

CURRICULUM VITAE

Name	Maria Kalamvoki
Title	Associate Professor Department of Microbiology, Molecular Genetics, Immunology University of Kansas Medical Center
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EDUCATION AND PROFESSIONAL EXPERIENCE

2021 - Today	University of Kansas Medical Center (KUMC), Department of Microbiology, Molecular Genetics, Immunology	Associate Professor-Tenured
2015-2021	University of Kansas Medical Center (KUMC), Department of Microbiology, Molecular Genetics, Immunology	Assistant Professor-Tenure track
2010-2015	University of Chicago, Department of Microbiology	Research Associate (Assistant) Professor-non tenure track
2005-2010	University of Chicago, Department of Microbiology	Postdoctoral Fellow
2004-2004	University of Ferrara, Italy, Dept. Exp. Diagn. Med. Sect. Gen. Pathol.	EMBO Fellowship
1998-2005	National and Kapodistrian University of Athens, Greece & Hellenic Pasteur Institute	Ph.D.
1994-1998	National and Kapodistrian University of Athens, Greece	B.S.

HONORS AND AWARDS

2022-2020	Standing member NIAID VIRB study section
2020	Short Talk Award (Nominated). Exosomes in Human Infectious Diseases Conference
2020	Guest Editor for a special issue in <i>Viruses</i> entitled: "Pathogenesis and Novel Antiviral Targets of Alpha herpesviruses"
2019	Selected speaker at the 38th Annual Meeting of the American Society for Virology by the Journal of Virology

2019	KUMC Travel Award
2018	KUMC Travel Award
2016	KUMC Travel Award
2004	EMBO Fellowship

GRANTS AND AWARDS

CURRENT

GR13236 Q112EP04 and GR13835 Q112SP14 (Kalamvoki M) 05/01/2015 – open

KUMC SOM Start Up Funds

FY21 Funds Remaining: \$223,000

Kalamvoki Start Up Funds

R01 AI162784 (Kalamvoki) 7/1/2021 – 6/30/2026

NIH/NIAID

Total Direct Costs: \$1,615,884

Total Indirect Costs: \$832,988

Research Project: Cargo, biogenesis and functions of extracellular vesicles released during HSV-1 infection

1R21AI144883-01A1 (PI: Kalamvoki M) 02/20/20 – 01/31/2023

NIH/NIAID

Total Direct Costs: \$275,000

Total Indirect Costs: \$145,750

Research Project: Alterations in the surfaceome of the herpes simplex virus 1 infected cells via the Cbl/CIN85 endocytic machinery and the role of the Infected Cell Protein No 0 (ICP0) in endocytosis.

1R21AI158229-01 (MPI: Kalamvoki M and Stephens E) 08/17/20- 07/31/2023

NIH/NIAID

Total Direct Costs: \$275,000

Total Indirect Costs: \$145,750

Research Project: Immunomodulatory effects of coronavirus membrane proteins E, M, and S

KUMC Enhancement award GR13902 Y6K00081

Research Project: Effect of Extracellular Vesicles on Neurons and Glial Cells During Herpes Simplex Virus 1 Infection

Total Direct Costs: \$20,000

Total Indirect Costs: \$\$0

Kansas IDeA Network of Biomedical Research Excellence (K-INBRE) 5/1/2021 – 4/30/2022

5P20GM103418-21

Total Direct Costs: \$40,000

Total Indirect Costs: \$0

Research Project: Intercellular communication through the stimulator of interferon genes STING during herpes simplex virus 1 infection

COMPLETED

Frontiers Clinical and Translational Research Pilot Study (MPI: Kalamvoki M and Stephens E)

UL1 TR002366 06/2020- 05/2021

Research Project: Immunomodulatory effects of SARS-CoV-2 membrane proteins E, M, and S

