

Marco Salemi, Ph.D.

Citizenship: Italian

Primary Languages: Italian, English

Other Languages: Spanish (Intermediate), Portuguese (Intermediate), French (Beginner), Dutch (Beginner).

CURRENT AFFILIATION

University of Florida College of Medicine (UF-COM), Dept. Pathology, Immunology & Laboratory Medicine, Emerging Pathogens Institute, P.O. Box 103633, 2055 Mowry Rd, Gainesville, FL 32610, Phone/fax +1 352 273 8288/8284.

DEGREES

- Ph.D. in Science. 1999. Catholic University, Leuven, Belgium.
- Post-graduate school in Biotechnology Application. 1995. University of Milan, Italy.
- B.S. with full marks in Chemistry, 1991. University of Pavia, Italy.

SCIENTIFIC APPOINTMENTS

- 2015-current. Associate Professor with Tenure. Department of Pathology Immunology and Laboratory Medicine. University of Florida, Gainesville, FL, USA.
- 2013-2014. Associate Professor. Department of Pathology Immunology and Laboratory Medicine. University of Florida, Gainesville, FL, USA.
- 2010-2012. Assistant Professor. Department of Pathology Immunology and Laboratory Medicine. University of Florida, Gainesville, FL, USA.
- 2004-2009. Research Assistant Professor. Department of Pathology, University of Florida (UF), Gainesville, Florida, U.S.A.
- 2002-2004. Postdoctoral Researcher. Laboratory of Prof. Walter Fitch, University of California Irvine (UCI), Irvine, California, U.S.A.
- 1999-2002, Postdoctoral scientist. Laboratory of Prof. Anne-Mieke Vandamme, Rega Institute, Catholic University of Leuven, Belgium.
- 1996-1999. Mary Curie Fellow. Laboratory of Prof. Anne-Mieke Vandamme, Rega Institute, Catholic University of Leuven, Belgium.
- 1991-1996. Postgraduate fellow. Laboratory of Prof. Umberto Bertazzoni, "Istituto di Genetica Biochimica ed Evoluzionistica" (Institute of Genetics, Biochemistry and Evolution) of CNR (National Research Center), Pavia, Italy.

RESEARCH INTERESTS

As Marie-Curie Fellow at the Rega Institute (Leuven, Belgium), and post-doctoral scientist with Walter M. Fitch at the University of California, Irvine (USA), I have been trained in the field of molecular evolution of viruses and phylogenetic analysis. During the last ten years, as faculty at the University of Florida, Gainesville (U.S.A.), my research interests have included molecular epidemiology, intra-host viral evolution, and the application of phylogenetic and population genetic methods to the study of human and simian pathogenic viruses (in particular HIV/SIV, HCV, HTLV and influenza). More recently, I have been applying the Bayesian coalescent framework to study the molecular evolution and phylogeography of emergent and re-emergent bacterial pathogens, such as *MRSA*, *Neisseria Meningitidis* and *Vibrio cholerae*, using genome-wide SNPs. In addition, my laboratory has developed *ad hoc* protocols for the generation of high-throughput sequence data (including DNA sequencing and miRNA expression profiles) and droplet digital PCR quantitative analyses of viral and bacterial pathogens, as well as several automated bioinformatic and machine learning pipelines for the analysis of large data sets (big data analysis).

HONORS & AWARDS

- 2012. University of Florida Excellence Awards for Assistant Professors.
- 2008. *Honor Aedificanti* Award for his efforts in AIDS research, Kiwanis International Association, Caltanissetta, Italy, December 5th 2008.
- 2004. Distinguished International Educator of the Year Award, University of Florida, Gainesville, U.S.A.
- 2002. Award from the Catholic University of Leuven for the best PhD thesis in Science
- 2001. Award for best scientific paper originated in Ireland: **M. Salemi**, et al. Dating the common ancestor of SIVcpz and HIV-1 group M and the origin of HIV-1 subtypes using a new method to uncover clock-like molecular evolution. *The FASEB J.* **15**:267-268, 2000.
- 1999-2000. His biography has been included in Who's Who in the world as young scientist.
- 1999. Invited Speaker (HTLV and the molecular clock) at the Fourth European Conference on Experimental AIDS Research, ECEAR 99. Tampere, Finland, June 18-21.
- 1999. Young Researcher Award for the abstract: The evolutionary rate of HTLV-II in injecting drug users is 50 to 200 times faster compared to in endemically infected Amerindian and Pygmy tribes. **M. Salemi**, J. Desmyter, A-M. Vandamme. Ninth International Conference on Human Retrovirology: HTLV. Kagoshima, Japan, April 5-9.
- 1998. Best Congress contribution award for the abstract: Post-Colombian introduction of HTLV-I in Latin America. S. Van Dooren, **M. Salemi**, E. Gotuzzo, E. Audenaert, S. Duwe, H. Ellerbrok, R. Grassmann, J. Desmyter and A-M Vandamme. Third European Conference on Experimental AIDS Research. Munich, Germany, February 28-March 3.
- 1996. Awarded with Marie Curie Fellowship, European Union, for the project "Molecular investigation on the origin and genetic stability of Human T-lymphotropic viruses".

