

## BRENDA G. HOGUE

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<http://sols.asu.edu/faculty/bhogue.php>

EDUCATION	DEGREE	YEAR	DISCIPLINE
Mississippi State University	B.S.	1971	Microbiology
Duke University	M.Ed.	1976	Secondary Science Education
University of Tennessee, Knoxville	Ph.D.	1986	Virology/Molecular Cell Biology
UCLA School of Medicine	Postdoc	1990	Virology

### DOCTORAL AND POSTDOCTORAL RESEARCH TOPIC AND MENTOR

University of Tennessee, Knoxville (9/1980 – 2/1986) D.A. Brian - Mentor  
Dissertation Title: Structure, Synthesis and Processing of the Proteins of Two Hemagglutinating  
Coronaviruses, the Human Respiratory Coronavirus OC43 and the Bovine Enteric Coronavirus

UCLA School of Medicine (4/1986 – 8/1991) D.P. Nayak – Mentor  
Influenza virus protein expression and transport

### UNIVERSITY ACADEMIC APPOINTMENTS

2002 – present (Tenure 2007) Associate Professor, Arizona State University  
Center for Infectious Diseases and Vaccinology, The Biodesign Institute, 2004- present  
ASU School of Life Sciences, July 2003 - present  
Department of Microbiology, 3/2002 - 7/2003  
  
Director, ASU Post-baccalaureate Research Education Program (PREP) in Biomedical  
Research, 2004 -present  
Director, Microbiology Graduate Program, 2012 – present  
Member, Molecular Cellular Biology Graduate Program Executive Committee  
Advisory Board, ASU Initiative for Maximizing Student Development (IMSD) Program  
  
1991 – 2002 Assistant Professor, Baylor College of Medicine, Houston  
Department of Molecular Virology and Microbiology, 1/2000 – 3/2002  
(Department of Microbiology & Immunology, primary appointment) merged with the  
Division of Virology in 2000)  
Department of Microbiology & Immunology, Joint Appointment in Division of  
Molecular  
Virology, 9/1991 – 12/1999  
  
1990 – 1991 Research Assistant Virologist, UCLA School of Medicine  
1986 – 1990 Postdoctoral Fellow, UCLA School of Medicine  
NIH NRSA Postdoctoral Fellowship (F32GM11788), 1987 -1989

### PROFESSIONAL AFFILIATIONS

2002 – present Molecular Cell Biology Graduate Program, Microbiology Graduate Program, ASU  
2007 – present Biological Design Graduate Program, ASU  
1997 – 2002 Affiliate, University of Texas Health Sciences/MD Anderson, Houston  
Graduate School of Biomedical Sciences Virology Program  
1996 – 2002 Member Cell and Molecular Biology Program, Baylor College of Medicine

## OTHER TEACHING

- 1973 – 1978 Teacher, Advanced Placement Biology and Physical Science  
Helped design and implemented the laboratory based physical science course for academically talented 9<sup>th</sup> graders as part of M.Ed thesis at Duke University  
South Granville High School, Creedmoor, NC
- 1972 – 1973 Teacher, 10<sup>th</sup> grade General Biology and 7<sup>th</sup> grade Life Science  
Southern Council Academy, Durham, NC
- 1971 – 1972 Teacher, 10<sup>th</sup> grade General Biology, Pearl McLaurin High School, Jackson, MS

## HONORS & AWARDS

- 2013 ASU Commission on the Status of Women Outstanding Achievement and Contribution Award
- 2013 ASU Committee for Campus Inclusion “Excellence in Diversity” Award Nominee
- 2008 State-of-the-Art Speaker, American Society for Virology 27<sup>th</sup> Annual Meeting  
Cornell University, Leaders in their respective fields are invited each year to give one of ~6 of these lectures
- 1993 American Society for Virology Travel Award and Invited Talk, International Congress of Virology, Glasgow, Scotland
- 1987 – 1989 NIH NRSA Postdoctoral Fellowship F32 GM11788
- 1984 – 1986 Predoctoral Fellowship, Tennessee Centers of Excellence Program in Livestock Diseases & Human Health, College of Veterinary Medicine, University of Tennessee, Knoxville
- 1980 - 1982 Teaching Assistantship, Department of Microbiology, University of Tennessee, Knoxville
- 1974 – 1976 Tuition Fellowship, Department of Education, Duke University  
Helped develop a laboratory orientated course in physical science for academically talented 9<sup>th</sup> graders while in the M.Ed. Graduate Program at Duke University.  
Modeled the course directly in the the classroom at South Granville High School in Creedmoor, NC, 1974-1978, under the guidance of of Dr. Sherwin Githens in the Department of Education at Duke University  
Tuition Grant, North Carolina State Department of Public Instruction  
Selected to help revise Advanced Placement (AP) Biology courses in North Carolina during the summers at NC State University

## RESEARCH SUPPORT

### Current Grants:

- 9/25/2004 - 07/31/2015 *ASU Post-Baccalaureate Research Education Program (PREP)*  
(minority/underrepresented access training program)  
NIH/NIGMS R25GM71798 (\$1,762,464 - current)  
Director/Principal Investigator – Hogue
- 7/01/2009 – 7/31/2014 *Femtosecond Virus Structure*  
NSF 0919195 (\$542,009 - current)  
Co-Principal Investigator – Hogue  
Lead PI - Weierstall
- 10/1/2010 – 9/30/2015 *Center For Membrane Proteins In Infectious Diseases (MPID)*  
NIH NIGMS 1U54GM094599 (\$5,206,225 - current)  
Co-Principal Investigator – Hogue  
Principal Investigator – Fromme

9/1/11 – 8/31/13                      Isolating Viral Particles from Whole Blood  
NIH (\$138,329 - current)  
Role: Multiple PI – Hayes/Hogue

8/1/2013 – 7/31/2018                      *Biology with X-ray Lasers*  
NSF (\$24,935,178)  
Role: Co-Investigator - Hogue  
Lead PI – Lattman (SUNY at Buffalo)

**Pending Proposals:**

12/12/2004 - 11/30/2017                      *Molecular Analysis of Coronavirus Assembly*  
NIH/NIAID 5R01AI053704 (\$1,854,129)  
Principal Investigator – Hogue  
Renewal Pending

12/2013 – 11/2014                      *A Compact HomeLab X-Ray Diffraction System for Macromolecular Crystallography*  
Role: Co-Investigator – Hogue  
Lead PIs – Fromme & Chen

**Recently Completed**

12/01/11 – 11/30/15                      *Graduate and Undergraduate Training in Biomedicine at ASU*  
NIH NIGMS (\$531,819)  
Role: Co-Principal Investigator 12/2011 – 2/2013 – Hogue  
Lead PI – Newfield

5/01/11 – 04/30/12                      *Acquisition of a Leica TCS Sp5 Laser Scanning Confocal Microscope*  
NIH/NCRR (\$470,658)  
Role: Co-Principal Investigator - Hogue  
Lead PI– Duch

09/15/2003 - 2/29/2010                      *Molecular Analysis of Coronavirus Assembly*  
NIH NIAID R01AI053704-05  
Role: PI - Hogue

4/1/2008-3/31/2011                      *Development of a Plant-derived Virus-like Particle Vaccine against SARS Coronavirus*  
NIH NIADI 1R21AI073928 - 01A2  
Role: PI - Hogue

**TRAINING GRANT PARTICIPATION**

1996 – 2001    Molecular Virology Training Grant  
NIH T32AI07471 (PI – Frank Ramig)  
Baylor College of Medicine  
1997 - 2002    Research Mentoring for Young Women Scientists & Engineers  
Baylor College of Medicine (PI, Gail Slaughter)  
National Science Foundation

