marghani
2016	2020		Ms. Maha Alqahtani
2021	Present		Mr. Anthony Centone

**MASTER'S STUDENTS**

From	To	Activity	Mentor
2001	2003	Level	Master's Student
		Mentee(s)	Mr. Aseem Pandey
2012	2013		Mr. Harisankar Singha
			Ms. Vanessa Mora
2013	2014		Ms. Jibi Josi
			Mr. V.S. Ragavan
2014	2015		Ms. Belkys Sanchez
			Ms. Ahd M. Mansour
2015	2016		Ms. Zeinab Dawood
			Ms. Arwa Alharbi
2017	2018		Ms. Maha Alqahtani
			Ms. Zeba Jamshed
2019	2020		Ms. Diana Lee
			Ms. Kendall Whitt
2020	2021		Ms. Aarti Bedi
			Mr. Hassan Shakil Ahmed
			Ms. Kimberley Keenan
			Ms. Ozlem Sahin
			Ms. Kaitlin Martins
			Mr. Kevin Kania

2021	2022		<b>Ms. Himani Sharma</b> <b>Mr. Encarnacion Fernandez</b> <b>Ms. Tsering Sherpa</b> <b>Mr. Prashanth Sampath-Kumar</b>
------	------	--	---

**MEMBER PH.D. STUDENTS THESIS ADVISORY COMMITTEE**

From	To	Activity	Thesis Committee Member
2006	2012	Level	Ph.D. Student
		# Mentee(s) (16)	<b>Ms. Amanda Melillo</b> (Albany Medical College) <b>Mr. Anthony Hickey</b> (Albany Medical College) <b>Ms. Nicole Flaherty</b> (SUNY Polytechnic Institute, Albany) <b>Mr. Anthony Frenchini</b> (Albany Medical College) <b>Mr. Douglas Durrant</b> (Albany Medical College)
2010	Present		<b>Ms. Michelle Krupna-Gaylord</b> <b>Ms. Andrea Love</b> <b>Ms. Priyanka Mukherjee</b> <b>Ms. Sukalyani Banik</b> <b>Ms. Odaelys Walwyn</b> <b>Ms. Harshada Ketkar</b> <b>Ms. Christina D'Arco</b> <b>Mr. Corey Gaylets</b> <b>Mr. P. Todd Benziger</b> (SUNY Stonybrook) <b>Ms. Adiya Katsef</b> <b>Ms. Catherine D'Addario</b>

**MEMBER MASTER STUDENTS THESIS ADVISORY COMMITTEE**

From	To	Activity	Thesis Committee Member
2000	2003	Level	Master's Students
		# Mentee(s) (16)	<b>Ms. Sheikha Khara</b> <b>Mr. Bikash Sahay</b> <b>Mr. Kajal Jadav</b> <b>Mr. Sadanand Fulzule</b>
2012	2013		<b>Mr. Robert Bednarczyk</b>
2013	2014		<b>Mr. Brian Lynch</b>
2014	2015		<b>Ms. Dina Marghani</b>
2015	2016		<b>Mr. Neil Vohra</b> <b>Ms. Yukari Ueda</b> <b>Ms. Terri Ann Nelson</b>
2016	2017		<b>Mr. Daniel Clarici</b>
2019	2020		<b>Ms. Eman Khalid Barahim</b> <b>Mr. Connor Prendergast</b>
2020	2021		<b>Mr. Anthony Centone</b> <b>Mr. Alex Constantine</b>
2021			<b>Ms. Kriti Sharma</b>

**TEACHING****MEDICAL, DENTAL AND PODIATRY SCHOOL TEACHING**

<b>Years</b>	<b>Institution</b>	<b>Course</b>	<b>Role</b>
2013-Present	School of Medicine, New York Medical College	Medical Microbiology (MCRM 2101)	Lecturer
2018-Present	Touro College of Dental Medicine at New York Medical College	Dental Microbiology (BMDN 516)	Lecturer
2018-Present	New York College of Podiatry Medicine (NYCPM)	Infectious Diseases (PCLP610)	Course Director and Lecturer

**GRADUATE SCHOOL TEACHING (Masters and Ph.D. Students)**

<b>Years</b>	<b>Institution</b>	<b>Course</b>	<b>Role</b>
2000-2003	Indian Veterinary Research Institute, India	Genetic Engineering of Bacteria (BTY 612) Lab	Course Director and Lecturer
2000-2003	Indian Veterinary Research Institute, India	Molecular Biology (BTY 601)	Course Director and Lecturer
2000-2003	Indian Veterinary Research Institute, India	Applied Aspects of Biotechnology (BTY 619)	Course Director and Lecturer
2005-2010	Albany Medical College, Albany NY	Microbial Pathogenesis (IMD 609)	Lecturer
2014-Present	Graduate School of Basic Medical Sciences (GSBMS), New York Medical College Valhalla, New York	General Microbiology I (MCRM 1010)	Course Director and Lecturer
2011-Present	Graduate School of Basic Medical Sciences (GSBMS), New York Medical College Valhalla, New York	General Microbiology II (MCRM 1020)	Lecturer
2014-Present	Graduate School of Basic Medical Sciences (GSBMS), New York Medical College Valhalla, New York	Current Topics in Microbiology, Immunology and Infectious Diseases (MCRM 7200)	Course Director and Lecturer
2011-Present	Graduate School of Basic Medical Sciences (GSBMS), New York Medical College Valhalla, New York	Directed Readings (MCRM 7010)	Course Director and Lecturer

**ACADEMIC ADVISING**

2018-Present

**Program Director, M.S. Microbiology and Immunology Program,  
Graduate School of Basic Medical Sciences, New York Medical  
College, Valhalla, New York**