EDITORIAL REVIEWER

Nature, Nature Medicine, Science, Science Translational Medicine, P.N.A.S., PLoS Pathogens, PLoS Computational Biology, Bioinformatics, Molecular Biology and Evolution, Journal of Virology, Journal of Molecular Evolution, Molecular Phylogenetics and Evolution, Emerging Infectious Diseases, Retrovirology, BMC Evolutionary Biology, AIDS Research and Human Retroviruses, Journal of Infectious Diseases.

EDITORIAL APPOINTMENTS

Associate Editor of PLoS ONE; Academic Editor of Retrovirology; Academic Editor of Journal of Virology; Academic Editor of New Microbiologica.

SELECTED INVITED TALKS

- Apr 2016 SIV phyloanatomy in the macaque model of neuroAIDS: a new framework to study the interplay between viral evolution and pathogenesis. Invited Lecture. CFAR Seminar Series, University of Miami, FL, USA.
- Mar 2016 Phylodynamics and phylogeography of infectious diseases. Invited Speaker. Academician Nicolae Cajal Symposium of the Romanian Academy of Medical Sciences, Bucharest, Romania.
- Sep 2015 Phylodynamic analysis of viral and bacterial pathogens in the genomics era. Invited Speaker. 10th International Conference on Information Processing in Cells and Tissues. San Diego, California.
- Aug 2015 SIV intra-host population dynamics in peripheral blood and tissues. Invited Seminar. University of Miami CFAR Web-seminars.
- Jul 2015 Towards a genomic epidemiology of microbial pathogens. Invited Seminar. University Hospitals – Campus Bio-Medico, Rome, Italy.
- Jun 2015 Impact of evolution, selection, and spatial dispersion on Ebola Zaire Virus (EBOV) epidemic waves. Invited Seminar. University of Florida Emerging Pathogens Institute, Gainesville, FL, USA.
- Mar 2015 Genomic epidemiology of bacterial pathogens: from cutting-edge research to clinical practice. Invited Seminar. University Hospitals – Campus Bio-Medico, Rome, Italy.