**PUBLICATIONS**

Google Scholar Citation Analysis – 1156 BG Hogue citations, H-Index

<sup>a</sup>Postdoc; <sup>b</sup>Graduate Student; <sup>c</sup>Undergraduate

1. **Hogue, B.G.**, King, B. and Brian, D.A. 1984. Antigenic relationship between proteins of the of bovine coronavirus, human respiratory coronavirus OC43, and mouse hepatitis coronavirus A59. *J. Virol* 51:384-388.
2. **Hogue, B.G.** and Brian, D.A. 1986. Structural proteins of the human coronavirus OC43. *Virus Research* 5:131- 144.
3. **Hogue, B.G.** 1986. Structure, synthesis and processing of the proteins of two hemagglutinating coronaviruses, the human respiratory coronavirus OC43 and the bovine enteric coronavirus. Ph.D. Thesis.
4. Lapps, W., **Hogue, B.G.** and Brian, D.A. 1987. Sequence analysis of the bovine coronavirus nucleocapsid and matrix protein genes. *Virology* 157:47-57.
5. Keck, J.G., **Hogue, B.G.**, Brian, D.A. and Lai, M.M.C. 1987. Temporal regulation of RNA synthesis of bovine coronavirus. In "Coronaviruses." *Adv. in Exp. Med. and Biol.* 218:157-158.
6. Lapps, W., **Hogue, B.G.** and Brian, D.A. 1987. Deduced amino acid sequence and potential O-glycosylation sites for the bovine coronavirus matrix protein. *Adv. in Exp. Med. and Biol.* 218:123-129.
7. **Hogue, B.G.** and Brian, D.A. 1987. Characterization of the coronavirus hemagglutinin protein. *Adv. in Exp. Med. and Biol.* 218:131- 136.
8. Keck, J., **Hogue, B.G.**, Brian, D.A. and Lai, M.M.C. 1988. Temporal regulation of bovine coronavirus RNA synthesis. *Virus Research* 9:343-356.
9. Kapke, P., Tung, F.Y.C., **Hogue, B.G.**, Brian, D.A., Woods, R.D. and Wesley, R.D. 1988. The amino terminal signal peptide on the porcine transmissible gastroenteritis coronavirus matrix protein is not an absolute requirement for membrane translocation and glycosylation. *Virology* 165:367-376.
10. Brown, D.J., **Hogue, B.G.** and Nayak, D.P. 1988. Redundancy of signal and anchor functions in the NH<sub>2</sub>-terminal uncharged region of influenza virus neuraminidase, a class II membrane glycoprotein. *J. Virol.* 62:3824-3831.
11. **Hogue, B.G.**, Brown, D.J. and Nayak, D.P. 1988. Deletion analysis of the signal/anchor domain of the influenza virus neuraminidase. *Cell Biology of Virus Entry, Replication, and Pathogenesis.* UCLA Symposium on Molecular and Cell Biology 1988. Compans, Helenius, and Oldstone (eds.), New York: Alan R. Liss, Vol.90:279-286.
12. **Hogue, B.G.**, Kienzle, T., and Brian, D.A. 1989. Synthesis and glycosylation of the bovine coronavirus hemagglutinin. *J. Gen. Virol.* 70:345-352.
13. Kienzle, T.E., Abraham, S., **Hogue, B. G.**, and Brian, D.A. 1990. Structure and orientation of expressed bovine hemagglutinin-esterase protein. *J. Virol.* 64:1834-1838.
14. Kienzle, T.E., Abraham, S., **Hogue, B.G.**, and Brian, D.A. 1990. Structure and expression of the bovine coronavirus hemagglutinin protein. *Adv. Exp. Med. and Bio.* 276:95-102
15. **Hogue, B.G.** and Nayak, D.P. 1990. In vivo expression of the transmissible gastroenteritis coronavirus M protein. *Adv. Exp. Med. and Biol.* 276:121-126.
16. Tung, F.Y.T., Abraham, S., Hung, S., Sethna, M., Hung, S.-L., Sethna, P., **Hogue, B.G.**, and Brian, D.A. 1992. The 9 kilodalton hydrophobic protein encoded at the 3' end of the porcine transmissible gastroenteritis coronavirus genome is membrane associated. *Virology* 186:676-683.
17. **Hogue, B.G.** and Nayak, D.P. 1992. Synthesis and processing of the influenza virus neuraminidase. *Virology* 188:510-517.
18. **Hogue, B.G.** and Nayak, D.P. 1994. Deletion mutation in the signal-anchor domain activates cleavage of the influenza virus neuraminidase, a type II transmembrane protein. *J. Gen.Virol.*75:1015-1022.
19. Gill, E. P., Dominguez, E. A., Greenberg, S. B., Atmar, R. L., **Hogue, B. G.**, Baxter, B. D., and Couch, R. B. 1994. Development and application of a coronavirus OC43 enzyme immunoassay for acute respiratory illness. *J. Clin. Micro.* 32:2372-2376.
20. Oleszak, E. L., Kuzmak, J., **Hogue B.**, Parr, R., Collisson, E. W., Rodkey, L. S., Leibowitz, J. L. 1995. Molecular mimicry between Fc receptor and S peplomer protein of mouse hepatitis virus, bovine coronavirus, and transmissible gastroenteritis virus. *Hybridoma* 14:1-8.
21. **Hogue, B. G.** 1995. Corona- and Related Viruses. Bovine coronavirus nucleocapsid protein processing and assembly. 1995. Talbot and Levy (eds.) Plenum Press. *Adv. Exp. Med. and Bio.* 380:259-264.

22. Cabirac GF, Murray RS, McLaughlin LB, Skolnick DM, **Hogue B.**, Dorovini-Zis K, Didier PJ. 1995. Corona- and Related Viruses. In vitro interaction of coronaviruses with primate and human brain microvascular endothelial cells. Talbot and Levy (eds), Plenum Press, NY, Adv. Exp Med Biol 380:79-88.
23. Brian, D.A., **Hogue, B.G.**, Kienzle, T.E. 1995. The coronavirus hemagglutinin esterase glycoprotein. In The Coronaviridae. S. Siddell (ed), Plenum Press, pp. 165-176. (DAB and BGH invited to contribute the chapter in this series).
24. Nguyen, V.P.<sup>b</sup> and **Hogue, B.G.** 1997. Protein interactions during coronavirus assembly. J.Virol. 71:9278-9284.
25. Nguyen, V. P.<sup>b</sup> and **Hogue, B. G.** 1998. Coronaviruses and Arteriviruses. Coronavirus envelope glycoprotein assembly complexes, Enjuanes, Siddell and Spaan (eds.), Plenum Press, NY, Adv. Exp. Med. Bio. 440:361.
26. Cologna, R.<sup>b</sup> and **Hogue, B. G.** 1998. Coronaviruses and Arteriviruses. Coronavirus nucleocapsid protein RNA interactions, Enjuanes, Siddell and Spaan (eds.), Plenum Press, NY, Adv. Exp. Med. Bio. 440:355-359.
27. Cologna, R.<sup>b</sup> and **Hogue, B.G.**, 2000. Identification of a bovine coronavirus packaging signal. J. Virol. 74:580-583.
28. Spagnolo, Jeannie F.<sup>b</sup> and **Hogue, B.G.** 2000. Host protein interactions with the 3' end of bovine coronavirus RNA and the requirement of the poly(A) tail for coronavirus defective genome replication. J. Virol. 74:5053-5065.
29. Cologna, R.<sup>b</sup>, Spagnolo, J. F.<sup>b</sup> and **B. G. Hogue.** 2000. Identification of nucleocapsid binding sites within coronavirus defective genomes. Virology 277(2):235-49.
30. Spagnolo, J.F.<sup>b</sup> and **Hogue, B.G.** 2001. In The Nidoviruses. Requirement of the Poly(A) Tail in Coronavirus Genome Replication. Lavi, Weiss, Hingley (eds), Kluwer Academic/Plenum Publishers, London, UK. Adv. Exp. Med. Bio. 494:467-474.

#### ASU Publications –

For all of the publications 1-31, 41, 43-50 I have served as the lead PI who guided the research and mentor of the authors (postdocs, graduate and undergraduate students) listed in all manuscript (1-31, 41, 43-50), except in the case where I provided research guidance/advice and helped mentor the students (42).