**PEER-REVIEWED PUBLICATIONS**

1. **Bakshi, C.S.**, Sikdar, A., and Chattopadhyay S. K. Experimental aflatoxicosis in commercial broilers: Pathomorphological studies. *Indian Journal of Veterinary Pathology* 1995; 19:112-115
2. **Bakshi, C.S.**, Sikdar, A., Johri, T.S., and Malik, M. Effect of graded dietary levels of aflatoxin on total serum proteins, albumin and globulins in broilers. *Indian Journal of Comparative Microbiology, Immunology and Infectious Diseases* 1997; 8:166-170
3. Malik, M., Bansal, M.P., Ram, G.C., and **Bakshi, C.S.** Isolation and characterization of the third component of buffalo complement. *Indian Journal of Comparative Microbiology, Immunology and Infectious Diseases* 1997; 18 (2): 175-181
4. **Bakshi, C.S.**, Sikdar, A., Johri, T.S., and Malik, M. Effect of graded dietary levels of aflatoxin on cell mediated immune response in commercial broilers. *Indian Journal of Comparative Microbiology, Immunology and Infectious Diseases*, 1998; 19:40-42
5. Malik, M., Bansal, M.P., Ram, G.C., and **Bakshi, C.S.** Production of monospecific antibuffalo C3 serum and its cross species reactivity by indirect ELISA. *Indian Journal of Comparative Microbiology, Immunology and Infectious Diseases*, 1998; 19 (1): 59-60
6. Malik, M., Butchaiah, G., Bansal, M. P., Siddiqui, M. Z., and **Bakshi, C.S.** Sonicated and outer membrane protein profiles of *Salmonella* Enteritidis strains and other *Salmonella* serovars. *Indian Journal of Animal Sciences* 1999;69 (10): 788-789
7. Malik, M., **Bakshi, C.S.**, Butchaiah, G., Bansal, M. P., Siddiqui, M. Z., and Singh, V. P. Adjuvanted outer membrane protein vaccine protects poultry against infection with *Salmonella* Enteritidis. *Veterinary Research Communications* 1999;23: 81-90.
8. **Bakshi, C.S.**, Sikdar, A., Johri, T.S., Malik, M., and Singh, R.K. Effect of graded dietary levels of aflatoxin on humoral immune response in commercial broilers. *Indian Journal of Comparative Microbiology, Immunology and Infectious Diseases* 2000;21:163-164.
9. **Bakshi, C.S.**, Singh, V. P., Sharma, B., Malik, M., and Singh, R. K. Arbitrarily primed PCR for the differentiation of *Salmonella* Enteritidis strains. *Journal of Applied Animal Research* 2000;17: 291-295
10. **Bakshi, C.S.**, V.P. Singh, M.W. Wood, P.W. Jones, T. S. Wallis, and E.E. Galyov. Identification of SopE2, a *Salmonella* secreted protein which is highly homologous to SopE and involved in bacterial invasion of epithelial cells. *Journal of Bacteriology* 2000; 182: 2341-2344.



11. Rout, A. A., Singh, R. K., Malik, M., Joseph, M. C., **Bakshi, C.S.**, Suryanarayana, V. V. S., and Butchaiah, G. Development of a thermo resistant tissue culture rinderpest vaccine virus. *Acta Virologica* 2001;45: 235-241
12. Narayanan, S., Singh, S.D., **Bakshi, C.S.**, Malik, M., and Singh, R.K. A rapid protocol for preparation of *Clostridium septicum* genomic DNA. *Journal of Applied Animal Research* 2002; 21: 93-96
13. Singh, R.K., Mishra, S.N., Malik, M., **Bakshi, C.S.**, Garg, S.K., Rawat, A.K., Dwivedi, S.K., and Butchaiah, G. Development of an *in vitro* assay system for screening of anticancer plants for anti-telomerase activity. *Physiology and Molecular Biology Plants* 2002; 8:1-8
14. Malik, M., Butchaiah, G., Bansal, M. P., Siddiqui, M. Z., and **Bakshi, C.S.** and Singh, R.K. Antigenic relationship of *Salmonella* revealed by anti-*Salmonella* Enteritidis monoclonal antibodies. *Veterinary Research Communications* 2002;26: 179-188
15. **Bakshi C.S.**, Singh, V. P., Malik, M., Sharma, B., and Singh, R. K. Polymerase chain reaction amplification of 16S-23S spacer region for rapid identification of *Salmonella* serovars. *Acta Veterinaria Hungarica* 2002;50(2): 61-66.
16. Shah, D. H., Verma, R., **Bakshi, C.S.**, and Singh, R. K. A multiplex-PCR for the differentiation of *Mycobacterium bovis* and *Mycobacterium tuberculosis*. *FEMS Microbiology Letters* 2002; 214:39-43.
17. **Bakshi C.S.**, Singh, V. P., Sharma, B., Malik, M., and Singh, R. K. 55kb plasmid and virulence associated genes are positively correlated with *Salmonella enteritidis* pathogenicity in chicks and mice. *Veterinary Research Communications*; 2003; 27(6):425-32.
18. Shah, R. A., Joseph, M. C., Butchaiah, G., Malik, M., Singh, R. K. and **Bakshi C.S.** Detection of rinderpest virus using N protein monoclonal antibodies. *Tropical Animal Health and Production* 2004;36(1):11-25
19. **Bakshi, C.S.**, Shah, D. H., Verma, R., Singh, R. K. and Malik, M. Rapid differentiation of *Mycobacterium bovis* and *Mycobacterium tuberculosis* based on a 12.7-kb fragment by a single tube multiplex-PCR. *Veterinary Microbiology* 2005; 109 (3-4): 211-216.
20. **Bakshi, C.S.**, Malik, M., Carrico, P. M., and Sellati, T. J. T-bet deficiency facilitates airway colonization by *Mycoplasma pulmonis* in a murine model of asthma. *Journal of Immunology* 2006; 177 (3): 1786-1795.
21. **Bakshi, C.S.**, Malik, M., Regan, K., Melendez, J. A., Metzger, D. W., Pavlov, V. M., and Sellati, T. J. Superoxide dismutase-B gene (*sodB*)-deficient mutants of *Francisella tularensis* demonstrate hypersensitivity to oxidative stress and attenuated virulence. *Journal of Bacteriology* 2006;188 (17): 6443-6448.
22. Gil, H., Platz, G.J., Forestal, C.A., Monfett, M., **Bakshi, C.S.**, Sellati, T.J., Furie, M.B., Benach, J.L., and Thanassi, D.G. Deletion of TolC orthologs in *Francisella tularensis* identifies roles in multidrug resistance and virulence. *Proc. Natl. Acad. Sci. U. S. A.* 2006; 103: 12897-12902.