Total Direct Costs: \$50,000
Total Indirect Costs: \$0

**Frontiers Clinical and Translational Research Pilot Study (PI: Markiewicz M; Co-I: Kalamvoki M)
UL1TR002366 06/2020-05/2021**

Research Project: The role of NKG2D in SARS-CoV-2 clearance by V γ 9V δ 2 T cells
Total Direct Costs: \$50,000
Total Indirect Costs: \$\$0

P20 GM113117 (Prisinzano T) 08/24/2016 – 04/30/2020

NIH/NIGMS

Direct Costs: \$459,000
Indirect Costs: \$243,270

Chemical Biology of Infectious Disease

Research Project: Developing chemical inhibitors of essential ICP0 functions in Herpes Viruses

Kalamvoki Project Goals: My goals are to identify small compounds targeting major ICP0 functions, such as the E3 ligase activity and the interaction of ICP0 with BMAL-1. These compounds will be explored as potential antiviral targets.

Role: PI of Project Award

KUMC Enhancement award Y6K00080

Research Project: The interplay between HSV-1 ICP0 and the Cbl/CIN85 endocytic machinery and the benefits for HSV-1 infection

Total Direct Costs: \$20,000
Total Indirect Costs: \$\$0

P20 GM103418 (Wright D) 05/01/2018–04/30/2019

NIH Total Direct Costs: \$25,000

Total Indirect Costs: \$12,750

Kansas IDeA Network of Biomedical Research Excellence (K-INBRE) Postdoctoral Fellowship (Deschamps)

Deschamps Project Title: Role of viral and non-viral miRNAs carried by extracellular vesicles release during herpes simplex virus 1 infection.

Deschamps Project Goals: To elucidate the properties and functions of small RNAs delivered with extracellular vesicles released from HSV-1 infected cells.

Role: Post-Doctoral Mentor to Dr. Deschamps

UL1 TR002366 (Barohn) 06/01/2018 – 05/31/2019

Frontiers: KU Clinical and Translational Science Institute

Total Direct Costs: \$20,000

Total Indirect Costs: \$0

Pilot Project: Role of the herpes simplex virus 1 double-stranded RNA binding protein Us11 in delivering RNAs to extracellular vesicles released by HSV-1 infected cells.

Kalamvoki Project Goals: To elucidate the functions of exosomal Us11 during HSV-1 infection.

Role: PI of Project Award

COMMUNITY SERVICE AND INVITED SPEAKER

2022-2026	Standing member NIAID VIRB study section
2021	Ad hoc reviewer NIAID VIRA study section
2021	Ad hoc reviewer NIH ODSCS study section
2015-present	Ad hoc reviewer for grant applications submitted to the National Sciences and Engi-