31. Verma, S.<sup>a</sup>, Bednar, V.<sup>c</sup>, Blount, A.<sup>c</sup>, and **Hogue, B.G.** 2006. Role of coronavirus nucleocapsid protein COOH terminal conserved amino acids in virus assembly. J. Virol. 80:4344-4355.
32. Lopez, L.A.<sup>b</sup>, Jones, A.<sup>b</sup>, Arndt, W.D.<sup>b</sup>, **Hogue, B.G.** 2006. Subcellular localization of SARS-CoV structural proteins. The Nidoviruses : The Control of SARS and other Nidovirus Diseases. Perlman and Holmes (editors) Springer Publishers, Adv. Exp. Med. Bio. 581:297-300.
33. White, T.C.<sup>b</sup> and **Hogue, B.G.** 2006. Mouse hepatitis coronavirus nucleocapsid phosphorylation. The Nidoviruses : The Control of SARS and other Nidovirus Diseases. Perlman and Holmes (editors) Springer, Adv. Exp. Med. Bio. 581:157-162.
34. Ye, Y.<sup>b</sup> and **Hogue, B.G.** 2006. Role of mouse hepatitis coronavirus envelope protein transmembrane domain. The Nidoviruses : The Control of SARS and other Nidovirus Diseases. Perlman and Holmes (editors) Springer, Adv. Exp. Med. Bio. 581: 187-192.
35. Bednar, V.<sup>c</sup>, Verma, S.<sup>a</sup>, Blount, A.<sup>c</sup> and **Hogue, B.G.** 2006. Importance of MHV-CoV nucleocapsid protein COOH-terminal negative charges. The Nidoviruses : The Control of SARS and other Nidovirus Diseases. Perlman and Holmes (editors) Springer, Adv. Exp. Med. Bio. 581: 127-132.
36. Ye, Y.<sup>b\*</sup>, Hauns, K.D.<sup>b</sup>, Langland, J.O.<sup>a</sup>, Jacobs, B.L. and **Hogue, B.G.** 2007. Mouse Hepatitis Coronavirus A59 nucleocapsid protein is a type I interferon antagonist. 2007. Epub 2006 Dec 20. J Virol. 81(6):2554-63.
37. Ye, Y.<sup>b</sup> and **Hogue, B.G.** 2007. Role of the mouse hepatitis coronavirus E viroporin protein transmembrane domain in virus assembly. 2007. Epub Jan 17. J. Virol. 81(7):3597–3607.
38. Verma, S.<sup>a</sup>, Lopez, L.A.<sup>b</sup>, Bednar, V.<sup>c</sup> and Hogue, B.G. 2007. Importance of coronavirus membrane protein penultimate charged residue in virus assembly. 2007. Epub Feb 28. J. Virol. 81(8)5339-5348.
39. White, T.C.<sup>b</sup>, Yi, Z. and **Hogue, B.G.** 2007. Identification of mouse hepatitis coronavirus nucleocapsid protein phosphorylation sites. 2007. Epub Mar 23. Virus Res. 126(1-2):139-148.
40. **Hogue, B.G.** and Machamer C.M. **[Invited Review]** 2008. Coronavirus Structural Proteins and Assembly. In The Nidoviruses. Perlman, Snijder and Gallagher (editors), American Society of Microbiology Press. pp 179-200.
41. Lopez, L.A.<sup>b</sup>, Riffle, A.J.<sup>c</sup>, Pike, S.L.<sup>c</sup>, Gardner, D.<sup>b</sup> and **Hogue, B.G.** 2008. Importance of conserved cysteine residues in the coronavirus envelope protein. 2008. J. Virol. 82:3000-10. **[Editors' Spotlight Paper]**.

42. Burk D.R.<sup>c</sup>, Senechal-Willis P.<sup>c</sup>, Lopez L.C., Hogue B.G., Daskalova S.M.<sup>a</sup>. 2009. Suppression of lipopolysaccharide-induced inflammatory responses in RAW 264.7 murine macrophages by aqueous extract of *Clinopodium vulgare* L. (Lamiaceae). *J. Ethnopharmacol.* 126: 397-405.
43. Arndt, A.L.<sup>b</sup>, Larson, B.J.<sup>c</sup> and **Hogue, B.G.** 2010. A conserved domain in the coronavirus membrane protein tail is important for virus assembly. *J. Virol.* 84: 1518-1428.
44. Venkatagopalan, P.<sup>b</sup>, Daskalova, S.M.<sup>a</sup>; Lopez, L.A.<sup>b</sup>, Dolezal, K.A.<sup>b</sup> and **Hogue, B.G.** 2013. Coronavirus envelope (E) protein remains at the site of assembly. Resubmitted, under review.
45. Smolyanitsky, A.<sup>a</sup>, Hogue, B.G., Saraniti, M., Goryll, M. 2012. Molecular and Brownian Dynamics Simulation of SARS CoV E Protein Ion Channel. *Biochimica et Biophysica Acta.* Under revision for resubmission.
46. Venkatagopalan, P., Daskalova, S.M., Epand, R.F., Epand, R.M. and **Hogue, B.G.** 2013. Importance of conserved proline residues in coronavirus assembly. Manuscript in preparation.
47. Arndt, A.L.<sup>b</sup>, Larson, B.J.<sup>a</sup>, Venkatagopalan, P.<sup>b</sup> and **Hogue, B.G.** 2013. Role of coronavirus membrane (M) protein charged residues in virus assembly. Manuscript in preparation for submission.
48. Sotomayor-Castro, Y.<sup>b</sup>, Yi, Z., Shelhamer, R.<sup>c</sup> and **Hogue, B.G.** 2013. Significance of phosphorylated sites on mouse hepatitis coronavirus A59 nucleocapsid proteins. Manuscript in preparation for submission.
49. Carrillo, J., Esqueda, A., Faulkner, L.D., Chaplot, N., Daskalova, S.M., Goryll, M., **Hogue, B.G.** 2013. The Structure and Key Amino Acids in the Transmembrane Domain of Coronavirus Envelope (E) Proteins are Important for Ion Channel Activity. Manuscript in preparation for submission.
50. Daskalova, S.M., Robida, M.D., Carillo, J., Borges, C.R., Sykes, K.F. Fromme, P. Goryll, M. **Hogue, B.G.** 2013. Expression and purification of functional coronavirus envelope proteins in *E. coli*. Manuscript in final preparation for submission.
51. Lee, H-H, Cherni, I, Yu, HQ, Fromme, R., Doran, J.D., Grotjohann, I., Basu, S., Dorner, K., Aquila, A., Barty, A., Boutet, S., Chapman H.N., Doak, R.B., Hunter, M.S., James, D.R., Kirian, R.A., Kupitz, C., Lawrence, R.M., Liu, H., Nass, K., Schlichting, I., Schmidt, K.E., Seibert, M.M., Shoeman R.L., Spence, J.C.H., Stellato, F., Weierstall, U., Williams, G.J., Yoon, CH, Wang, D., Zatsepin, N.A., Matoba, N., **Hogue, B.G.**, Fromme, P.\* , Mor, T.S.\* Manuscript in final preparation for submission.
52. Carrillo, J., Faulkner, L., Chaplot, N., Daskalova, S.M., Goryll, M., **Hogue, B.G.** 2013. Properties of coronavirus envelope (E) ion channels. Manuscript in final preparation for submission.

#### PATENTS

Huang, Z. and Hogue, B. G. "A Plant-derived Virus-like Particle Vaccine Against SARS Coronavirus", Provisional patent application filed with USPTO, United States, No. 60988668 (submitted to AzTE: November 7, 2007, filed: November 16, 2007)

Hogue, B. and Daskalova, S. "Plant Extract Antiviral Activity Against Human Coronaviruses" Provisional patent application filed with the USPTO – 7/29/2008

#### JOURNAL EDITORIAL/REVIEWER SERVICE

<i>Editorial Board</i>	Journal of Virology	2007-2016	1997-1999
<i>Editorial Board</i>	Virology	2013 - 2017	
<i>Ad hoc Reviewer</i>	Journal of Virology	2000 – 2006	1993-1996
	Virology	1994 - present	
	Science	2003 - present	
	Journal of Clinical Microbiology	1996 - present	
	Archives of Virology	1999 - present	
	PLoS Pathogens	2007- present	
	Journal of Biological Chemistry	2008 – present	
	PLoS One	2011 - present	

#### REVIEWER FOR GRANTING AGENCIES

2013	Member NIH BAA-NIAID-DMID-NIHAI2012149 Review Panel (3/2013)
2012	Member NIH ZAL1 UKS M M2 (3/2012); MPRC-B Review Panel – NIGMS (7/2012)
2011	Member NIH ZAI1 JTS-I (S1) (7/2011), ZAI1 RGK-M (J1) (9/2011), ZAI1 GSM-M (J1) (11/2011) NIAID Center for Scientific Review Special Emphasis Panels