- Feb 2015 The phylodynamics and phylogeography of infectious diseases. Invited Seminar. Boston College, Boston, MA, USA.
- Nov 2014 Phylodynamics of Clinical and Environmental Toxigenic *Vibrio cholerae* O1 in Haiti. Invited Seminar. Sanger Institute, Cambridge, UK.
- Oct 2014 Intra-host evolution and pathogenesis of human and simian immunodeficiency viruses. Invited Seminar. University of Missouri Kansas City (UMKC), Oct 23, 2014.
- May 2014 HIV-1 Evolutionary Dynamics in HLA-B*5701 Subjects with Different Risk of Disease Progression. Invited Speaker. 21st Annual HIV Dynamics & Evolution Conference, Tucson, AZ, USA.
- April 2014 .Intrahost phylodynamics and phylogeography in the SIV macaque model of neuroAIDS. Invited Speaker. Center for Disease Control and Prevention, Atlanta, GA, USA.
- Nov 2013. Intra-host Bayesian Phylogeography Infers Tempo and Mode of Neuropathogenesis in SIVmac251 Infected CD8-lymphocyte Depleted Rhesus Macaques. Invited Speaker. 31st Annual Symposium on Nonhuman Primate Models for AIDS. Atlanta, GA, USA.
- Oct 2013 Intra-host phylogeography of SIV brain invasion in the rhesus macaque model of NeuroAIDS. Invited Speaker. HIV/SIV phylodynamics and neuroAIDS Discussion. Istituto Superiore di Sanita, Rome, Italy.
- July 2013 Viral Quasispecies from the data derived from Sequencing Techniques of Last Generation. Invited Teacher. First International Bioinformatics Workshop on Molecular Biology and Evolution of Viruses. Salvador-Bahia, Brazil.
- April 2013 Phylodynamic analysis of brain infection in the SIV infected macaque model of NeuroAIDS. Invited Speaker. 19th Society for NeuroImmune Pharmacology (SNIP) Conference. San Juan, Puerto Rico.
- Mar 2012 Themed discussion on “Molecular epidemiology: primate viruses and how they affect humans”. Discussant and Chairman. 19th Conference on Retroviruses and Opportunistic Infections (CROI). Seattle, WA, USA.
- Nov 2011 Phylogeography of human infectious diseases. Keynote Speaker. 12th Annual Symposium on Antiviral Drug Resistance: Targets & Mechanisms. Hershey, PA, USA.
- June 2011 HIV/SIV intra-host phylodynamics and neuropathogenesis. Invited Lecturer. Henry M. Jackson Foundation, Rockville, MD, USA.
- June 2011 Retrovirus evolution and molecular anthropology HTLV and Related Viruses. Invited Speaker. Tenth International Conference on Human Retrovirology. Trinity College, Dublin, Ireland.
- May 2010 HIV-1 Molecular Epidemiology and Pathogenesis: A Phylodynamic Approach. Invited Speaker. Aaron Diamond AIDS Research Center. New York, NY, USA.
- April 2010 Phylogenetic challenges in the retroviridae branch of the tree of life. Keynote Speaker. 1st Symposium on Reconstructing the Tree of Life: Computational Challenges and Solutions. Gainesville, FL, USA.
- Oct 2009 .Investigating HIV-1 epidemic emergence in Africa by Landscape Phylodynamics: a framework integrating geospatial, anthropological and phylogenetic data. Invited Speaker. International USA-Russia Symposium on HIV prevention science. Moscow, Russia.
- Feb 2009 The evolution of infectious diseases. Plenary Lecture. Darwin Day. University of Ferrara and Museum of Natural History. Ferrara, Italy.
- Dec 2008 Inter- and intra-host phylodynamics of RNA viruses. Plenary Lecture. Workshop on Bioinformatics and Molecular Epidemiology of Pathogens. Italian Institute of Health. Rome, Italy.
- May 2007 Intra-patient phylodynamics of Human Immunodeficiency Virus Type 1 (HIV-1). Invited Lecturer. Harvard Medical School, Beth Israel Deaconess Medical Center. Boston, MD, USA.

NATIONAL AND INTERNATIONAL TEACHING EXPERIENCE

- 2015. Co-organizer and Instructor at the 3rd *International Workshop “Bioinformatics for NextGen sequence analysis and phylodynamics of infectious diseases*, Hospital Nacional de Pediatría “Juan P. Garrahan”, Buenos Aires, Argentina.
- 2013-current. Spring semester – 3 credits course – *Introduction to phylodynamics: a practical approach to molecular phylogenetics of pathogens*. University of Florida, Gainesville.
- 2012. Spring semester – 2 credits course – *Introduction to phylodynamics: a practical approach to molecular phylogenetics of pathogens*. University of Florida, Gainesville.
- 2010. Fall semester – 1 credit course – *Molecular evolution and phylogenetics journal club*. University of Florida, Gainesville.

- 1997-current. Co-organizer and Instructor at the Annual Workshop on *Virus Evolution and Molecular Epidemiology* (<http://regaweb.med.kuleuven.be/workshop>): Katholieke Universiteit Leuven, Belgium, 1997-2002; Stanford University, CA, USA, 2003; The Finnish National Public Health Institute, Helsinki, Finland, 2004; Institute of Health, Lisbon, Portugal, 2007; South African National Bioinformatics Institute, Cape Town, South Africa, 2008; Erasmus Medical Center, Rotterdam, The Netherlands, 2009; Johns Hopkins University, Baltimore, MD, USA, 2010; University of Belgrade, Serbia, 2012; University of Florida Gainesville, FL, USA, 2013; National Institute for Infectious Diseases "L. Spallanzani", Rome, Italy, 2014; University of the West Indies, Trinidad and Tobago, 2015).
- 2011. Instructor at the *Bioinformatics for Phylogenetic Reconstruction in Virology training course*, Hospital Nacional de Pediatría "Juan P. Garrahan", Buenos Aires, Argentina.
- 2002-2010. Instructor and co-Organizer of the *Yearly Italian Workshop on Virus Evolution and Molecular Epidemiology*, Istituto Superiore di Sanità (Italian Institute of Health), Roma, Italy.
- 2007. Instructor and Lecturer at the *Brazilian Workshop on Virus evolution and Data mining*, University of Fiocruz, Salvador de Bahia, Brazil.
- 2005. Instructor at the *Taiwan Workshop of Molecular Evolution*, Taipei, Taiwan.
- 2004. Instructor at the *Second Brazilian Workshop on Virus Evolution and Molecular Epidemiology*, Salvador de Bahia, Brazil.
- 2003. Instructor at the *South African Workshop on Viral Molecular evolution* at the Nelson Mandela School Medicine, Durban, South Africa.
- 2002. Instructor at the First Brazilian Workshop on *Virus Evolution and Molecular Epidemiology*, Salvador de Bahia, Brazil.

