

Stephan S. Monroe, Ph.D.

Associate Director for Laboratory Science and Safety
Centers for Disease Control and Prevention



Education and Training Experience:

B.S., Biochemistry
Iowa State University, Ames, IA

Ph.D., Biological Sciences / Molecular Biology
Washington University, St. Louis, MO

NIH Postdoctoral Trainee, 1983 - 1986
University of Wisconsin, Madison, WI

Professional History:

- Sept 2015 – Present¹: Associate Director for Laboratory Science and Safety, CDC (RF-601-00)
- May 2015 – Sept 2015: Acting Associate Director for Laboratory Science and Safety, CDC
- Oct 2014 – Mar 2015: Acting Director, Office of Advanced Molecular Detection (OAMD), NCEZID
- Apr 2013 – Sept 2015: Deputy Director (RF-601-00)
National Center for Emerging and Zoonotic Infectious Diseases (NCEZID)
Centers for Disease Control and Prevention
- Aug 2007 – Apr 2013: Director (AD-403-00)
Division of High-Consequence Pathogens and Pathology (DHCPP)
National Center for Emerging and Zoonotic Infectious Diseases (NCEZID)
Centers for Disease Control and Prevention
- Nov 2005 – Aug 2007: Acting Director
Division of Viral and Rickettsial Diseases
National Center for Zoonotic, Vector-borne, and Enteric Diseases
Centers for Disease Control and Prevention
Atlanta, GA 30333

¹ Updated December 2015
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- 2004-2005: Associate Director for Laboratory Science (GS-403-15)
Division of Viral and Rickettsial Diseases
National Center for Infectious Diseases
Centers for Disease Control and Prevention
Atlanta, GA 30333
- 1995-1996: Acting Chief, Viral Gastroenteritis Section
Division of Viral and Rickettsial Diseases
National Center for Infectious Diseases
Centers for Disease Control and Prevention
Atlanta, GA 30333
- 1989-2004: Supervisory Research Biologist (GM-401-13 -> GS-401-15)
Respiratory and Enteric Viruses Branch
Division of Viral and Rickettsial Diseases
National Center for Infectious Diseases
Centers for Disease Control and Prevention
Atlanta, GA 30333

Professional Associations and Activities:

- American Society for Virology, member (1983-2005)
- Diagnostic Microbiology & Infectious Diseases, Editorial Board (1992-2002)
- Archives of Virology, Advisory Board (1994-1999)
- Journal of Clinical Microbiology, Editor (2002 – 2010)

Awards and Honors:

- RHO Fellowship, Department of Microbiology & Immunology, Washington University School of Medicine, 1983.
- Research Associateship, National Research Council, 1986.
- NCID James H. Nakano Citation, *Enteric viruses and diarrhea in HIV-infected patients*, May 1994.
- CDC Invention Award, November 1995.
- NCID Outstanding Unit Citation, Oyster Associated Gastroenteritis Investigation Unit, June 1996.
- CDC Special Act Award, Computerized Database for Visa Ordering, March 1997.
- CDC Special Act Group Award, Investigation of an Outbreak of Gastroenteritis Aboard a Cruise Ship, June 1997.
- Pekka E. Halonen Honorary Award and Lecture in Diagnostic Virology, May 1998.
- FDA Group Recognition Award, Norwalk Outbreak Investigation Group, May 1998.
- CDC Special Act Award, Organization of International Workshop, April 1999.
- HHS Secretary's Award for Distinguished Service, Electronic Network for Laboratory Data Exchange, June 2001
- NCID James Nakano Citation, *Characterization of a novel coronavirus associated with severe acute respiratory syndrome*, June 2004
- NCID Silo Busters: SARS Preparedness Team, August 2005
- FDA Commissioner's Special Recognition Award, Avian Influenza Lab Team, June 2006.
- NCHHSTP Honor Award: 2007 Silo Busters: Collaborative Success, CDC Avian Influenza GAP Group, May 2007.
- HHS Assistant Secretary for Health, Special Recognition Award, XMRV Scientific Research Working Group, October 2011.
- NCHHSTP Director's Recognition Award, XMRV Group, December 2012.
- NCEZID James M. Hughes Medal of Excellence, December 2015.