2010	<i>Member</i> ZAI1-BLG-M(M1) NIAID Center for Scientific Review Special Emphasis Panel (01/21010); ZRG1 IDM-R(03) NIAID Center for Scientific Review Special Emphasis Panel (05/2010)
2010	<i>Chair</i> ZAI1 NIAID Center for Scientific Review Special Emphasis Panel (06/2010)
2009	<i>Member</i> ZRG1 F13-C 20 L (03/2009); ZRG1 IDM-T (02) (01/2009); ZAI1 BLG-M (S1) (08/2009); ZRG1-F13C 20L (11/2009).
2008	<i>Member</i> , ZRG1 IDM-Q (02) (9/2008)
2008	<i>Member</i> , ZRG1 IDM-M (02) NIH Study Section (3/2008, 6/2008)
2008	<i>Member</i> , F13 Study Section, ZRG1 IDMR 03 Viruses Special Emphasis Panel (3/2008, 8/2008)
2008	<i>Member</i> , NIH ZRG1 IDM-R (03) Study Section (7/2008)
2005 – 2007	<i>Chair</i> , NIH Center for Scientific Review Special Emphasis Panel ZRG1 IDMG 90 Topics in Virology (10/2005, 2/2006, 6/2006, 10/2006, 2/2007)
2006 - 2007	<i>Temporary Member</i> , NIH Virology A Study Section
2007	<i>Member</i> , NIH ZRG1 IDM-M 02, Viruses Review Panel
2003-2005	<i>Member</i> , NIH Center for Scientific Review Special Emphasis Panels (3 in 2003) (3 in 2004) (3 in 2005)
2000- 2002	<i>Member</i> , USDA Animal Health and Well-Being (Virology) Review Panel
2002	<i>External Reviewer</i> , Center for Environmental & Rural Health, Texas A & M University
2001	<i>External Reviewer</i> , Biomedical Research Council, National Science & Technology Board, Singapore
1998	<i>Member</i> , NIH/NIAID Postdoctoral Fellowship Review Panel
1997	Canadian National Sciences & Engineering Research Council
1997	<i>Temporary Member</i> , NIH Experimental Virology Study Section (1998-1999 – declined)
1996 - 2000	<i>External Reviewer</i> , USDA Animal Health and Well-Being (Virology) Review Panel
1994	<i>Member</i> , NIH/NIAID RFA Grant Review Panel
1992 – 1997	<i>External Reviewer</i> , Veterans Administration Research Grants (1998-1999 declined)

#### MEMBERSHIP IN SCIENTIFIC AND PROFESSIONAL SOCIETIES

American Society for Virology  
 American Society for Microbiology  
 American Association for the Advancement of Science

#### INVITED PRESENTATIONS (Includes lectures and seminars presented by Brenda G. Hogue)

2014	Baylor College of Medicine
(Apr)	
2012	U. Indiana Bloomington
(Mar)	<i>Title</i> : Coronavirus Assembly at Intracellular Membranes
2012	Arizona State University (Membrane Proteins in Infectious Diseases Center Advisory Board Meeting)
(Mar)	<i>Title</i> : Coronavirus Envelope Proteins: Roles in Virus Assembly at Intracellular Membranes
2012	University of Arizona Medical School Phoenix
(Feb)	<i>Title</i> : Coronavirus Assembly at Internal Cellular Membranes
2011	XIIth International Nidovirus Symposium, Traverse City, MI
(June)	<i>Title</i> : Roles of the coronavirus membrane protein in virus assembly.
2010	The Ninth International Symposium on Positive-Strand RNA Viruses
(May)	<i>Title</i> : Envelope (E) Protein Functions during Coronavirus Assembly
2010	Texas A & M University
(Oct)	<i>Title</i> : Coronavirus Assembly at Internal Cellular Membranes
2009	Mount St. Mary's College, Los Angeles, CA
(Nov)	<i>Title</i> : Viroporins: Insight into Virus Channels
2008	American Society for Virology State-of-the-Art Lecture, Cornell University
(July)	<i>Title</i> : Coronavirus Assembly at Intracellular Membranes
2008	World Congress on In Vitro Biology, Tucson, AZ
(June)	<i>Title</i> : Coronavirus Assembly at Intracellular Membranes
2008	XIth International Nidovirus Symposium, St. Cathrine's College, Oxford University, England

- (June) *Title:* Coronavirus Envelope Protein Promotes Assembly and Release of Virus  
 2007 Department of Microbiology & Immunology and WHO Center for Tropical Disease  
 (Feb) University of Texas Medical Branch, Galveston, TX  
*Title:* The Multiple Functions of the Coronavirus Nucleocapsid  
 2006 Department of Molecular and Structural Biochemistry, North Carolina State University  
 (Nov) *Title:* Multifunctional Facets of Coronavirus Proteins – Viroporins to Innate Immunity  
 2006 Department of Pathobiological Sciences, Louisiana State University School of Veterinary Medicine  
 (Sept) *Title:* A Coronavirus Innate Immune Antagonist  
 2005 Xth International Nidovirus Symposium, Colorado Springs, CO  
*Title:* Identification of Functionally Important Negatively Charged Amino Acids in Domain II of Mouse  
 Hepatitis Coronavirus A59 Nucleocapsid Protein  
 2003 Department of Immunobiology, University of Arizona State University  
*Title:* Coronaviruses and Their New Role as Infectious Agents  
 2003 The Salons Medical Series with Barrow Neurological Institute  
*Title:* SARS: A Newly Emerged Disease  
 2002 Department of Veterinary Science & Microbiology  
*Title:* Coronavirus Replication & Assembly  
 2001 Department of Pathobiology, Texas A & M University  
*Title:* Coronavirus Replication and Assembly  
 2001 Department of Microbiology, Arizona State University  
*Title:* Coronavirus Replication and Assembly  
 2000 Department of Pathology, Texas A & M Health Sciences Center  
*Title:* Host Protein Interactions With the 3' UTR and Requirement of the Poly(A) Tail  
 2000 Department of Microbiology, University of Mississippi Medical School  
*Seminar Title:* Molecular Mechanisms of Coronavirus Replication  
*Lecture Title:* Coronavirus Molecular Biology  
 1999 University of Texas Health Sciences Virology Program, Houston  
 1998 *Lecture Title:* Orthomyxoviruses  
 1998 Department of Pathobiology, Louisiana State University University School of Veterinary Medicine  
*Seminar Title:* Coronavirus Assembly and Replication  
*Lecture Title:* Coronavirus Pathogenesis  
 1998 MD Anderson Cancer Center, Houston, TX  
*Title:* Coronavirus Assembly  
 1995 Department of Microbiology, University of Arkansas Medical School  
*Seminar Title:* Coronavirus Assembly  
*Lecture Title:* Positive-Stranded RNA Virus Replication  
 1994 Department of Microbiology, University of Texas Health Sciences, Houston  
*Title:* Coronavirus Assembly  
 1991 Department of Microbiology & Immunology, Baylor College of Medicine, Houston  
*Title:* Influenza Virus Neuraminidase Transport and Assembly  
 1991 Department of Medical Microbiology, University of Wisconsin Medical School, Madison  
*Title:* Influenza Virus Neuraminidase  
 1990 Department of Microbiology, University of Minnesota School of Medicine  
*Title:* Molecular Biology of Influenza Virus Neuraminidase  
 1990 Division of Molecular Virology, Baylor College of Medicine, Houston  
*Title:* Transport and Assembly of Influenza Viral Proteins  
 1990 Department of Microbiology & Immunology, University of South Carolina School of Medicine  
*Title:* Transport and Assembly of Influenza Virus Proteins  
 1989 Purdue University College of Veterinary Medicine  
*Title:* Influenza Virus Proteins – Their Transport and Assembly  
 1989 Department of Pathobiology, University of Wisconsin College of Veterinary Medicine, Madison  
*Title:* Importance of Influenza Virus Hemagglutinin and Neuraminidase in Virus Infection

#### CONFERENCE TALK & POSTER PRESENTATIONS

- 2013 Lawrence, R.M., Blake, M. Fromme, R., Chen, L. Fromme, P. Weierstall, U. Hogue, B.G. X-ray lasers in biology Royal Society Meeting, The Royal Society, London, UK. Oct 14 -17.