PHD STUDENTS TEACHING/MENTORING

- Taylo Paisie [Supervisor]
- Brittany Rife, IDP Medical Sciences [Supervisor]
- Yaser Alasahafi [co-Supervisor]
- Taj Hassan Azarian, Epidemiology [Co-Supervisor]: graduated in spring 2015
- Samantha Strickland, IDP Medical Sciences [Supervisor]: graduated in fall 2013
- Cameron Browne, Applied Mathematics [Co-supervisor]: graduated in spring 2013

REVIEWING PANEL AND COMMITTEE APPOINTMENTS

- Member of the N.I.H. *Study Section for PAR-14-041 – Centers for AIDS Research and Developmental Centers for AIDS Research (P30)*, December 12th – 13th, 2016.
- Member of the N.I.H. study section for *AARRH52 Planning Grant for Global Infectious Disease Research Training Program*. Bethesda, MD, USA, December 11th, 2015.
- Member of the N.I.H. *Special Emphasis for ZAI1-UKS-A-J1 – Centers for AIDS Research (CFAR)*. Bethesda, MD, USA, October 26th – 27th, 2015.
- Member of the N.I.H. *Special Emphasis Panel for AARR M 50, RFA-AI-14-057 – U.S.-China Program for Research Toward a Cure for HIV/AIDS*. Bethesda, MD, USA, March 24th, 2015.
- Member of the N.I.H. *Special Emphasis Panel – Centers for AIDS Research (CFAR)*. Bethesda, MD, USA, November 17th – 19th, 2014.
- Member of the N.I.H. *Special Emphasis Panel/Scientific Review Group 2014/01 ZRG1 AARR-E02 –HIV/AIDS*. Bethesda, MD, USA, April 9th – 10th, 2014.
- Member of the N.I.H. *Special Emphasis Panel/Scientific Review Group 2014/01 ZRG1 AARR-E (03) M –HIV/AIDS*. Bethesda, MD, USA, December 18th – 19th, 2013.
- Member of the N.I.H. *Study Section for ZRG1 AARR-D(50) – Eradication of HIV-1 from CNS reservoirs: implication for therapeutics (RFA)*. Bethesda, MD, USA, November 15th 2013.
- Member of the N.I.H. *Special Emphasis for PAR 11-108 – Centers for AIDS Research (CFAR)*. Bethesda, MD, USA, September 21st - 23rd, 2011.

- Member of the N.I.H. *Study Section for RFA-AI-10-009 — Martin Delaney Collaboratory: Towards an HIV-1 Cure (U19)*. Bethesda, MD, USA, April 4th - 6th, 2011.
- Member of the *Natural History and Epidemiology Planning Group*, U.S. Department of Health and Human Services, NIH, Office of AIDS Research, 2011 – 2016.
- Member of *ICBR-Genomic Cores advisory group*, University of Florida Gainesville, 2015.
- Member of the *UFII Seed Grants Committee*, University of Florida Gainesville, 2015.
- Member of the *Computational Biology Advisory Committee*, University of Florida Gainesville, 2010 – 2013.
- Member of the *Computational Biology Seed Grants Committee*, University of Florida Gainesville, 2009.

PUBLICATIONS

Chief Editor and contributor of two major textbooks in the field of molecular evolution and phylogenetic analysis:

1. **M. Salemi** and A-M. Vandamme (eds.) *The Phylogenetic Handbook: A Practical Approach to DNA and protein phylogeny*. Cambridge University Press, New York, NY, USA, 2003.
2. P. Lemey, **M. Salemi**, A-M Vandamme (eds.) *The Phylogenetic Handbook: A Practical Approach to phylogenetic analysis and hypothesis testing*. Cambridge University Press, New York, NY, USA, 2009.

Additional contribution to book chapters:

3. **M. Salemi**. Bioinformatics. *Telemedicine Glossary 3rd edition*, pp. 33-34. European Commission Directorate General, Brussels, 2001.