Patents:

Nucleic Acids Encoding Human Astrovirus Serotype 2 and Uses Thereof, US Patent 5,625,049, Awarded 29 April 1997.

Coronavirus Isolated from humans, US Patent 7220852, Awarded 22 May 2007.

Grants and Contracts:

CDC/US EPA Interagency Agreement #DW75936735-01, Production and analyses of viral samples for distribution as quality control stock cultures and for conduct of performance evaluation samples, 9/15/94 - 12/31/96, Total amount \$4481,000. Principal investigator.

CDC Opportunistic Infections Working Group, Novel Viral Agents of Gastroenteritis, FY96, \$95,000; FY97, \$95,000; FY98, \$74,000, Principal investigator.

CDC/US EPA Interagency Agreement #DW75937766-01, Preparation, maintenance and distribution of virus samples for quality control and performance evaluation of information collection rule virus laboratories and analysts, 01/01/97 - 09/30/00, Projected Total amount \$739,367. Principal investigator.

Consultations and Committees:

International Committee on Taxonomy of Viruses (ICTV), Chair, Astrovirus Study Group, 1992-1999, 2002-2003. Prepared chapters for sixth, seventh, and eighth reports of ICTV.

Public Health Focus Team, Gulf of Mexico Program, December 1997-2002.

Laboratory Operations Workgroup, National Food Safety Initiative, 1998-2000.

CDC Food Safety Initiative Activity, Working Group, 1996-2005.

Advisory Committee on Foodborne Viral Infections, CODEX Committee on Food Hygiene, 1999.

ATCC Advisory Committee of the American Society for Virology (2001-2008)

PAHO consultant, Evaluation of National Public Health Laboratory of Uruguay, 2004 & 2005.

Laboratory Team Lead, CDC Pandemic Influenza Preparedness Plan, Oct 2004 – Sep 2005

Laboratory Team Lead, CDC Tsunami Response, Jan – Mar 2005

Coordinator, CDC Pandemic Influenza Preparedness Plan, Apr 2005 – Sep 2005

FDA Transmissible Spongiform Encephalopathies Advisory Committee, 2008 – 2011

CCID Executive Governance Board (Division Director Representative), Oct 2008 – 2010

HHS Ad hoc Workgroup on CFS, 2012

Federal Experts Security Advisory Panel, 2014

Emerging Infectious Diseases Workgroup (co-chair), PHEMCE, ASPR, 2014-2015

Leadership Training:

Executive Leadership Seminar, CDC, July-Aug 2005

National Preparedness Leadership Initiative, Harvard University, Jan/June 2006

CDC Executive Coaching Pilot Program, Feb-June 2007

Teaching Experience:

“Macromolecules”, part of Molecular Biology of the Cell, CDC, Jan 1990.

“Nucleic Acid Detection”, part of Molecular Biology Techniques Course, CDC, Jan 1991.

“Replication Strategies II”, part of DVRD Basic Virology Course, CDC, June 1992.

“Viruses Associated with Gastroenteritis”, part of Seminars in Virology, Georgia State University, April 1994.
PhD Thesis Committee, Gaël Belliot, Clermont University, Clermont-Ferrand, FRANCE, December 1996.
“Anatomy of an Investigation”, part of DVRD Basic Virology Course, CDC, September 1997.
PhD Thesis Committee, Huseyin Mustafa, University of Melbourne, Victoria, AUSTRALIA, October 1999.
“Advanced Topics in Virology”, course co-coordinator and lecturer, CDC, March-May 2004 & Feb – May 2005
PhD Thesis Committee, Sally Symes, Monash University, Victoria, AUSTRALIA, October 2005.
“Role of the Laboratory in Emerging Infections”, part of Emerging Infections course at Emory Rollins School of Public Health, 2005, 2007, 2010, 2013.