23. Malik, M., **Bakshi, C.S.**, Sahay, B., Shah, A., Lotz, S. A., and Sellati, T. J. Toll-like receptor 2 is required for control of pulmonary infection with *Francisella tularensis*. *Infection and Immunity* 2006; 74 (6): 3657-62.
24. Metzger, D.W., **Bakshi, C.S.**, and Kirimanjeswara, G. Mucosal Immunopathogenesis of *Francisella tularensis*. In: *Francisella tularensis: Biology, Pathogenicity, Epidemiology, and Biodefense*, Y.A. Kwak, A. Sjostedt, R. Titball, D. W. Metzger, and F. Nano (Eds). *Annals of New York Academy of Sciences New York* 2007; 1105:266-283.
25. Kirimanjeswara, G., Golden J.M., **Bakshi, C.S.**, and Metzger, D.W. Prophylactic and therapeutic use of antibodies for protection against respiratory infection with *Francisella tularensis*. *Journal of Immunology* 2007; 179:532-539.
26. Malik, M., **Bakshi, C.S.**, McCabe, K., Catlett, S. V., Shah, A., Sahay, B., Singh, R., Jackson, P.L., Gaggar, A., Metzger, D. W., Melendez, J.A., Blalock, J.E., and Sellati, T. J. Matrix Metalloproteinase 9 activity enhances host susceptibility to pulmonary infection with Type A and B strains of *Francisella tularensis*. *Journal of Immunology* 2007;178 (2):1013-1020.
27. Kirimanjeswara, G. Olmos, S.S., **Bakshi, C.S.** and Metzger, D.W. Humoral and cell mediated immunity to the intracellular pathogen *Francisella tularensis*. *Immunology Reviews* 2008; 225: 244-255.
28. Sammons-Jackson, W.L., Manch-Citron, J.N., Metzger, D.W., **Bakshi, C.S.**, and Anderson, B. Generation and characterization of an attenuated mutant in a response regulator gene of *Francisella tularensis* live vaccine strain. *DNA and Cell Biology* 2008; 27: 307-403.
29. **Bakshi, C.S.**, Malik, M., Mahawar, M., Kirimanjeswara, G.S., Hazlett, K.R., Palmer, L.E., Furie, M.B., Singh, R., Melendez, J.A., Sellati, T. J., and Metzger, D.W. An improved vaccine for prevention of respiratory tularemia caused by *F. tularensis* SchuS4 strain. *Vaccine* 2008; 26:5276-5288.
30. Mahawar M, Kirimanjeswara, G.S., Metzger, D.W., and **Bakshi, C.S.** Contribution of citrulline ureidase to *Francisella tularensis* strain Schu S4 pathogenesis. *Journal of Bacteriology* 2009;191: 4798-7806.
31. Melillo, A. A., Mahawar, M., Sellati, T.J., Malik, M., Metzger, D.W., Melendez, J.A., and **Bakshi, C.S.** Identification of *Francisella tularensis* live vaccine strain CuZn superoxide dismutase as critical for resistance to extracellularly generated reactive oxygen species. *Journal of Bacteriology* 2009;191(20):6447-6456.
32. Melillo A. A., **Bakshi, C.S.**, and Melendez J.A. *Francisella tularensis* antioxidants harness reactive oxygen species to restrict macrophage signaling and cytokine production. *Journal of Biological Chemistry* 2010; 285:27553-27560.
33. Mahawar, M., Atianand, M.K., Dotson, R., Mora, V., Rabadi, S.M., Metzger, D.W., Huntley, J.F., Harton, J.A., Malik, M., and **Bakshi, C.S.** Identification of a novel *Francisella tularensis* factor required for intramacrophage survival and subversion of innate immune response. *Journal of Biological Chemistry* 2012; 287 (30): 25216-25229.

34. Liu, E., Lewis, K., Al-Saffar, H., Krall, C.M., Singh, A., Kulchitsky, V.A., Corrigan, J.J., Simons, C.T., Petersen, S.R., Musteata, F.M., **Bakshi, C.S.**, Romanovsky, A.A., Sellati, T.J., Steiner, A.A. Naturally occurring hypothermia is more advantageous than fever in severe forms of lipopolysaccharide- and *Escherichia coli*-induced systemic inflammation. Am. J. Physiol. Regul. Integr. Comp. Physiol 2012; 302:R1372-1383.
35. Mahawar, M., Rabadi, S., Banik, S., Catlett, S.V., Metzger, D.W., Malik, M., and **Bakshi, C.S.** Identification of a live attenuated vaccine candidate for tularemia prophylaxis 2013; *PLoS One*. 8(4):e61539.
36. Dotson, R.J., Rabadi, S.M., Westcott, E.L., Bradley, S., Catlett, S.V., Banik, S., Harton, J.A., **Bakshi, C.S.** and Malik, M. Repression of inflammasome by *Francisella tularensis* during early stages of infection. *Journal of Biological Chemistry* 2013;288(33):23844-23857.
37. Ma, Z., Banik, S., Rane, H., Mora, V.T., Rabadi, S.M., Doyle, C.R., Thanassi, D.G., **Bakshi, C.S.\*** and Malik, M\*. EmrA1 membrane fusion protein of *Francisella tularensis* LVS is required for resistance to oxidative stress, intramacrophage survival and virulence in mice. *Molecular Microbiology* 2014; 91(5):976-995\***Co-Senior Authors.**
38. Suresh, R.V., Ma, Z., Sunagar, R., Bhatti, V., Banik, S., Catlett, S.V., Gosselin, E.J., Malik, M. and **Bakshi, C.S.** Preclinical testing of a tularemia vaccine. *PLoS One* 2015; 10(4):e0124326
39. Banik, S., Mansour, A.A., Suresh, R.V., Wycroff-Clary, S., Malik, M., McCormick, A.M. **Bakshi C.S.** Development of a Multivalent Subunit Vaccine against Tularemia using Tobacco Mosaic Virus (TMV) Based Delivery System. *PLoS One* 2015; 10(6) e0130858
40. Loughman, K., Hall, J., Knowlton, S., Sindeldecker, D., Gilson, T., Schmitt, D., Birch J., Gajtko, T., Kobe, B., Wood, C., **Bakshi, C.S.** and Horzempa, J. Temperature-dependent gentamicin resistance of *Francisella tularensis* is mediated by uptake modulation. *Frontiers in Microbiology* 2016; 7:37, eCollection 2016.
41. Rabadi, S.M., Sanchez, B.C., Varanat, M., Ma, Z., Catlett, S.V., Melendez, J.A., Malik, M., and **Bakshi, C.S.** Antioxidant defenses of *Francisella tularensis* modulate macrophage function and production of proinflammatory cytokines. *Journal of Biological Chemistry* 2016; 291 (10) 5009-5021.
42. Goralski, T.D., Dewan, K.K., Alumasa, J.N., Avanzato, V., Place, D.E., Markley, R.L., Katkere, B., Rabadi, S.M., **Bakshi, C.S.**, Keiler, K.C. and Kirimanjeswara, G.S. Inhibitors of ribosome rescue arrest growth of *Francisella tularensis* at all stages of intracellular replication. *Antimicrobials Agents and Chemotherapy* 2016; 60(6): 3726-3782.
43. Ma, Z., Russo, V.C., Rabadi, S.M., Jen, Y., Catlett, S.V., **Bakshi, C.S.\*** and Malik, M\*. Elucidation of a mechanism of oxidative stress regulation in *Francisella tularensis* live vaccine strain. *Molecular Microbiology*. 2016; 101(5): 856-878. **\*Co-Senior Authors**
44. Holland, K.M., Rosa, S.J., Kristjansdottir, K., Wolfgeher, D., Franz, B.J., Zarrella, T.M., Kumar, S., Sunagar, R., Singh, A., **Bakshi, C.S.**, Namjoshi, P., Barry, E.M., Sellati, T.J., Kron, S.J., Gosselin, E.J., Reed, D.S., Hazlett, K.R.O. Differential growth of *Francisella tularensis*, which alters expression of virulence factors, dominant antigens, and surface