- 2013 Esqueda, A., Carrillo, J. Daskalova, S.M., Goryll, M., Hogue, B.G. American Society for Virology 32 Annual Meeting, Pennsylvania State University, University Park  
*Talk Title:* Significance of coronavirus envelope (E) protein ion channel activity on virus assembly.  
 Carrillo, J., Esqueda, A. Daskalova, S.M., Goryll, M. Hogue, B.G. American Society for Virology 32 Annual Meeting, Pennsylvania State University, University Park  
*Poster Title:* Key amino acid residues of coronavirus envelope (E) proteins are important for ion channel activity.
- 2012 Venkatagopalan P., Daskalova, S.M., Epand, R.F., Epand, R.M., Hogue, B.G. American Society for Virology 31<sup>st</sup> Annual Meeting, University of Wisconsin, Madison, WI.  
*Talk Title:* Insight into the mechanistic role of coronavirus envelope (E) protein in virus assembly.
- 2011 Arndt, A.L., Venkatagopalan, P., Larson, B.J., Daskalova, S.M., Hogue, B.G., XIIth International Nidovirus Symposium, Traverse City, MI.  
*Talk Title:* Roles of the coronavirus membrane protein in virus assembly.
- 2011 Venkatagopalan, P., Daskalova, S.M., Faulkner, L.D., Chaplot, N., Smolyanitsky, A., Goryll, M., Hogue, B.G. XIIth International Nidovirus Symposium, Traverse City, MI.  
*Poster Title:* Envelope (E) protein functions during coronavirus assembly.
- 2011 Venkatagopalan, R., Daskalova, S.M., Hogue, B.G. American Society for Virology 30<sup>th</sup> Annual Meeting, University of Minnesota, Minneapolis, MN.  
*Talk Title:* Role of the envelope protein during dynamics of coronavirus assembly.
- 2010 Dolezal, K.A., Daskalova, S.M., Hogue, B.G.. American Society for Virology 29<sup>th</sup> Annual Meeting, Montana State University, Bozeman, MT.  
*Talk Title:* Complementary functional domains in the coronavirus envelope protein.
- 2010 Arndt, A.L., Larson, B.J. and Hogue, B.G. The Ninth International Symposium on Positive-Strand RNA Viruses.  
*Talk Title:* Role of the Coronavirus Membrane Protein Cytoplasmic Tail in Virus Assembly
- 2010 Arndt, A.L., Larson, B.J. and Hogue, B.G. American Society for Virology 29<sup>th</sup> Annual Meeting, Montana State University, Bozeman, MT.  
*Talk Title:* Importance of Charged Residues in the Coronavirus Membrane Protein Tail
- 2010 Faulkner, L.D., Chaplot, N., Daskalova, S.M., Goryll, M., Hogue, B.G. American Society for Virology 29<sup>th</sup> Annual Meeting, Montana State University, Bozeman, MT.  
*Poster Title:* Mutant Coronaviruses with Envelope Protein Transmembrane Changes Known to Significantly Affect Virus Growth Also Exhibit Changes in Ion Channel Activity.
- 2009 Venkatagopalan, P. and Hogue, B.G. American Society for Virology 28<sup>th</sup> Annual Meeting, U. British Columbia  
*Talk Title:* Coronavirus Envelope Conserved Proline Residues are Important for Virus Production.
- 2009 Arndt, A.L., Larson, B.J., Altamirano, C.J. and Hogue, B.G. American Society for Virology 28<sup>th</sup> Annual Meeting, U. British Columbia.  
*Talk Title:* The Role of the Membrane Protein CarboxyTail Conserved Domain in Coronavirus Assembly
- 2009 Sotomayor-Castro, Y. , Shelhamer, R., Yi, Z. and Hogue, B.G. American Society for Virology 28<sup>th</sup> Annual Meeting, U. British Columbia  
*Talk Title:* Functional Characterization of Mouse Hepatitis Coronavirus Nucleocapsid Protein Phosphorylation
- 2009 Dolezal, K.A. and Hogue, B.G. American Society for Virology 28<sup>th</sup> Annual Meeting, U. British Columbia.  
*Poster Title:* A Proteomics Approach to Identifying Potential Host Protein Interactions with the Coronavirus Envelope Protein.
- 2009 Larson, B.J., Dinh, J. Arndt, A.L., Yan, K. Huang, Z. and Hogue, B.G. American Society for Virology 28<sup>th</sup> Annual Meeting, U. British Columbia.  
*Poster Title:* Construction of Severe Acute Respiratory Syndrome Coronavirus Spike Receptor Binding Domain Fused to Hepatitis B Surface (HBsAg) and Core (HBcAg) Antigens for Vaccine Development.
- 2009 A.L. Arndt, B.J. Larson, C.J. Altamirano, and B.G. Hogue. American Society for Microbiology Annual Meeting

- Poster Title:* Function of the Coronavirus Membrane Protein Carboxy Tail Conserved Domain.
- 2009 Latrice D. Faulkner, Nipun Chaplot, Sashka Daskalova, Michael Goryll, Ph.D., Brenda G. Hogue. Annual Biomedical Research Conference for Minority Students (ABRCMS). Phoenix, AZ.
- Poster Title:* Biological Significance of Coronavirus Envelope (E) Protein Ion Channel Activity.
- 2008 Venkatagopalan, P. and Hogue, B.G. American Society for Virology 27<sup>th</sup> Annual Meeting, Cornell U.
- Talk Title:* Significance of conserved proline residues in the coronavirus envelope protein
- 2008 Sotomayor-Castro, Y. and Hogue, B.G. American Society for Virology 27<sup>th</sup> Annual Meeting, Cornell U.
- Talk Title:* Functional characterization of mouse hepatitis coronavirus A59 nucleocapsid protein phosphorylation
- 2008 Arndt, A.L. and Hogue, B.G. American Society for Virology 27<sup>th</sup> Annual Meeting, Cornell University
- Talk Title:* Function of the coronavirus membrane protein carboxy tail conserved domain.
- 2008 Arndt, A.L. and Hogue, B.G. , XIth International Nidovirus Symposium  
St. Catherine's College, Oxford University, England
- Talk Title:* Importance of conserved domain in the coronavirus membrane protein carboxy tail in virus assembly.
- 2008 Sotomayor-Castro, Y. and Hogue, B.G. XIth International Nidovirus Symposium  
St. Catherine's College, Oxford University, England
- Poster Title:* Functional Significance of Identified Phosphorylation Sites on Mouse Hepatitis Coronavirus A59 Nucleocapsid Protein
- 2008 Arndt, A.L. and Hogue, B.G. American Society for Microbiology Meeting, Boston, MA
- Poster Title:* Role of Coronavirus Membrane Protein Carboxy Tail in Virus Assembly
- 2008 Sotomayor-Castro, Y. and Hogue, B.G. National Science Foundation Division of Human Resource Development 2008 Joint Annual Meeting, Washington DC
- Poster Title:* Functional Significance of Identified Phosphorylation Sites on Mouse Hepatitis Coronavirus A59 Nucleocapsid Protein
- 2007 Lauer J.N. and Hogue, B.G. American Society for Virology 26<sup>th</sup> Annual Meeting
- Talk Title:* Coronavirus Polyadenylation and Critical Aspects of Poly(A) Tail Positioning
- 2007 Jones A.L. and Hogue, B.G. American Society for Virology 26<sup>th</sup> Annual Meeting
- Talk Title:* Role of a Highly Conserved domain in the Coronavirus Membrane Protein Carboxy Tail
- 2006 Lopez L.A., White, T.C. & Hogue, B.G. 25<sup>th</sup> American Society for Virology Meeting
- Talk Title:* Subcellular Localization of the Small Envelope Protein of MHV & SARS Coronaviruses
- 2006 Ye Y., Hauns K., Jacobs B., Hogue B.G. 25<sup>th</sup> American Society for Virology Meeting, University of Wisconsin, Madison
- Talk Title:* Coronavirus Alpha/Beta Interferon Antagonists
- 2006 White T.C., Niederkofler E.E., Bednar V. Sotomayor Y. Nelson R.W., Hogue B.G. 25<sup>th</sup> American Society for Virology Meeting, University of Wisconsin, Madison
- Talk Title:* Role of Coronavirus Nucleocapsid Phosphorylation
- 2006 Ye Y., Hauns K., Jacobs B., Hogue B.G. Keystone Symposium, Viral Immunity, Steamboat Springs, CO
- Poster Title:* Coronavirus Alpha/Beta Interferon Antagonists
- 2006 Lopez L.A. & Hogue B.G. American Society for Microbiology 106<sup>th</sup> General Meeting, Orlando, FL
- Poster Title:* Importance of Conserved Cysteine Residues in the Small Envelope Protein of Coronaviruses
- 2005 Hogue B.G. & Ye Y. XIII international Congress of Virology. San Francisco, CA.
- Talk Title:* Impact of mouse hepatitis coronavirus on eIF2 $\alpha$  phosphorylation
- 2005 Ye Y. & Hogue B.G. Xth International Nidovirus Symposium, Colorado Springs, CO
- Talk Title:* Importance of the Mouse Hepatitis Coronavirus A59 Envelope Protein Transmembrane Domains in Envelope Formation and Virus Assembly
- 2005 Lopez L.A., Arndt W.D., White T.C., Ye Y., Hogue B.G. Xth International Nidovirus Symposium, Colorado Springs, CO
- Poster Title:* Subcellular Localization of the Small Envelope Protein of MHV and SARS Coronaviruses
- 2005 Ye Y., Hauns K.D., Jacobs B.L., Hogue B.G. Xth International Nidovirus Symposium, Colorado Springs, CO