International Experience:

International Experience Technical Assistance (IETA), Mozambique, June-September 2009
West Africa Ebola Outbreak Response, Liberia, Laboratory Advisor, April 2015
West Africa Ebola Outbreak Response, Liberia, Laboratory Advisor & Response Lead, July 2015

Selected Publications: (Total=133; h-index¹ = 54; top 25, by citation frequency listed below)

1. Rota PA, Oberste MS, Monroe SS, Nix WA, Campagnoli R, Icenogle JP, et al. Characterization of a novel coronavirus associated with severe acute respiratory syndrome. *Science*. 2003 May;300(5624):1394-9.
2. Zheng DP, Ando T, Fankhauser RL, Beard RS, Glass RI, Monroe SS. Norovirus classification and proposed strain nomenclature. *Virology*. 2006 Mar 15;346(2):312-23. [This manuscript was recognized by the journal *Virology*, as the “Top Cited Article 2006-2010.”]
3. Fankhauser RL, Noel JS, Monroe SS, Ando T, Glass RI. Molecular epidemiology of "Norwalk-like viruses" in outbreaks of gastroenteritis in the united states. *J Infect Dis*. 1998 Dec;178(6):1571-8.
4. Fankhauser RL, Monroe SS, Noel JS, Humphrey CD, Bresee JS, Parashar UD, et al. Epidemiologic and molecular trends of "Norwalk-like viruses" associated with outbreaks of gastroenteritis in the United States. *J Infect Dis*. 2002 Jul;186(1):1-7.
5. Ando T, Monroe SS, Gentsch JR, Jin Q, Lewis DC, Glass RI. Detection and differentiation of antigenically distinct small round-structured viruses (Norwalk-like viruses) by reverse transcription-PCR and southern hybridization. *Journal of Clinical Microbiology*. 1995;33(1):64-71.
6. Noel JS, Fankhauser RL, Ando T, Monroe SS, Glass RI. Identification of a distinct common strain of "Norwalk-like viruses" having a global distribution. *J Infect Dis*. 1999 Jun;179(6):1334-44.
7. Grohmann GS, Glass RI, Pereira HG, Monroe SS, Hightower AW, Weber R, et al. Enteric viruses and diarrhea in HIV-infected patients. Enteric Opportunistic Infections Working Group. *New England Journal of Medicine*. 1993;329(1):14-20.