- carbohydrate synthases, governs the apparent virulence of *Ft* SchuS4 to immunized animals. *Frontiers in Microbiology*. 2017; 22 (8):1158.
45. Singh, A., Perisamy, S., Malik, M., **Bakshi, C.S.**, Stephen, L., Ault, J.G., Manella, C.A. and Sellati, T.J. Necroptotic debris including damaged mitochondria elicits sepsis-like syndrome during late-phase tularemia. *Cell Death and Discovery*. 2017; 25(3): 10756.
  46. Alqahtani. M., Ma, Z., Ketkar, H., Suresh, R.V., Malik, M., **Bakshi, C.S.** Characterization of a unique outer membrane protein required for oxidative stress and virulence of *Francisella tularensis*. *Journal of Bacteriology*. 2018; 200(8) e00693-00717.
  47. McCormick, A.A., Shakeel, A., Yi, C., Kaur, H., Mansour, A.A, **Bakshi, C.S.** Intranasal administration of a two-dose adjuvanted Multiantigen TMV-subunit vaccine fully protects mice against *Francisella tularensis* LVS challenge. *PLoS One*. 2018; 13(4): e194614.
  48. Mansour, A.A., Banik, S., Suresh, R.V., Kaur, H., Malik, M., McCormick, A.A. and **Bakshi, C.S.** An improved Tobacco Mosaic Virus (TMC)-conjugated Multiantigen subunit vaccine against respiratory tularemia. *Frontiers in Microbiology and Infectious Diseases*. 2018; 9:1195.
  49. Ma, Z., Alqahtani. M., Worden, M., Muthuraman, P., Cioffi, C.L., **Bakshi, C.S.**, and Malik, M. Stringent response governs the oxidative stress resistance and virulence of *Francisella tularensis*. *PLoS One*. 2019; 14(10): e0224094.
  50. Alqahtani. M., Ma, Z., Fantone, K., Malik M. and **Bakshi, C.S.** Aim2 and Nlrp3 are dispensable for vaccine-induced immunity against *Francisella tularensis* live vaccine strain. *Infection and Immunity*. 2021; 16;89(7): e0013421. (Selected as "Spotlight"; a feature in Journal that highlights research articles of significant interest)
  51. Suresh, V.R., Bradley, E.W., Higgs, M., Russo V.C., Alqahtani, M., Huang, W., **Bakshi C.S.\*** and Malik M\*. Nlrp3 increases the host's susceptibility to tularemia. *Frontiers in Microbiology*. 2021. doi: 10.3389/fmicb.2021.725572. (\*Co-Senior Authors)
  52. Marghani, D., Ma, Z., Centone, A., Huang, W., Malik M. and **Bakshi, C.S.** An AraC/XylS transcriptional regulator modulates the oxidative stress response of *Francisella tularensis*. *Journal of Bacteriology*. 2021. doi: 10.1128/JB.00185-21. Online ahead of print.
  53. Williamson, D.R., Dewan, K. K., Katkere, B., Ebrahimi, S., Ning, G., **Bakshi, C.S.** and Kirimanjeswara, G.S. Adaptation of *Francisella tularensis* to the mammalian cytoplasmic pH is critical for its virulence. 2022. *PLoS Pathogens*. *In Review*
  54. Ma, Z., Higgs, M., Alqahtani, **Bakshi, C.S.\*** and Malik, M.\* Thioredoxin A1 controls the oxidative stress response of *Francisella tularensis*. 2022. *Journal of Bacteriology*. *In Review*. (\*Co-Senior Authors)
  55. **Bakshi, C.S.**, Gupte, R., Jaikishan, A., Jordan, A., Blackham, E., Centone, A.J., D'addario, C. and Gupte, S. A novel steroid-derivative reduces the severity of COVID-19 in hACE2 mice in a gender-dependent manner. 2022. *Under Submission*.