Peer-reviewed papers:

1. B. Rife Magalis, D. Nolan, P. Autissier, T. Burdo, K. Williams, **M. Salemi**. Insights into the impact of CD8+ immune modulation on HIV evolutionary dynamics in distinct anatomical compartments using SIV-infected macaque models of AIDS progression. *Journal of Virology*: in press.
2. B. Vorbach, D. Rotstein, N. Stacy, C. Mavian, **M. Salemi**, T. Waltzek, M. de Wit. Fatal Systemic Salmonellosis in a Florida manatee (*Trichechus manatus latirostris*). *Journal of Wildlife Diseases*: in press.
3. S. C. Claytor, K. Subramaniam, N. Landrau-Giovannetti, V. G. Chinchar, M. J. Gray, D. L. Miller, C. Mavian, **M. Salemi**, S. Wisely, T. B. Waltzek. Ranavirus phylogenomics: Signatures of recombination and inversions among bullfrog ranaculture isolates. *Virology*: in press.
4. C. Mavian, B. D. Rife, J. J. Dollar, E. Cella, M. Ciccozzi, M. C. F. Prospero, J. Lednicky, J. G. Morris, I. Capua, **M. Salemi**. Emergence of recombinant Mayaro virus strains from the Amazon basin. *Scientific Reports* **18**:7(1):8718, 2017.
5. M. Elbadry, S. White, J. Loeb, M. Tagliamonte, **M. Salemi**, J. V. M. Beau De Rochars, B. Okech, J. G. Morris Jr, J. Lednicky. Complete Genomic Sequence of Dengue virus 1, Isolated from Plasma Collected from a Haitian Child in 2014. *Genome Announcement* **5**(22), 2017.
6. G. M. Blohm, J. A. Lednicky, M. Márquez, S. K. White, J. C. Loeb, C. A. Pacheco, D. J. Nolan, T. Paisie, **M. Salemi**, A. J. Rodríguez-Morales, J. G. Morris Jr, J. R. C. Pulliam, A. S. Carrillo, J. D. Plaza, A. E. Paniz-Mondolfi. Complete Genome Sequences of Identical Zika virus Isolates in a Nursing Mother and Her Infant. *Genome Announcement* **5**(17), 2017.
7. E. Cella, M. Ciccozzi, A. Lo Presti, M. Fogolari, T. Azarian, M. Prospero, **M. Salemi**, M. Equestre, F. Antonelli, A. Conti, M. Cesaris, S. Spoto, R. A. Incalzi, R. Coppola, G. Dicuonzo, S. Angeletti. Multi-drug resistant *Klebsiella pneumoniae* strains circulating in hospital setting: whole-genome sequencing and Bayesian phylogenetic analysis for outbreak investigations. *Scientific Reports* **7**(1):3534, 2017.
8. G. B. Fogel, E. S. Liu, D. J. Nolan, **M. Salemi**, A. E. Barbier, R. Rose, E. J. Singer, M. S. McGrath. Predicted coreceptor usage at end-stage HIV disease in tissues derived from subjects on antiretroviral therapy with an undetectable plasma viral load. *Infection Genetics and Evolution* **51**, 194-197, 2017.
9. D. J. Nolan, S. L. Lamers, R. Rose, J. J. Dollar, **M. Salemi**, M. S. McGrath. Single Genome Sequencing of Expressed and Proviral HIV-1 Envelope Glycoprotein 120 (gp120) and nef Genes. *Bio-protocol* **7**(12), 2017.
10. S. Zhou, E. Cella, W. Zhou, W. H. Kong, M. Q. Liu, **M. Salemi**, M. Ciccozzi, X. Chen. Population dynamics of HCV subtypes in injection drug-users on methadone maintenance treatment in China associated with economic and health reform. *Journal of Viral Hepatitis* **24**(7):551-560, 2017.
11. K. Cherabuddi, N. M. Iovine, K. Shah, S. K. White, T. Paisie, **M. Salemi**, J. G. Morris JG Jr, J. A. Lednicky. Zika