	neering Research Council of Canada (NSERC), the Agence Nationale de la recherche (ANR-France), the Swiss National Science Foundation, the National Science Center Poland, the Croatian Science Foundation (HRZZ)
2015-present	Ad hoc reviewer for Nature Microbiology, Nature Communications, Plos Pathogens, MBIO, PNAS, Journal of Virology, Viruses, Scientific Reports, Frontiers in Microbiology, Frontiers in Immunology, Frontiers in Cellular and Infection Microbiology, Plos One, Cancers, Molecular Therapy-Nucleic Acids, Annals of Internal Medicine, Oncology Reports, F1000Research, Clinical and Translational Medicine, Pharmaceutics, IUBMB Life, Proteomes.
2016-present	Member, American Society of Virology
2016-present	Member, American Society of Microbiology
2016-present	Member, Center for Viral Pathogenesis -KUMC
2020	Guest Editor for a special issue in <i>Viruses</i> entitled: "Pathogenesis and Novel Antiviral Targets of Alphaherpesviruses"
2020	Short Talk Award (Nominated). Exosomes in Human Infectious Diseases Conference
2019	Invited speaker, 38th Annual Meeting of the American Society for Virology, selected and sponsored by the Journal of Virology, University of Minnesota
2019	Invited round table discussion for graduate students and postdocs, 38th Annual Meeting of the American Society for Virology, "Choosing a Post-doc to Meet My Needs", University of Minnesota
2019	Invited speaker, 3rd Annual Meeting on Exosomes, Microvesicles, and Infectious Disease, Potomac, MD
2019	Invited speaker, Bernard Roizman Symposium, University of Chicago
2019	Invited speaker, UMKC Seminar Series - Biology Department
2018	Selected speaker, 43rd Annual International Herpesvirus Workshop, Vancouver, CA
2018	Invited speaker, 2nd Annual meeting on Extracellular Vesicles and Infection, Potomac, MD
2018	Invited speaker, Anatomy and Cell Biology Seminar Series, KUMC
2017	Invited speaker, Central Regional IDEa Conference, sponsored by the CBID COBRE, Sioux Falls, SD
2017	Invited speaker, Great Plains Infectious Disease Meeting, sponsored by the CBID COBRE, Lawrence, KS
2017	Invited speaker, Center for Viral Pathogenesis, KUMC
2016	Selected speaker, 41st Annual International Herpesvirus Workshop, Madison, WI
2016	Invited speaker, Department of Biochemistry and Molecular Biology Seminar Series, KUMC
2011	Invited speaker, NCSR Demokritos, Athens, Greece
2010	Selected speaker, 35 th International Herpesvirus Workshop, Salt Lake City, Utah,
2009	Selected speaker, 34 th International Herpesvirus Workshop, Ithaca, New York

TRAINEES

Name of Trainee	Type of Trainee	Training Dates in Kalamvoki Lab	Current Position
Sarah Lasnier	Graduate Student	05/2022-present	Graduate Student Kalamvoki Lab
Sreenath Suma	Graduate Student	05/2022-present	Graduate Student Kalamvoki Lab
Rabina Saud	Graduate Student	05/2021 - present	Graduate Student Kalamvoki Lab
Brandon Grieshaber	Graduate Student	06/2021 - present	Graduate Student Kalamvoki Lab

Hope Waisner	Graduate Student	06/2022 – 01/2023	Post-Doctoral Fellow Kalamvoki Lab
Hope Waisner	Graduate Student	05/2017 – 06/2022	Graduate Student Kalamvoki Lab
Christos Dogrammatzis	Graduate Student	08/2017 – 12/2021	Graduate Student Kalamvoki Lab
Thibaut Deschamps	Post-Doctoral Fellow	10/2015 – 06/2019	Researcher Millipore, Kansas City area
Shadia Saleh	M1 Medical Student Honors Program – Research	05/2018 – 05/2019	Medical Student KUMC
Avanyish Toniappa	KUMC Educational Experience (KEE) Research Learner	06/2019 – 08/2019	Undergraduate Student University of Kansas, Lawrence
Alec Ebersole	K-INBRE Summer Research Scholar	05/2016 – 08/2016	Undergraduate Student Trinity University San Antonio, Texas
Hunter Woosley	K-INBRE Summer Research Scholar	06/2019 - 08/2019	Undergraduate Student University of Kansas, Lawrence
Sarah Lasnier	K-INBRE Summer Research Scholar	06/2020 - 08/2020	KUMC IGPBS graduate program
Fatima Portillo	K-INBRE Summer Research Scholar	06/2021 - 08/2021	Undergraduate Student Rockhurst University, Missouri
Rotation Students			
Hope Waisner	Rotating student	06/2016 – 08/2016 03/2017 – 05/2017	Graduate Student Kalamvoki Lab
Christos Dogrammatzis	Rotating student	08/2016 - 09/2017 04/2017-07/2017	Graduate Student Kalamvoki Lab
Wyatt Henke	Rotating student	08/2016 - 11/2016	Graduate Student Stephens Lab (KUMC)
Camille Trinidad	Rotating student	02/2017 - 04/2017	Graduate Student Godwin Lab (KUMC)
Huan He	Rotating student	11/2017 - 02/2018	Graduate Student Zueckert Lab (KUMC)
Siyuan Hao	Rotating student	10/2018 – 12/2018	Graduate Student Qiu Lab (KUMC)
Rabina Saud	Rotating student	01/2021 – 03/2021 03/2021 – 05/2021	Graduate Student Kalamvoki Lab
Emma Pagella	Rotating student	06/2021 – 08/2021	Current IGPBS student
Sarah Lasnier	Rotating student	10/2021 – 12/2021	Current IGPBS student
Sreenath Muraleedhara Suma	Rotating student	10/2021 – 12/2021	Current IGPBS student