**ABSTRACTS/PRESENTATIONS**

1. Ma, Z., Higgs, M., **Bakshi, C.S.**, and Malik, M. *Thioredoxin regulates the oxidative stress response and virulence of Francisella tularensis*. World Microbe Forum, 2021; a joint meeting of ASM and FEMS, Online Worldwide, June 20-24, 2021.
2. Alqahtani, M., Ma, Z., Higgs, M., Malik, M., and **Bakshi, C.S.** *Aim2 and Nlrp3 are dispensable for vaccine induced immunity against Francisella tularensis Live Vaccine Strain*. Abstract accepted in World Microbe Forum, 2021; a joint meeting of ASM and FEMS, Online Worldwide, June 20-24, 2021.
3. Ketkar, H., Tang, S., Alqahtani, M., **Bakshi C.S.** and Jain, S. *Chronically hypertensive transgenic mice expressing human AR1R haplotyoe-1 exhibit increased susceptibility to Francisella*. May 2021. Abstract published in The FASEB Journal 35 (S1), Special Issue: Experimental Biology 2021 Meeting.
4. Ma, Z., Higgs, M., **Bakshi, C.S.**, and Malik, M. *Elucidating the role of thioredoxin in the oxidative stress response of Francisella tularensis*. Abstract accepted in 120<sup>th</sup> General Meeting of American Society for Microbiology, Chicago, June 18-22, 2020.
5. Marghani, D., Ma, Z., Malik, M., and **Bakshi, C.S.** *Characterization of the Role of AraC/XylS Family Transcriptional Regulator of Francisella tularensis*. Abstract accepted in 120<sup>th</sup> General Meeting of American Society for Microbiology, Chicago, June 18-22, 2020.
6. Krishnan, S. Lu, M.A., Mclnerney, A., Trinh, V.Y., Huang, W., **Bakshi, C.S.**, Dozor, A.J. and Parton, L.A. *Urinary biomarkers of inflammation and remodelling in children with asthma and resistant airflow obstruction*. American Journal of Respiratory and Critical Care Medicine 2020. 201: A4534.
7. Krich, D.A., Huang, W., **Bakshi C.S.**, Parton, L.A., Dozor A.J., and Krishnan, S. *Resistant airflow obstruction in children with asthma*. American Journal of Respiratory and Critical Care Medicine 2019. 199: A6099.
8. Panacherry S., Huang, W., **Bakshi C.S.**, Parton L.A., Dozor A.J., and Krishnan S. *Nasopharyngeal airway microbiome in children with asthma and resistant airway obstruction*. American Journal of Respiratory and Critical Care Medicine 2019. 199: A7190
9. Farri F., Huang, W., **Bakshi C.S.**, Parton, L.A., Dozor A.J., Krishnan S. *Nasopharyngeal airway microbiome and second hand tobacco exposure in children with asthma*. American Journal of Respiratory and Critical Care Medicine 2019;199:A1168
10. Ma, Z., Higgs, M., **Bakshi, C.S.**, and Malik, M. *Elucidating the role of thioredoxin in the oxidative stress response of Francisella tularensis*. Poster presentation in American Society for Microbiology Trainee Symposium– Student Chapter of Eastern New York Branch, Albany, NY. November 2nd, 2019.
11. Fantone, K., Miller, J., Ma, Z., **Bakshi, C.S.**, and Malik, M. *Investigating the mechanisms of AIM2 inflammasome suppression in Francisella tularensis*. Poster presentation in American Society for Microbiology Trainee Symposium– Student Chapter of Eastern New York Branch, Albany, NY. November 2nd, 2019.
12. Ma, Z., King, K., Alqahtani, M., Worden, M., Parthasarthy, M., Cioffi, C., **Bakshi, C.S.**, and Malik, M. *Stringent response governs the virulence and oxidative stress resistance of Francisella tularensis*. Poster presented in 119<sup>th</sup> General Meeting of American Society for Microbiology, San Francisco, June 20-24, 2019.
13. Higgs, M., Ma, Z., **Bakshi, C.S.**, and Malik, M. *Role of FTL\_0586 and FTL\_1939 genes of Francisella tularensis in immune suppression*. Poster presentation in American Society for Microbiology Trainee Symposium– Student Chapter of Eastern New York Branch, Albany, NY. December 6th, 2018.

14. King, K., Ma, Z., Worden, M., **Bakshi, C.S.**, and Malik, M. *Regulatory role of pp(p)Gpp in oxidative stress response in Francisella tularensis*. Poster presentation in American Society for Microbiology Trainee Symposium– Student Chapter of Eastern New York Branch, Albany, NY. December 6th, 2018.
15. Ma, Z., King, K., Worden, M., **Bakshi, C.S.**, and Malik, M. *Regulatory role of pp(p)Gpp in oxidative stress response in Francisella tularensis*. Poster presentation in 9th International conference on Tularemia, Montreal, Canada. October 16-19, 2018.
16. Worden, M., Ma, Z., **Bakshi, C.S.**, and Malik, M. *Elucidation of Unknown Antioxidant Defense Mechanisms of Francisella tularensis*. Poster presented in 117<sup>th</sup> General Meeting of American Society for Microbiology, New Orleans, June 1-5, 2017.
17. Marghani, D., Ma, Z., Malik, M., and **Bakshi, C.S.** *Phenotypic and Functional Role of AraC Transcriptional Regulator of Francisella tularensis*. Poster presented in 117<sup>th</sup> General Meeting of American Society for Microbiology, New Orleans, June 1-5, 2017.
18. Mansour, A.A., Banik, S., Malik, M., McCormick, A.A., and **Bakshi, C.S.** *An improved Tobacco Mosaic Virus-based multivalent subunit vaccine against respiratory tularemia*. Abstract published in Volume 198, Issue 1 Supplement, 2017. Poster presented in American Association of Immunologists meeting in Washington, D.C., May 12-16, 2017.
19. Mansour, A.A., Banik, S., Malik, M., **Bakshi, C.S.** *An improved Tobacco Mosaic Virus-based multivalent subunit vaccine against respiratory tularemia*. Poster presented in 2017 ASM Biothreats: Research, Response, and Policy meeting, Washington D.C., February 6-8, 2017.
20. Ma, Z., Russo, V., Rabadi, S. M., Catlett, S.V., Bakshi, C. S., and Malik, M. *Elucidation of the mechanism of oxidative stress regulation in Francisella tularensis*. Poster presented in 116<sup>th</sup> General Meeting of American Society for Microbiology, Boston, MA, June 16-19, 2016.
21. Marghani, D., Ma, Z., Malik, M. and **Bakshi, C.S.** *Characterization of the role of Transcriptional Regulator AraC of Francisella tularensis*. Poster presented in 116<sup>th</sup> General Meeting of American Society for Microbiology, Boston, MA, June 16-19, 2016.
22. Ma, Z., Russo, V., Rabadi, S. M., **Bakshi, C.S.** and Malik, M. *Regulation of Francisella tularensis genes involved in oxidative stress resistance*. 115<sup>th</sup> General Meeting of American Society for Microbiology, New Orleans, Louisiana, May 30-June 2, 2015.
23. Rabadi, S. M., Ma, Z., Suresh, R. V., Catlett, S.V., Banik, S., Malik, M. and **Bakshi, C.S.** *Antioxidant Defenses of Francisella tularensis SchuS4 Strain*. 115<sup>th</sup> General Meeting of American Society for Microbiology, New Orleans, Louisiana, May 30-June 2, 2015.
24. Ketkar, H., Ma, Z., Rabadi, S. M., Malik, M. and **Bakshi, C.S.** *Characterization of the outer membrane component of the Emr-multidrug efflux pump*. 115<sup>th</sup> General Meeting of American Society for Microbiology, New Orleans, Louisiana, May 30-June 2, 2015.
25. S. Banik, A.M. Mansour, Ragavan S.V., Malik, M., G. Lee, A. A. McCormick and **C.S. Bakshi.** *Development of a multivalent subunit vaccine against tularemia using Tobacco Mosaic Virus (TMV) based delivery system*. 115<sup>th</sup> General Meeting of American Society for Microbiology, New Orleans, Louisiana, May 30-June 2, 2015.
26. Shah, R., Rane, H., Dotson, R., **Bakshi, C.S.**, Nicasio, A.M., and Malik, M. *Markers of antibiotic resistance in daptomycin non-susceptible strains of Staphylococcus aureus*. 114<sup>th</sup> General Meeting of American Society for Microbiology, Boston, MA, May17-21, 2014.
27. Westcott, E.L., Ma, Z., **Bakshi, C.S.**, and Malik, M. *Antioxidants of Francisella tularensis modulate inflammasome mediated responses*. 114<sup>th</sup> General Meeting of American Society for Microbiology, Boston, MA, May 17-21, 2014.
28. Ragavan, V.S., Bhatta, V., Ma, Z., Malik, M. and **Bakshi, C.S.** *Pre-Clinical Testing of a Vaccine Candidate against Tularemia*. 114<sup>th</sup> General Meeting of American Society for Microbiology, Boston, MA, May 17-21, 2014.