- Poster Title:* Mouse hepatitis coronavirus inhibition of eIF2 alpha phosphorylation: implication for impact on the interferon pathway
- 2005 White T.C. & Hogue B.G. Xth International Nidovirus Symposium, Colorado Springs, CO  
*Poster Title:* Mouse Hepatitis Coronavirus Nucleocapsid Phosphorylation
- 2005 Jones A.L., White T.C., Arndt W.D., Hogue B.G. Xth International Nidovirus Symposium, Colorado Springs, CO  
*Poster Title:* Requirements for SARS-CoV virus-like particle assembly
- 2004 Lopez L.A., Verma A., Bednar V., Blount A., Hogue B.G. 23<sup>rd</sup> American Society for Virology Meeting, McGill University, Montreal, Quebec, Canada  
*Talk Title:* Coronavirus membrane-nucleocapsid interactions in virus assembly
- 2004 Verma S., Lopez L.A., Bednar G., Blount A., Hogue B.G. 7<sup>th</sup> International Symposium on Positive Strand RNA Viruses, San Francisco, CA  
*Poster Title:* Importance of Charged Amino Acids in Coronavirus Membrane-Nucleocapsid Interactions During Virus Assembly
- 2003 Verma S., Lopez L.A., Hogue B.G. American Society for Virology Meeting, University of California Davis  
*Talk Title:* Role of the Coronavirus Membrane Protein in Virus Assembly
- 2003 Verma S., Lopez L.A., Hogue B.G. IXth International Symposium on Nidoviruses, Egmond aan Zee, The Netherlands  
*Poster Title:* Role of the Coronavirus Membrane Protein Carboxy Tail in Virus Assembly.
- 2001 Spagnolo J.F. & Hogue B.G. 6<sup>th</sup> International Symposium on Positive Strand RNA Viruses, Institut Pasteur, Paris, France  
*Poster Title:* Requirement of the Poly(A) Tail for Coronavirus RNA Synthesis
- 2000 Spagnolo J.F. & Hogue B.G. American Society for Virology, Colorado State University, Fort Collins, CO  
*Talk Title:* Tail Extension of Coronavirus DI RNAs With Shortened Poly(A)
- 2000 Spagnolo J.F. & Hogue B.G. VIIIth International Symposium on Nidoviruses, Lake Harmony, PA  
*Talk Title:* Host Protein Interactions with the 3' UTR and Requirement of the Poly(A) Tail for Coronavirus DI Replication
- 1999 Hogue B.G. & Spagnolo J.F. International Congress of Virology, Sydney, Australia  
*Talk Title:* Coronavirus 3' noncoding region requirements for DI replication
- 1999 Spagnolo J.F. & Hogue B.G. 18<sup>th</sup> American Society for Virology Meeting, University of Massachusetts  
*Talk Title:* Coronavirus 3' Noncoding Region Requirements for DI Replication
- 1998 Spagnolo J.F. & Hogue B.G. 18<sup>th</sup> American Society for Virology Meeting, University of British Columbia  
*Talk Title:* Host Protein Interactions With The 3' Noncoding Region of Bovine Coronavirus Genomic RNA
- 1997 Cologna R. & Hogue B.G. International Symposium on Coronaviruses & Arteriviruses, Segovia, Spain  
*Talk Title:* Coronavirus Nucleocapsid Protein:RNA Interactions
- 1997 Cologna R. & Hogue B.G. 16<sup>th</sup> American Society for Virology Meeting, Montana State University  
*Talk Title:* Characterization of Coronavirus Nucleocapsid Protein:RNA Interactions
- 1996 Cologna R. & Hogue B.G. 15<sup>th</sup> American Society for Virology Meeting, University of Western Ontario  
*Talk Title:* Coronavirus Nucleocapsid Protein:RNA Interactions
- 1996 Nguyen V.P. & Hogue B.G. 15<sup>th</sup> American Society for Virology Meeting, University of Western Ontario  
*Talk Title:* Interactions Between Viral Proteins During Coronavirus Assembly
- 1995 Hogue, B.G. 14<sup>th</sup> American Society for Virology Meeting, University of Texas at Austin  
*Talk Title:* Coronavirus Nucleocapsid Protein Processing
- 1994 Hogue B.G. International Symposium on Corona & Related Viruses, Quebec City, Quebec  
*Talk Title:* Bovine coronavirus nucleocapsid protein processing and assembly.
- 1994 Hogue B.G. and Cologna R.J. 13<sup>th</sup> American Society for Virology Meeting, University of Wisconsin  
*Talk Title:* Bovine Coronavirus Nucleocapsid Protein Processing & Assembly
- 1993 Hogue B.G. IXth International Congress of Virology, Glasgow, Scotland  
*Talk Title:* Multiple phosphorylated forms of the bovine coronavirus nucleocapsid protein
- 1989 Hogue B.G. International Symposium on Coronaviruses, Cambridge, England  
*Talk Title:* Expression of the porcine transmissible gastroenteritis coronavirus M protein
- 1987 Hogue B.G. International Coronavirus Symposium, Asilomar, CA  
*Talk Title:* Glycosylation of the bovine coronavirus hemagglutinin protein

**NATIONAL & INTERNATIONAL MEETING SESSIONS CHAIRED**

2011	30 <sup>th</sup> Annual American Society for Virology Meeting, Minneapolis, MN
2010	29 <sup>th</sup> Annual American Society for Virology Meeting, Bozeman, MT
2009	28 <sup>th</sup> Annual American Society for Virology Meeting, Vancouver, British Columbia, Canada
2006	25 <sup>th</sup> Annual American Society for Virology Meeting, Madison, WI
2005	International Nidovirus Symposium, Colorado Springs, CO
2000	International Symposium on Nidoviruses, Lake Harmony, PA
1996	15 <sup>th</sup> American Society for Virology, University of Western Ontario, London, Ontario
1989	International Symposium on Coronaviruses, Cambridge, England

**UNIVERSITY TEACHING**

**ASU Courses Taught** (Student evaluation average rating in brackets, Scale: 1 – Excellent, 2 – Very Good, 3 – Good, 4 – Fair, 5 - Poor)

2013	MIC 485/598, MCB 598	Molecular Virology, 3 credits, 40 students
2013	Bio 598	PREO for Biomedical Research, 9 students
2012	MIC 485/598, MCB 598	Molecular Virology, 3 credits, 35 students
2012	Bio 598	PREP for Biomedical Research, 8 students
2011	MIC 485/598, MCB 498 [1.7]	Molecular Virology, 3 credits, 23 students
2011	Bio 598	PREP for Biomedical Research, 6 students
2010	MIC 485/598, MCB 498	Molecular Virology, 3 credits, 38 students,
2010	Bio 598	PREP for Biomedical Research, 11 students (Jan – May, Aug – Dec)
2009	MIC 485/598, MCB 598	Molecular Virology, 3 credits, 28 students, 23/30 classes (Aug-Dec)
2009	Bio 598	PREP for Biomedical Research, 12 students, (Jan – May, Aug-Dec)
2008	MIC 485/598	Molecular Virology, 3 credits, 29 students, 23/29 classes (Jan-May)
2007	MIC 598	Viral Pathogenesis, 3 credits, 12 students, 30/30 classes (Aug-Dec)
2006	MIC 485/598 [2.09]	Molecular Virology, 3 credits, 30 students, 28/30 lectures (Jan-May)
2005	MIC 485/598 [1.86]	Molecular Virology, 3 credits, 38 student, 25/29 lectures (Jan-May)
2004	MIC 598 [1.25]	Viral Pathogenesis, 3 credits, 9 students, 30/30 classes (Jan-May)
2003	MIC 598 [1.15]	Viral Pathogenesis, 3 credits, 7 students, 30/30 classes (Jan-May)
2002	MIC 485/598 [2.59]	Molecular Virology, 3 credits, 22 students 24/30 lectures (Aug-Dec)
2002	MIC 381 [2.02]	Pathogenic Microbes, 3 credits, 25 students, 14/29 lectures (Mar-May)