- and Chikungunya virus co-infection in a traveler returning from Colombia: virus isolation and genetic analysis. *Journal of Molecular Medicine Case Reports* **3**(6):e005072, 2016.
12. J. Mallard, E. Papazian, C. Soulas, D. J. Nolan, **M. Salemi**, K. C. Williams. A method for obtaining simian immunodeficiency virus RNA sequences from laser capture microdissected and immune captured CD68+ and CD163+ macrophages from frozen tissue sections of bone marrow and brain. *Journal of Immunological Methods* **442**:59-63, 2017.
 13. V. Beau de Rochars, J. Lednicky, S. White, J. Loeb, M. Elbadry, T. Telisma, S. Chavannes, M. G. Anilis, E. Cella, M. Ciccozzi, B. Okech, **M. Salemi**, J. G. Morris Jr. Isolation of Coronavirus NL63 from blood from children in rural Haiti: Phylogenetic similarities with recent isolates from Malaysia. *American Journal of Tropical Medicine & Hygiene* **96**(1):144-147, 2017.
 14. N. Iovine, J. Lednicky, K. Cherabuddi, H. Crooke, S. K. White, J. C. Loeb, E. Cella, M. Ciccozzi, **M. Salemi**, J. G. Morris. Co-Infection with Zika and Dengue-2 Viruses in a Traveler Returning from Haiti, 2016: Clinical Presentation and Genetic Analysis. *Clinical Infectious Diseases* **64**(1):72-75, 2017.
 15. T. Azarian, A. Ali, J. A. Johnson, M. Jubair, E. Cella, M. Ciccozzi, D. J. Nolan, W. Farmerie, M. A. Rashid, S. Sinha-Ray, M. T. Alam, J. G. Morris, **M. Salemi**. Non-toxigenic environmental *Vibrio cholerae* O1 strains from Haiti provide evidence of pre-pandemic Cholera in Hispaniola. *Scientific Reports* **6**:36115, 2016.
 16. J. Min, E. Cella, M. Ciccozzi, A. Pelosi, **M. Salemi**, M. Prosperi. The global spread of Middle East Respiratory Syndrome: an analysis fusing traditional epidemiological tracing and molecular phylodynamics. *Global Health Research and Policy* **1**(14):1-14, 2016.
 17. J. Lednicky, V. Madsen Beau De Rochars, M. El Badry, J. Loeb, T. Telisma, S. Chavannes, G. Anilis, B. Okech, **M. Salemi**, J. G. Morris Jr. Isolation of Mayaro virus from a child with acute febrile illness in Haiti. *Emerging Infectious Diseases* **22**(11):2000-2002, 2016.
 18. T. Azarian, N. F. Maraqa, R. L. Cook, J. A. Johnson, C. Bailey, S. Wheeler, D. Nolan, M. H. Rathore, J. G. Morris Jr., **M. Salemi**. Genomic Epidemiology of Methicillin-resistant *Staphylococcus aureus* in a Neonatal Intensive Care Unit. *PLoS ONE* **11**(10):e0164397, 2016.
 19. S. L. Lamers, R. Rose, D. J. Nolan, G. B. Fogel, A. E. Barbier, **M. Salemi**, M. S. McGrath. HIV-1 Evolutionary Patterns Associated with Metastatic Kaposi's Sarcoma during AIDS. *Sarcoma* 4510483, 2016.
 20. M. C. Ngwa, T. Masalla, S. Esemu, F. F. Fumoloh, I. Kracalik, E. Cella, M. T. Alam, J. Akoachere, S. Liang, **M. Salemi**, J. G. Morris, A. Ali, L. M. Ndip. Genetic Studies of *Vibrio cholerae* in South West Cameroon—A Phylogenetic Analysis of Isolates from the 2010-2011 Epidemic. *PLOS Currents Outbreaks*. Edition 1, doi: 10.1371/currents.outbreaks.13b4e5e36a5c0831a1663fbd5713fe9, 2016.
 21. S. L. Lamers, R. Rose, E. Maidji, M. Aghsalda-Garcia, D. J. Nolan, G. B. Fogel, **M. Salemi**, D. L. Garcia, P. Bracci, W. Yong, D. Commins, J. Said, N. Khanlou, C. H. Hinkin, M. Valdes Sueiras, G. Mathisen, S. Donovan, B. Shirimizu, C. A. Stoddart, M. S. McGrath, E. J. Singer. HIV DNA is frequently present within pathologic tissues evaluated at autopsy from cART-treated patients with undetectable viral load. *Journal of Virology* **90**(20):8968-83, 2016.
 22. R. Rose, S. L. Lamers, D. J. Nolan, E. Maidji, N. R. Faria, O. G. Pybus, J. J. Dollar, S. A. Maruniak, A. C. McAvoy, **M. Salemi**, C. Stoddart, E. Singer, M. S. McGrath. HIV maintains an evolving and dispersed population among multiple tissues during suppressive cART with periods of rapid expansion corresponding to the onset of cancer. *Journal of Virology* **90**(20):8984-93, 2016.
 23. T. Azarian, R. S. Daum, L. A. Pett, J. L. Steinbeck, Z. Yin, D. Nolan, S. Boyle-Vavra, W. P. Hanage, **M. Salemi**, M. Z. David. Intra-host evolution of Methicillin-resistant *Staphylococcus aureus* USA300 among individuals with reoccurring skin and soft tissue infections. *Journal of Infectious Diseases* **214**(6):895-905, 2016.
 24. D. Rife, D. J. Nolan, S. L. Lamers, P. Autissier, T. Burdo, K. C. Williams, **M. Salemi**. Evolution of neuroadaptation in the periphery and purifying selection in the brain contribute to compartmentalization of Simian Immunodeficiency Virus (SIV) in the brain of rhesus macaques with SIV-associated encephalitis. *Journal of Virology* **32**(8), 829-40, 2016.
 25. M. El Badry, J. Lednicky, E. Cella, T. Telisma, S. Chavannes, J. Loeb, M. Ciccozzi, B. Okech, V. Madsen Beau De Rochars, **M. Salemi**, J. Glenn Morris Jr. Isolation of an Enterovirus D68 from blood from a child with pneumonia in rural Haiti: Close phylogenetic linkage with New York strain. *Pediatric Infectious Disease Journal* **35**(9), 1048-50, 2016.
 26. S. L. Lamers, G. B. Fogel, E. S. Liu, **M. Salemi**, M. S. McGrath. On the Physicochemical and Structural Modifications Associated with HIV-1 Subtype B Tropism Transition. *AIDS Research and Human Retroviruses* **32**(8), 829-40, 2016.