29. Banik, S, Rane, H., Malik, M., and **Bakshi, C.S.** *Investigating the mechanism of secretion of antioxidant enzymes of Francisella tularensis.* 114<sup>th</sup> General Meeting of American Society for Microbiology, Boston, MA, May 17-21, 2014.
30. Sanchez, B., Catlett, S.V., Malik, M., and **Bakshi, C.S.** *Francisella tularensis Encoded Factors Required for Evasion of Host's Innate Immune Response.* 114<sup>th</sup> General Meeting of American Society for Microbiology, Boston, MA, May 17-21, 2014.
31. Rabadi, S.M., Banik, S., Westcott, E.L., Catlett, S.V., Malik, M., and **Bakshi, C.S.** *Suppression of Redox-Sensitive Signaling by Antioxidant Defenses of Francisella tularensis.* 114<sup>th</sup> General Meeting of American Society for Microbiology, Boston, MA, May 17-21, 2014.
32. **Bakshi, C.S.**, Ma, Z., and Malik, M. *Type I secretion system of Francisella tularensis renders resistance to oxidative stress.* 113<sup>th</sup> General Meeting of American Society for Microbiology, Denver, CO, May 18-21, 2013.
33. Rabadi, S.M., Westcott, E.L., Malik, M., and **Bakshi, C.S.** *Role of Francisella tularensis antioxidants in the subversion of host immune responses.* 113<sup>th</sup> General Meeting of American Society for Microbiology, Denver, CO, May 18-21, 2013.
34. Westcott, E.L., **Bakshi, C.S.**, and Malik, M. *Antioxidants of Francisella tularensis subvert innate immune responses by interfering with redox-sensitive inflammasome machinery.* 113<sup>th</sup> General Meeting of American Society for Microbiology, Denver, CO, May 18-21, 2013.
35. Malik, M., Dotson, R., Mora, V., and **Bakshi, C.S.** *Repression of cytosolic innate immune responses by Francisella tularensis.* 113<sup>th</sup> General Meeting of American Society for Microbiology, Denver, CO, May 18-21, 2013.
36. Singh, A., Periasamy, S.K., Rahman, T., Sahay, B., Musteata, F.M., Malik, M., **Bakshi, C.S.**, Ault, J.G., Mannella, C.A., and Sellati, T.J. *Francisella tularensis triggers lipoxin A4-induced necrosis and Bax-dependent mitochondrial apoptosis/secondary necrosis eliciting a TH1-oriented cytokine "storm".* The 15th Annual Upstate New York Immunology Conference, Sagamore, NY, October 21-24, 2012.
37. Ma, Z., **Bakshi, C.S.**, and Malik, M. *Resistance to Francisella tularensis to oxidants: Beyond the realm of antioxidant enzymes.* 7th International Conference on Tularemia, Breckenridge, CO September 17-20, 2012.
38. Rabadi, S., Westcott, E. L., Rajendran, M., Schiewe-Dotson, R., Malik, M., and Bakshi, C. S. *Francisella tularensis antioxidant defenses modulate macrophage function by suppression of MAPK signaling and pro-inflammatory cytokines.* 7th International Conference on Tularemia, Breckenridge, CO September 17-20, 2012.
39. Singh, A., Periasamy, S., Sahay, B., Rahman, T., Malik, M., **Bakshi, C.S.**, Ault, J.J., Manella, C.A., and Sellati, T.J. *Type A and B strains of Francisella tularensis trigger Bax-dependent mitochondrial apoptosis and programmed necrosis that drives hypercytokinemia.* 7th International Conference on Tularemia, Breckenridge, CO September 17-20, 2012.
40. Schiewe-Dotson, R., Mora, V., Rabadi, S., Malik, M., and **Bakshi, C.S.** *Identification of a novel Francisella tularensis factor required for intramacrophage survival and subversion of innate immune response.* 7th International Conference on Tularemia, Breckenridge, CO September 17-20, 2012.
41. Singh, A., Periasamy, S., Rahman, T., Patsey, R., Malik, M., **Bakshi, C.S.**, Hickey, A.J., Ault, J.J., Manella, C.A., Leifer, C.A., Hazlett, K.R.O., and Sellati, T.J. *Respiratory tularemia: Reconsidering what the host recognizes and responds to and when.* 7th International Conference on Tularemia, Breckenridge, CO September 17-20, 2012.
42. Westcott, E.L., Rajendran, M., Bradley, S.R., **Bakshi, C.S.**, and Malik, M. *Role of Francisella tularensis Antioxidants in Modulation of Inflammasome Mediated Responses.* 112<sup>th</sup> General Meeting of American Society for Microbiology, San Francisco, June 16-19, 2012.
43. Rabadi, S., Rajendran, M., Westcott, E. L., Schiewe-Dotson, R., Malik, M., and **Bakshi, C.S.** *Bacterial Antioxidant defenses modulate macrophage function by suppression of MAPK*