**Baylor College of Medicine Lectures**

(Graduate Level)

1994 – 2001	Replication and Gene Expression in Viral Systems, 3-4 lectures
1995 – 2000	Viral Pathogenesis – 3 lectures
1993 – 1995	Experimental Virology – 3 lectures
1993 – 1995	Infection and Immunity – 4 lectures

(Medical Student)

1992-1996	Medical Microbiology/Virology Lab Discussion Sessions Facilitator in Integrated Problem Solving/Case Based Sessions
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**Other Teaching**

1981 – 1982	University of Tennessee College of Veterinary Medicine Veterinary Virology Lab
1980 – 1981	Department of Microbiology, University of Tennessee, Knoxville Graduate Teaching Assistant, General Microbiology

**CURRICULUM DEVELOPMENT**

2002	Developed a new graduate level course - ASU Viral Pathogenesis and Host Defenses (MIC 498)
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- 1998 Member, Committee Chaired by Dr. Wah Chiu, Baylor College of Medicine, National Center Macromolecular Imaging project to develop a computer-based, interactive setup for the Medical Science Museum, Houston, with the goal to teach the general public about viruses and other microorganisms
- 1997 Curriculum Development Committee for the “Molecules” series in the Graduate School Core Curriculum – Baylor College of Medicine

**NON-DIDACTIC TEACHING**

- 2002 – 2003 Organized Department of Microbiology Seminar Series – ASU

**WORKSHOPS ATTENDED FOR TEACHING/MENTORING DEVELOPMENT**

- 2002 Minority Graduate Education at Mountain States Alliance (MGE@MSA)  
Arizona Faculty Doctoral Mentoring Institute

**POSTDOCTORAL ASSOCIATES/FELLOWS/RESEARCH ASSOCIATES MENTORED**

- 2011- present Daskalova, Sasha, Ph.D., Research Associate
- 2011- 2012 Katrina Doerner, Ph.D.
- 2011-present Robert Lawrence, Ph.D.
- 2008– 2010 Daskalova, Sasha, Ph.D.
- 2008 – 2010 Yan, Kexia, M.D., Ph.D.
- 2008 – 2009 Wang, Xuanjun, Ph.D.
- 2002 – 2005 Sandhya Verma, Ph.D.  
*Current Position:* Instructor, DeVry University Phoenix

**VISITING SCHOLARS HOSTED**

- 2002 – 2003 Hyo-Ihl Chang, Ph.D., Professor, Graduate School of Biotechnology, Korea University

**GRADAUTE STUDENTS MENTORED - ASU**

- 2006 – Present Adrian Esqueda, Molecular Cellular Biology Ph.D.

**Previous Graduate Students – ASU**

- 2006 – 5/2012 Pavithra Venkatagopalan, Microbiology Ph.D.  
*Current Position:* AIDS Education, India
- 2004 – 12/2010 Ariel Jones, Microbiology Ph.D.  
NIH Predoctoral NRSA Fellowship, F31AI075538  
NSF Louis Stokes Alliances for Minority Participation Bridge to the Doctorate Fellowship, 2004 – 2006  
NSF Graduate Research Fellowship Program Honorable Mention, 2006  
*Current Position:* Postdoctoral Trainee, University of New Mexico
- 2008 – 05/2010 Kelly Dolezal, Microbiology Masters in Passing  
Arizona Foundation Fellowship  
*Current Position:* Community College Lecturer, Technician in a ASU laboratory
- 2007 – 12/2009 Yaralid Sotomayor-Castro, Microbiology M.S.  
NSF Louis Stokes Alliances for Minority Participation Bridge to the Doctorate Fellowship  
*Current Position:* Technician, University of Arizona College of Medicine-Phoenix

2008 – 2009	Joseph Poliquin <i>Current Position:</i>
2002 – 2007	Ye Ye, Microbiology Ph.D. <i>Current Position:</i> Business Development Intern, Osprey Pharmaceuticals
2002 – 2007	Lisa Lopez, Molecular Cell Biology Ph.D. Robert D. Watkins Graduate Research Fellowship American Society for Microbiology (2005-2007) National Hispanic Scholarship (2001-2004) <i>Current Position:</i> Postdoc-Children's Hospital Los Angeles
2004 – 2007	Jarrod Lauer, MCB M.S. University Graduate Scholar Award <i>Current Position:</i> Local software development company
2004 – 2006	Tiana White, Molecular Cell Biology M.S. Western Alliance to Expand Student Opportunities (WAESO) Bridge to the Doctorate Fellowship 2004-2006 <i>Current Position:</i> Research Technician, Biodesign Institute, ASU
2003 – 2004	Louisa McConnell MSN Microbiology <i>Current Position:</i> Marketing, Invitrogen
2003 – 2005	Douglas Gardner, M.S. Microbiology <i>Thesis Title:</i> Construction of Mouse Hepatitis Coronavirus A59 Viruses with Mutations at Conserved Cysteine Residues in the Small Envelope Protein <i>Current Position:</i> Ph.D. Student, Idaho State University

#### Previous Graduate Students - Baylor College of Medicine

1997 – 2002	Jeannie Spagnolo, Ph.D. <i>Dissertation Title:</i> Coronavirus Genome Replication: Examination of Host Protein Interactions and 3' UTR Requirements. <i>Current position:</i> Senior Scientist Bio-Rad Laboratories
1994 – 1999	Raymond Cologna, Ph.D. <i>Dissertation Title:</i> Identification of a Bovine Coronavirus Packaging Signal and Examination of Coronavirus Nucleocapsid Protein-RNA Interactions. <i>Current position:</i> Staff Virologist, American Type Culture Collection
1994 – 1998	Vinh-Phuc Nguyen, Ph.D. <i>Dissertation Title:</i> Characterization of Protein Interactions and Establishment of a Coexpression System to Study Coronavirus Assembly <i>Current position:</i> Research Fellow, National Cancer Institute

#### Postbaccalaureate Research Education Program (PREP) Student - Mentor

2013 – present	Mellecha Blake, B.S. Arizona State University
2012 – present	Lynn St. Thomas, B.S. Arizona State University
2011 – 2012	Leah Thomas, B.S. University of Arizona
2008 – 07/2010	Latrice Faulkner, B.S., Kentucky State University
2008 – 2009	Christopher Altamarino, B.S., Arizona State University
2005 – 2007	Yaralid Sotomayor-Castro, B.S., University of Puerto Rico at Mayaguez

#### UNDERGRADUATE STUDENTS MENTORED

##### ASU

2013 – present	Rika Matsumoto
2011-present	Jonathan Carillo Barrett Honors College Thesis
2011-2012	Lilian Serpas

2011 Samathna Tompson  
*Current Position:* Pharmacy Technician, Pharmacy School Applicant

2010 – 2011 Heather Thompson Barrett Honors College

2010 Chase Blackford

2007-2010 Blake Larson ASU Provost Scholar & SOLAR Researcher  
*Current Position:* Pharmacy School, Oregon Health Sciences

2007-2010 Ryan Shelhamer Barrett Honors College  
*Current Position:* University of Arizona Medical School

2007 Jennifer Dinh  
*Current Position:* Technician at TGen

2007 Matthew Walker

2006 – 2007 Nicholas Stygles Barrett Honors College

2006 Angel Morrow MARC  
*Current Position:* Graduate Student at Georgetown University

2002 – 2006 Benjamin Pate Barrett Honors College  
*Thesis Title:* Requirement of the Coronavirus 3' Poly(A) Tail for Replication  
*Position after leaving the lab:* University of Arizona Medical School

2005 – 2006 Steven Lee Pike  
*Position after leaving the lab:* University of Arizona Medical School

2002 – 2004 Andrew Blount Barrett Honors College  
*Thesis Title:* Assay of Carboxy-terminal Nucleocapsid Charged Residue Function in Coronavirus Assembly  
*Position after leaving the lab:* University of Arizona Medical School

2002 – 2004 Valerie Bednar Barrett Honors College  
*Thesis Title:* Assay of Carboxy-terminal Nucleocapsid Charged Residue Function in Coronavirus Assembly  
*Current Position:* Nurse

2002 – 2003 Karen Malone  
*Current Position:* Postdoctoral Trainee

2002 – 2003 Philip Nemeth  
*Current Position:* Technician, Arizona Department of Public Health

**Graduates Students & Undergraduates Mentored – Other Institutions**

2007 & 2008 Ambere Riffle New Mexico Tech,  
 NIH NIDDK Summer STEP-UP Undergraduate Fellow

2007 Stephanie Melbourne Howard University  
 NIH NIDDK Summer Medical Student Fellow

**Undergraduate Honors Thesis Committees**

2010 Chelsea Russ

2003 Jasmine Moffett

2001 Suzanne Marie Michele

**Undergraduate MIC 401 Paper Mentor**

2012 Christopher Yap

2012 Lilian Serpas

2011 Asad Jada

2011	Joe Martin
2009	Blake Larson
2008	Ryan Shelhamer
2007	Jennifer Dinh
2007	Matthew Walker
2006	Bryce Moody
2003	Jennifer Walker
2002	Karen Malone

**Baylor College of Medicine Summer Undergraduates**

1992	Lavernon Tylor, SMART Program
1991	Pauline Ng, SMART Program
1997	Karla Smith, SMART Program

**MEMBER OF GRADUATE RESEARCH COMMITTEES**

**ASU - Current**

2007 – present	Trung C. Phuo Huynh, Molecular Cell Biology, Ph.D.
2007 – 2011	Sarah Kessens, Biological Design, Ph.D.
2005 – 2011	Susan Holechek, MCB Ph.D.