27. S. L. Lamers, R. Rose, L. C. Ndhlovu, D. J. Nolan, **M. Salemi**, E. Maidji, C. A. Stoddart, M. S. McGrath. The meningeal lymphatic system: a route for HIV brain migration? *Journal of Neurovirology* **22**(3), 275-81, 2016.
28. J. Lednicky, V. M. Beau De Rochars, M. El Badry, J. Loeb, T. Telisma, S. Chavannes, G. Anilis, E. Cella, M. Ciccozzi, M. Rashid M, B. Okech, **M. Salemi**, J. G. Morris Jr. Zika virus outbreak in Haiti in 2014: molecular and clinical data. *PLoS Neglected Tropical Diseases* **10**(4):e0004687. doi: 10.1371/journal.pntd.0004687, 2016.
29. E. Cella, I. Gabrielli, G. Zehender, M. Giovanetti, A. Lo Presti, A. Lai, G. Dicuonzo, S. Angeletti, **M. Salemi**, M. Ciccozzi. Phylogeny of Murray Valley Encephalitis Virus in Australia and Papua New Guinea. *Asian Pacific Journal of Tropical Medicine* **9**(4), 385-9, 2016.
30. N. Jain, C. E. Morgan, B. D. Rife, **M. Salemi**, B. S. Tolbert. Solution structure of the HIV-1 Intron Splicing Silencer and its Interactions with the UPI domain of hnRNP A1. *Journal of Biological Chemistry* **291**(5), 2331-44, 2016.
31. **M. Salemi**, B. D. Rife. Phylogenetics and phyloanatomy of HIV/SIV intra-Host compartments and reservoirs: the key role of the central nervous system. *Current HIV Research* **14**(2), 110-20, 2016.
32. G. B. Fogel, S. L. Lamers, E. S. Liu, **M. Salemi**, M. S. McGrath. Identification of dual-tropic HIV-1 using evolved neural networks. *Biosystems* **137**, 12-9, doi: 10.1016/j.biosystems.2015.09.007, 2015.
33. P. A. Chan, J. W. Hogan, A. Huang, A. DeLong, **M. Salemi**, K. H. Mayer, R. Kantor. Phylogenetic investigation of a statewide HIV-1 epidemic reveals ongoing and active transmission networks among men who have sex with men. *Journal of Acquired Immunodeficiency Syndrome* **70**(4), 428-35, 2015.
34. B. D. Rife, **M. Salemi**. Intra-host Bayesian phylogeography linking viral evolution and pathogenesis comes to an age. *British Journal of Virology* **2**(4), 58-61, 2015.
35. L. A. Santos, R. R. Gray, J. P. Monteiro-Cunha, E. S. Rodrigues, E. S. Santos, T. H. Araujo, M. S. Gonçalves, **M. Salemi**, L. C. Alcantara. Phylodynamics analysis of the Human Immunodeficiency Virus type 1 (HIV-1) envelope gene in mother and child pairs. *AIDS Res Hum Retroviruses* **31**(9), 913-20, 2015.
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RESEARCH SUPPORT

Current:

- **2017 UF Informatics Institute SEED Fund – DeepPhylo: integrating Deep Learning and Bayesian Phylogenetic Inference to optimize and improve phylodynamic analyses using Zika Virus Epidemic data**
Role: Principal Investigator
Dates: 8/15/17 – 8/15/18
Budget: \$44,000
- **NIH R01 AI128750-01 – Cholera persistence, transmission and clinical illness in Haiti**
Role: Co-Investigator
Dates: 1/1/17 – 12/31/21
Budget: \$490,000
- **NIH R01 AI126357-01 – Cholera transmission and evolution in Port-au-Prince, Haiti**
Role: Co-Investigator
Dates: 7/1/16 – 6/30/21
Budget: \$494,290
- **NIH R01AI123657-01S1 – Transmission of Zika and other arboviruses in Haiti**
Role: Co-investigator
Dates 7/1/216 – 6/30/20
Budget: \$1,758,905
- **NIH R01 AI116770-01 – Regression, Phylogenetics, and Study Design in Infectious Disease Epidemiology**
Role: Co-Investigator
Dates: 01/01/16-12/31/20
Budget: \$250,000

Previous:

- **NIH P50 GM103297-01 – The Center for HIV RNA Studies (CRNA)**
Role: Principal Investigator of Bioinformatics Core

Dates 9/17/12 - 08/31/17

Budget: \$823,808

- **NIH F31 AI126357-01 – Intra-host phylogeography and population dynamics of SIV in the rhesus macaque model of neuroAIDS**
Role: Mentor/Principal Investigator
Dates: 7/1/16 – 6/30/17
Budget: \$75,530
- **NIH RO1MH100984 Molecular Features and Approach to the HIV CNS Reservoir Post cART**
Role: Co-Principal Investigator
Dates: 04/01/13-08/31/17
Budget: \$555,957
- **US Department of Homeland Security. Mapping and modeling Bacillus anthracis and Clostridium botulinum across North Africa and the Middle East with high-resolution genetic sequencing and spatial analysis.**
Role: Co-Investigator
Dates: 6/1/16 – 5/31/17
Budget: \$44,272
- **Florida Department of Health (FL DOH) – Whole Genome Sequencing of Neisseria meningitidis serogroup W135 Isolates Belonging to a Clone Emerging in Florida.**
Role: Principal Investigator
Dates 09/01/2014 - 08/31/16
Budget: \$102,000
- **NIH R01 – Monocyte Traffic and Neuropathogenesis of AIDS**
Role: Investigator
Dates 10/01/15 to 6/30/2016
- **NIH R01 AI097405 – Cholera transmission in Gressier region, Haiti.**
Role: Co- Principal Investigator
Dates 12/1/11-11/30/15
- **NIH R01AI097405-03– Cholera transmission in Gressier Region, Haiti - Supplement**
Role: Principal Investigator of supplement
Dates: 08/01/14 - 11/30/15
- **NIH R01 NS063897-01A2 - Viral evolution in peripheral macrophages and brain during progression to AIDS.**
Role: Principal Investigator
Dates 02/15/09 – 01/31/15
- **NIH R01 NS053359 – HIV-1 specific immune responses in Thai individuals with HIV dementia.**
Role: Principal Investigator of UF subcontract
Dates 08/11/10- 07/31/13
- **2011 UF Clinical and Translational Science Institute (CTSI) Pilot Award—Solving the puzzle of quasispecies reconstruction using next-generation sequencing technologies.**
Role: Principle Investigator (no salary for faculty)
Dates: 05/01/11-09/30/12
- **2010 UF Research Opportunity Fund - Development of a phylogeographic framework to investigate the origin and spread of cholera pandemics.**
Role: Co-Principal Investigator (no salary for faculty)
Dates: 05/10-04/12.
- **EPI seed funding—Preliminary study on the phylogeography of hospital acquired methicillin-resistant staphylococcus aureus (HA-MRSA) in different North Florida hospitals using genome-wide data.**
Role: Principal Investigator (no salary for faculty)
Dates: 12/01/10-05/31/11
- **NIH R01 AI065265 - Role of HIV-1 env diversity in cellular tropism.**
Role: Co-Investigator
Dates: 02/15/06- 01/31/11
- **NIH Contract Award # 00075848 - Analysis of HIV sequence data.**
Role: Principal Investigator

Dates: 06/29/07- 04/30/10

- **FLORIDA CFAR seed grant - Molecular epidemiology and anthropological determinants of HIV-1 emerging epidemic in Southern Morocco.**
Role: Principal Investigator
Dates: 12/08-05/10.
- **UF Experimental Pathology Innovative Grant (EPIG) Award - Landscape Phylodynamics: a New Framework To Study Epidemics Of Emerging Pathogens.**
Role: Principal Investigator
Dates: 09/08-05/09.