- signaling and pro-inflammatory cytokines*. 112<sup>th</sup> General Meeting of American Society for Microbiology, San Francisco, June 16-19, 2012.
44. Malik, M., Schiewe-Dotson, R., Mora, V., Atianand, M. K., Harton, J. A., and **Bakshi, C.S.** *Understanding the role of FTT0831c encoded protein of F. tularensis in modulation of macrophage function*. Annual Meeting of the American Association of Immunologists, Boston, May 4-8, 2012.
  45. **Bakshi, C.S.**, Mahawar, M., Metzger, D.W., and Malik, M. *Identification of live attenuated vaccine candidates for tularemia prophylaxis*. Annual Meeting of the American Association of Immunologists, Boston, May 4-8, 2012.
  46. Mahawar, M., Atianand M.K., Harton J. A., Malik, M. and **Bakshi, C. S.** *Francisella tularensis encoded factor FTT0831c dictates subversion of pro-inflammatory cytokines by interfering with NF- $\kappa$ B signaling*. 111<sup>th</sup> General Meeting of American Society for Microbiology, New Orleans, May 21-24, 2011.
  47. Dasgupta, J., Atianand, M.K., Sellati, T.J., **Bakshi, C.S.**, Harton, J.A., and Malik, M. *Co-ordination of Toll-like Receptors and Nod-like Receptors in recognition and immune response to the intracellular pathogen Francisella tularensis*. 111<sup>th</sup> General Meeting of American Society for Microbiology, New Orleans, May 21-24, 2011.
  48. Duffy, E.B., Atianand, M.K., Malik, M., and Harton, J.A. *Inflammasome activation by Francisella tularensis in human cells is mediated in part by NLRP3*. 111<sup>th</sup> General Meeting of American Society for Microbiology, New Orleans, May 21-24, 2011.
  49. McCabe, K., Malik, M., **Bakshi, C.S.**, Catlett, S.V., Shah, A., Sahay, B., Melendez, J.A., and Sellati, T.J. *Role of Toll-like receptor 2 in regulation of Francisella tularensis-induced Matrix metalloproteinase 9 activity*. Joint meeting of the Society for Leukocyte Biology and the International Endotoxin & Innate Immunity Society held at San Antonio, Texas, November 9-11, 2006.
  50. Malik, M., **Bakshi, C.S.**, McCabe, K., Catlett, S.V., Shah, A., Singh, R., Metzger, D.W., Melendez, J.A., and Sellati, T.J. *Matrix metalloproteinase 9 activity enhances susceptibility to pulmonary infection with Francisella tularensis*. 5<sup>th</sup> International Conference on Tularemia, Marine Biological Laboratory, Woodshole, MA, November 1-4, 2006.
  51. Mellilo, A.A., Regan, K.J., **Bakshi, C.S.**, Malik, M., Lindgren, H., Sjostedt, A., Sellati, T.J., and Melendez, J.A. *Francisella tularensis intracellular growth locus C influences Fe-containing superoxide dismutase activity and sensitivity to reactive oxygen and nitrogen species*. 5<sup>th</sup> International Conference on Tularemia, Marine Biological Laboratory, Woodshole, MA, November 1-4, 2006.
  52. **Bakshi, C.S.**, Malik, M., and Sellati, T.J. *Infection with Mycoplasma pulmonis potentiate the T Helper 2 inflammatory environment in T-bet deficient asthmatic mice*. 93<sup>rd</sup> Annual Meeting of American Association of Immunologists, June 5-9, 2006, Boston MA.
  53. **Bakshi, C.S.**, Malik, M., Regan, K., Pavlov, V.J. Melendez, J.A., and Sellati, T.J. *Superoxide Dismutase-B (sodB) Deficient mutants of Francisella tularensis are hypersensitive to oxidative stress and defective in macrophage colonization*. The 8th Annual Upstate New York Immunology Conference, Sagamore, NY, October 9-12, 2005.
  54. **Bakshi, C.S.**, Malik, M., and Sellati, T.J. *T-bet Deficiency Facilitates Airway Colonization by Mycoplasma pulmonis*. 37<sup>th</sup> Annual Meeting of the Society for Leukocyte Biology, Toronto, Canada, October 21-23, 2004.
  55. Sellati, T. J., Malik, M., **Bakshi, C. S.**, & Johnson, K. *Pattern recognition receptor deficiency compromises host resistance to pneumonic tularemia*. Abstract published in Journal of Endotoxin Research, 10(5), 189, 2004.
  56. Sahay, B., **Bakshi, C.S.**, Singh, R.K., Malik, M., Jadav, K., and Das, S.K. *Identification of attenuated mutants of Salmonella abortus equi by in vivo screening in guinea pigs*. 10<sup>th</sup> International Congress, Asian-Australasian Association of Animal Production Societies, New Delhi, India,



September 23-27, 2002.

57. Fulzele, S., Singh, R.K., **Bakshi, C.S.**, Malik, M., Kolte, A. *Differential diagnosis of buffalopox and camelpox virus by PCR-RFLP analysis*. Abstract published in Journal of Immunology and Immunopathology, 3(2): 107, 2001.
58. Sahay, B., **Bakshi, C.S.**, Singh, R.K., Malik, M., and Jadav, K. *Signature-tagged mutagenesis- A novel technique to generate insertion mutants by tagged transposons*. Abstract published in Journal of Immunology and Immunopathology, 3(2): 120-121, 2001.
59. Jadav, K.K., Singh, R.K., **Bakshi, C.S.**, Suryanarayana, V.V.S., Malik, M., and Sahay, B. *Efficacy of the internal fragment of untranslated region (UTR) of Foot-and-Mouth Disease Type "O" virus in translation of downstream cistrons*. Abstract published in Journal of Immunology and Immunopathology, 3(2): 125-126, 2001.
60. Malik, M., Butchaiah, G., Bansal, M. P., **Bakshi, C. S.**, and Siddiqui, M. Z. *Antigenic relationship of Salmonella serovars as revealed by anti-S. Enteritidis monoclonal antibodies*. 5<sup>th</sup> International Veterinary Immunology Symposium, Ludhiana, India, November 8-13, 1998.
61. **Bakshi, C.S.**, Singh, V.P., Malik, M., Sharma, B., and Singh, R.K. *Arbitrarily primed PCR for the analysis of Salmonella enteritidis strains*. 8<sup>th</sup> WCAP College of Agriculture and Life Sciences, Seoul National University, Suweon, Korea, 28 June-4 July, 1998.
62. Malik, M., Butchaiah, G., Bansal, M.P., **Bakshi, C.S.**, Siddiqui, M.Z., and Singh, V.P. *The efficacy of subunit vaccine for control of Salmonella enteritidis infection in poultry*. 5<sup>th</sup> Annual Conference of Indian Association of Advancement of Veterinary Research, Indore, India, February 18-19, 1998.
63. Malik, M., Bansal, M.P., Butchaiah, G., Siddiqui, M.Z., and **Bakshi, C.S.** *Comparative study of sonicated extracts and outer membrane protein profiles of Salmonella enteritidis strains, Salmonella serovars and other gram negative bacteria*. 18<sup>th</sup> Annual Conference of Indian Association of Veterinary Microbiologists, Immunologists, and Specialists in Infectious Diseases, Ludhiana, India, November 6-8, 1997.