**ASU Previous**

2007 - 2010	Emily Richter, Microbiology, MS
2007 – 2009	Shuk Mei Lantzer, Molecular Cell Biology, MS
2007 – 2008	Namrata Shah, MS
2006 – 2008	Irene Cherni, MS
2003 – 2008	Stacy Frederick, Microbiology Ph.D.
2003 – 2008	Kevin Hauns, MCB Ph.D.
2003 – 2008	Jeffrey Wilkinson, Microbiology, Ph.D.
2005 – 2007	Jason Cameron, MCB Ph.D.
2004 – 2006	Kip Conwell, Microbiology M. S.
2002 – 2007	James Janocovich, Microbiology, Ph.D.
2002 – 2004	Garilyn Jentarra, ,Microbiology, Ph.D.
2002 – 2004	Chandra Mitnik, Microbiology, Ph.D.
2002 – 2003	David Tierney, Microbiology MS

**Baylor College of Medicine and Others**

2001 – 2002	Carlos Rivera, Molecular Virology Ph.D.
2001 – 2002	JuanTafu Chang , SCMB Program Ph.D.
1999 – 2003	Muge Kuyumcu, Molecular Virology Ph.D.
1999 – 2002	Monica Schertler, Molecular Virology Ph.D.
1999 – 2001	Rong Chen , Biochemistry Ph.D.
1998 – 2002	Zuzana Berkova , Molecular Virology Ph.D.
1998 – 2002	Brad Pesavento, Biochemistry Ph.D.
1998 – 2002	Audra Rowan, Molecular Virology Ph.D.
1998 – 2002	Hari Jayaram, Biochemistry Ph.D.
1996 – 2002	Pam Glass, Molecular Virology Ph.D.
2000 – 2002	Heather Yanites, Molecular Virology & Micro Ph.D.
1996 – 1998	Mark Goff, Molecular Virology MS
1995 – 2000	Christy O’Neal, Molecular Virology Ph.D.
1994 – 1997	Mingdong Zhang, Molecular Virology Ph.D.
1993 – 1997	Sararjot Singh, Molecular Virology Ph.D.



1992 – 1997	Jenny Henkel, Molecular Virology Ph.D.
1992 – 1997	Sherry Becker, Molecular Virology Ph.D.
1991 – 1996	Steve Ressler, Molecular Virology Ph.D.
1991 – 1995	Sanjeeda Jafar, Molecular Virology Ph.D.
1991 – 1995	Wei Yu, Molecular Virology (UT Health Sciences, Houston)
1991 – 1994	Xin Yu, Molecular Virology, (UT Health Sciences, Houston)
1991 – 1994	Attibela Nagendra, Microbiology Ph.D.

#### **GRADUATE STUDENT ROTATIONS - BCM**

Molecular Virology - Wade Harlan, CMB (2001), Richard Haaland (2000), Margaret Kauffman (2000), Stephanie Moses (1999), Kris Frese (1999), Audra Rowan (1998), Muge Kuyumcu (1998), Monica Schertler (1998), Andrea Bertolotti-Ciarlet (1998), Linda Ward (1997), Alexey Gordadze (1997), Sid Gilpatrick (1997), Stephen Storey (1996), Eric Mossel (1996), Jeannie Spagnolo (1996), Shyan-Yuan Kao (1996), Daren Rice (1996), Pam Glass (1995), Vinh-Phuc Nguyen (1994), Raymond Cologna (1993)  
 Microbiology & Immunology – Hether Yanites (2000), Erin Stout (1999), Helen Anderson (1997), Micheau Mason (1996), Sharon Polidoro (1994), Elizabeth Pham (1994), Susan Olson (1992)

#### **SERVICE**

##### **School of Life Sciences Committees**

###### **ASU**

2011 – present	Director Microbiology Graduate Program
2008-present	Molecular Cellular Biology Graduate Programs Executive Committee
2007- 2010	<i>Chair</i> , Center for Infectious Diseases and Vaccinology Seminar Committee
2007-present	<i>Member</i> , Microbiology Graduate Programs and Admissions Committee
2007-2011	<i>Member</i> , Molecular Cellular Biology Graduate Admissions Committee
2003 – 2004	<i>Member</i> , School of Life Sciences Graduate Programs Committee
2004	<i>Member</i> , School of Life Sciences Faculty Search Committee
2003	<i>Member</i> , School of Life Sciences Faculty Search Committee

###### **Baylor College of Medicine**

2000 – 2001	<i>Member</i> , Department of Molecular Virology & Microbiology Retreat Planning Committee
2000	<i>Member</i> , Department of Molecular Virology & Microbiology Departmental Brochure Design Committee
2000 – 2001	<i>Member</i> , Department of Molecular Virology & Microbiology Qualifying Exam Committee
2001 – 2002	<i>Member</i> , Cell & Molecular Biology Program Qualifying Exam
1998 – 1999	<i>Member</i> , Division of Molecular Virology Qualifying Exam Committee
1995 – 1996	
1998	<i>Member</i> , Department of Microbiology & Immunology Qualifying Exam Committee
1993 – 1994	<i>Member</i> , Neurovirology & Neuroimmunology Steering Committee
1992 – 1996	<i>Member</i> , Department of Microbiology & Immunology Graduate Recruitment Committee

##### **Institutional Committees**

###### **ASU**

2011	<i>Member</i> , School of Life Sciences Metabolomics Faculty Search Committee
2011	<i>Member</i> , School of Life Sciences Immunology Faculty Search Committee
2010	<i>Member</i> , School of Life Sciences Virology Faculty Search Committee
2010	<i>Member</i> , School of Life Sciences Immunology Faculty Search Committee
2006	<i>Member</i> , Vice Provost for Academic Affairs Committee for Development of Postdoctoral Policies
2003	<i>Member</i> , School of Life Sciences Director Search Committee
2003	<i>Member</i> , School of Life Sciences Associate Directors Search Committee
2002 – 2003	<i>Member</i> , School of Life Sciences Graduate Programs Reorganization Subcommittee
2002 – 2003	<i>Member</i> , School of Life Sciences Reorganization Steering Committee

**Baylor College of Medicine**

- 1998 – 2002 *Member*, Recombinant DNA Subcommittee
- 2000 – 2002 *Member*, Graduate School Admissions Committee

**National and International Committees/Panels**

- 2013-14 XIIIth International Nidovirus Symposium Organizing Committee, Salamanca, Spain
- 2013-15 American Society for Virology Program Planning Committee
- 2013 University of Texas San Antonio Biological Science Programs Review Panel
- 2010-11 XIIth International Nidovirus Symposium Scientific Program Committee, Traverse City, MI
- 2008 – present *Advisory Board Member*, Region IX Center for Excellence in Biodefense and Emerging Infections, (NIH proposal pending, PI - Robert C. Liddington, Burnham Institute for Medical Research)
- 2001 – 2005 *Member*, American Society for Virology Membership Committee
- 2004 *Invited Panel Member*, SARS-Coronaviruses and Highly Pathogenic Influenza Viruses Laboratory Safety and Occupational Health Wadsworth Center David Axelrod Institute for Public Health, NY State Department of Public Health, Albany, NY
- 2003 *Invited Participant*, Coronavirus consultant during SARS outbreak Centers for Disease Control SARS Lab Discussion Group