¹ <http://en.wikipedia.org/wiki/H-index>
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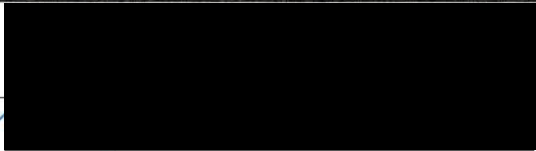
8. Noel JS, Lee TW, Kurtz JB, Glass RI, Monroe SS. Typing of human astroviruses from clinical isolates by enzyme immunoassay and nucleotide sequencing. *Journal of Clinical Microbiology*. 1995;33(4):797-801.
9. Widdowson MA, Cramer EH, Hadley L, Bresee JS, Beard RS, Bulens SN, et al. Outbreaks of acute gastroenteritis on cruise ships and on land: Identification of a predominant circulating strain of Norovirus - United States, 2002. *J Infect Dis*. 2004 Jul;190(1):27-36.
10. Blanton LH, Adams SM, Beard RS, Wei G, Bulens SN, Widdowson MA, et al. Molecular and epidemiologic trends of caliciviruses associated with outbreaks of acute gastroenteritis in the United States, 2000-2004. *J Infect Dis*. 2006;193(3):413-21.
11. Moe CL, Gentsch J, Ando T, Grohmann G, Monroe SS, Jiang X, et al. Application of PCR to detect Norwalk virus in fecal specimens from outbreaks of gastroenteritis. *Journal of Clinical Microbiology*. 1994;32(3):642-8.
12. Noel JS, Ando T, Leite JP, Green KY, Dingle KE, Estes MK, et al. Correlation of patient immune responses with genetically characterized small round-structured viruses involved in outbreaks of nonbacterial acute gastroenteritis in the united states, 1990 to 1995. *Journal of Medical Virology*. 1997 Dec;53(4):372-83.
13. Koopmans M, von Bonsdorff CH, Vinje J, de Medici D, Monroe S. Foodborne viruses. *Fems Microbiol Rev*. 2002 Jun;26(2):187-205.
14. Jiang B, Monroe SS, Koonin EV, Stine SE, Glass RI. RNA sequence of astrovirus: distinctive genomic organization and a putative retrovirus-like ribosomal frameshifting signal that directs the viral replicase synthesis. *Proceedings of the National Academy of Sciences of the United States of America*. 1993;90(22):10539-43.
15. Vinje J, Vennema H, Maunula L, von Bonsdorff CH, Hoehne M, Schreier E, et al. International collaborative study to compare reverse transcriptase PCR assays for detection and genotyping of noroviruses. *Journal of Clinical Microbiology*. 2003 Apr;41(4):1423-33.
16. Beller M, Ellis A, Lee SH, Drebot MA, Jenkerson SA, Funk E, et al. Outbreak of viral gastroenteritis due to a contaminated well - International consequences. *JAMA-J Am Med Assoc*. 1997 Aug;278(7):563-8.
17. Glass RI, Noel J, Ando T, Fankhauser R, Belliot G, Mounts A, et al. The epidemiology of enteric caliciviruses from humans: A reassessment using new diagnostics. *J Infect Dis*. 2000 May;181:S254-S61.
18. Daniels NA, Bergmire-Sweat DA, Schwab KJ, Hendricks KA, Reddy S, Rowe SM, et al. A foodborne outbreak of gastroenteritis associated with Norwalk-like viruses: first molecular traceback to deli sandwiches contaminated during preparation. *J Infect Dis*. 2000;181(4):1467-70.
19. Kohn MA, Farley TA, Ando T, Curtis M, Wilson SA, Jin Q, et al. An outbreak of Norwalk virus gastroenteritis associated with eating raw oysters. Implications for maintaining safe oyster beds. *JAMA*. 1995;273(6):466-71.
20. Widdowson MA, Sulka A, Bulens SN, Beard RS, Chaves SS, Hammond R, et al. Norovirus and foodborne disease, United States, 1991-2000. *Emerg Infect Dis*. 2005 Jan;11(1):95-102.
21. Lee WM, Monroe SS, Rueckert RR. Role of maturation cleavage in infectivity of picornaviruses: activation of an infectious particle. *J Virol*. 1993;67(4):2110-22.

22. LeGuyader F, Neill FH, Estes MK, Monroe SS, Ando T, Atmar RL. Detection and analysis of a small round-structured virus strain in oysters implicated in an outbreak of acute gastroenteritis. *Appl Environ Microbiol.* 1996 Nov;62(11):4268-72.
23. Monroe SS, Schlesinger S. RNAs from two independently isolated defective interfering particles of Sindbis virus contain a cellular tRNA sequence at their 5' ends. *Proceedings of the National Academy of Sciences of the United States of America.* 1983;80(11):3279-83.
24. Ho MS, Glass RI, Monroe SS, Madore HP, Stine S, Pinsky PF, et al. Viral gastroenteritis aboard a cruise ship. *Lancet.* 1989;2(8669):961-5.
25. Mitchell DK, Monroe SS, Jiang X, Matson DO, Glass RI, Pickering LK. Virologic features of an astrovirus diarrhea outbreak in a day care center revealed by reverse transcriptase-polymerase chain reaction. *J Infect Dis.* 1995;172(6):1437-44.

Committee on Energy and Commerce
U.S. House of Representatives
Witness Disclosure Requirement - "Truth in Testimony"
Required by House Rule XI, Clause 2(g)(5)

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|---|-----------------|-----------|
| 1. Your Name: Stephan S. Monroe, PhD | | |
| 2. Your Title: Associate Director for Laboratory Science and Safety, CDC | | |
| 3. The Entity(ies) You are Representing: DHHS / Centers for Disease Control and Prevention | | |
| 4. Are you testifying on behalf of the Federal, or a State or local government entity? | Yes X | No |
| 5. Please list any Federal grants or contracts, or contracts or payments originating with a foreign government, that you or the entity(ies) you represent have received on or after January 1, 2013. Only grants, contracts, or payments related to the subject matter of the hearing must be listed. Nothing to report | | |
| 6. Please attach your curriculum vitae to your completed disclosure form. | | |

Signature: _____



Date: 4/14/2016