## INVITED TALKS

### Local/ Regional

1. The "Delta Variant" and other viral mutations: What they are and what you need to know about them? 13th Covid-19 Symposium: Virtual Symposium organized by New York Medical College. July, 22, 2021.
2. How Does SARS-CoV-2 Mutate and Why Does It Matter If It Does? 10th Covid-19 Symposium: Virtual Symposium organized by New York Medical College. Feb. 18th 2021.
3. An introduction to Coronaviruses and how SARS-CoV-2 is different from other Coronaviruses. Grand Rounds presented at the Department of Internal Medicine, Metropolitan Hospital, New York City. January 21, 2021.
4. COVID-19: What we have learned about the basic science of the virus and the immune response in the last five months. Third Covid-19 Symposium: The next phase of clinical and public health management. Virtual Symposium organized by New York Medical College. June 25, 2020.
5. Knowing the Unknown: SARS-CoV-2. Virtual seminar presented at the Touro College of Pharmacy, New York. May 27<sup>th</sup>, 2020.
6. COVID-19: An introduction to the basic science of Coronaviruses. First Covid-19 Symposium: What we know, what we don't know and what you need to know. Organized by New York Medical College. New York City. January 31st, 2020.

### National

1. Interrogating *Francisella tularensis*. Boretree Lecture Series, Invited Speaker, Penn State University, State College PA. March 17, 2015.
2. Identification of a novel *Francisella tularensis* factor required for intramacrophage survival and subversion of innate immune response. 7th International Conference on Tularemia, Breckenridge, CO September 17-20, 2012.
3. Evasion of Host immune response by *Francisella tularensis*: A signaling point of view. Invited Speaker at South Texas Center for Emerging Infectious Diseases, University of Texas at San Antonio, September 16, 2011.
4. Antioxidant defenses of *Francisella tularensis*: A system tailored for a challenging environment. Pathogenesis and Infectious Disease seminar series. David Axelrod Institute, Wadsworth Center, Albany NY, 2008.
5. *Francisella tularensis*: It's re-emergence as a weapon of bioterrorism. ASA Gray Seminar Series, Biology Department, Utica College, Utica NY, 2005.
6. Evaluation of *Mycoplasma pulmonis* infection in T-bet deficient asthmatic mice. Albany Immunology Research (AIR) Seminar Series, Wadsworth Center, Albany, NY, 2004.

### **International**

1. Knowing the unknown: SARS-COV-2. International Webinar organized by N.D. Veterinary Science University, Jabalpur, India. July 7<sup>th</sup>, 2020.
2. Immunopathogenesis of Tularemia: Invited Speaker, Indian Veterinary Research Institute, Izatnagar, India. July 2, 2015
3. T-bet deficiency facilitates airway colonization by *Mycoplasma pulmonis*. 37<sup>th</sup> Annual Meeting of the Society for Leukocyte Biology, Toronto, Canada (October 21-23), 2004.
4. *Outer membrane proteins: A potential vaccine candidate against Salmonella infections in poultry*. India-UK TOMBIT project workshop on Biotechnology and Animal Health, Bareilly, India, March 7-9, 2000.

### **Books**

Malik, B.S. and **Bakshi, C.S.** MCQs and Short Answer Questions in Veterinary Bacteriology and Mycology, Second Edition. CBS Publishers 2000; India.

### **HONORS & AWARDS**

<b>1985-1989</b>	<b>University Merit Scholarship, College of Veterinary Science And Animal Husbandry, JNKVV, Jabalpur, India</b>
<b>1990</b>	<b>Best Outgoing Student, College of Veterinary Sc. And Animal Husbandry, JNKVV, Jabalpur, India, Awarded for academic excellence (For the class of 1989)</b>
<b>1990</b>	<b>National Junior Research Fellowship, Indian Council of Agricultural Research. The fellowship is awarded based on a national competitive examination.</b>

- 1992**                      **National Senior Research Fellowship, Council for Scientific and Industrial Research, India. The fellowship is awarded based on a national competitive examination for Ph.D.**
- 1992**                      **National Senior Research Fellowship, Indian Council of Agricultural Research. The fellowship is awarded based on a national competitive examination for Ph.D.**
- 1999**                      **Overseas Development Authority (ODA/DFID) Fellowship U.K. Institute for Animal Health, Compton, UK. Post-doctoral Fellowship**
- 2005**                      **Junior Faculty Award, The American Association of Immunologists**
- 2005**                      **Presidents' Travel Award, The Society for Leukocyte Biology**
- 2020**                      **Dean's Faculty Award for Excellence in Research, School of Medicine, New York Medical College. This award recognizes a basic science and a clinical science faculty member who are emerging or established in their field as leaders.**
- 2021**                      **Fellow, Lovelace Biomedical Research Institute, Lovelace Biomedical Research Institute. Consultant for Biomedical and Biodefense Research at Lovelace Biomedical Research Institute**

**PROFESSIONAL ORGANIZATIONS & SOCIETY MEMBERSHIP**

Years	Name of Organization or Society
<b>2004-Present</b>	<b>American Society for Microbiology</b>
<b>2004-Present</b>	<b>American Association for Immunologists</b>

**RESEARCH INNOVATION**

**2008-2009**                      *Title: Attenuated Vaccine for Tularemia*  
**Role:**                              **Inventor**

Description of Research Innovation:

**Patent Application number:** 20090202586

A scan of *F. tularensis* genome for homology to a regulatory protein that controls virulence identified gene FTL0552. A knock out mutation in FTL0552 was created using reverse transcriptase PCR and the

construct inserted into *F. tularensis*. This mutant was defective for survival in macrophages and found avirulent under *in vivo* testing where the mutant exhibited reduced levels of pro-inflammatory cytokine production, reduced evidence of histopathology in affected tissues, reduced systemic infection, and rapid clearance of the bacterium. *In vivo* challenge studies with the FTL0552 mutant using the virulent *F. tularensis* subsp. *tularensis* SchuS4 strain show an immune response is induced, and protection afforded, after pre-exposure to the FTL0552 mutant. Microarray studies revealed 148 genes regulated by FTL0552, including genes located within the FPI that are essential for intracellular survival.

**Filed:** January 18, 2008

**Issued:** August 13, 2009

**The University of South Florida, Albany Medical College, Bay Pines VA Healthcare System**

**Inventors: Burt Anderson, Wendy Sammons, Jean Citron, Chandra Shekhar Bakshi,  
Dennis Metzger**