PUBLICATIONS

1. Waisner H, Grieshaber B, Saud R, Henke W, Stephens EB, **Kalamvoki M**. SARS-CoV-2 Harnesses Host Translational Shutoff and Autophagy To Optimize Virus Yields: the Role of the Envelope (E) Protein. *Microbiol Spectr*. 2023 Feb 14;11(1):e0370722. PMID: PMC9927098
2. Henke W, Waisner H, Arachchige SP, **Kalamvoki M**, Stephens E. The envelope proteins from SARS-CoV-2 and SARS-CoV potentially reduce the infectivity of human immunodeficiency virus type 1 (HIV-1). *Retrovirology*. 2022 Nov 19;19(1):25. PMID: PMC9675205
3. **Kalamvoki M**, Norris V. A Defective Viral Particle Approach to COVID-19. *Cells*. 2022 Jan 17;11(2):302. PMID: PMC8774189
4. Klionsky DJ et al. Guidelines for the use and interpretation of assays for monitoring autophagy (4th edition). *Autophagy*. (2021) Jan;17(1):1-382. PMID: PMC7996087
5. Arachchige SP, Henke W, **Kalamvoki M**, Stephens EB. Structural Domains of the Herpes Simplex Type 1 gD Protein that Restrict HIV-1 Particle Infectivity. *J Virol*. (2021) Feb 3;95(8):e02355-20. PMID: PMC8103709
6. Dogrammatzis C, Saleh S, Deighan C, **Kalamvoki M**. Diverse Populations of Extracellular Vesicles with Opposite Functions during Herpes Simplex Virus 1 Infection. *J Virol*. (2021) Feb 24;95(6):e02357-20. PMID: PMC8094966
7. Dogrammatzis C, Waisner H, **Kalamvoki M**. "Non-Essential" Proteins of HSV-1 with Essential Roles In Vivo: A Comprehensive Review. *Viruses*. (2020) Dec 23;13(1):17. PMID: PMC7824580
8. Dogrammatzis C, Waisner H, **Kalamvoki M**. (2020). Cloaked viruses and viral factors in cutting edge exosome-based therapies. *Frontiers in Cell and Developmental Biology*. (2020) 26;8:376 PMID: PMC7264115
9. Bodda C, Reinert LS, Sun C, Zhang BC, **Kalamvoki M**, Mogensen TH, O'Hare P, Gyrd-Hansen M and Paludan SR. Viral targeting of STING ubiquitination promotes HSV-1 infection in the brain. *Journal of Experimental Medicine*. (2020). 217(7):e20191422. PMID: PMC7336311
10. Waisner H, **Kalamvoki M**. The ICP0 protein of herpes simplex virus 1 (HSV-1) down-regulates major autophagy adaptor proteins, sequestosome 1 (SQSTM1/p62) and optineurin (OPTN), during the early stages of HSV-1 infection. *J Virol*. (2019). PMID:31375597
11. Deschamps T, Waisner H, Dogrammatzis C, Roy A, Chacko S, Perera C, Prisinzano TE, **Kalamvoki M**. Discovery of Small-Molecule Inhibitors Targeting the E3 Ubiquitin Ligase Activity of the Herpes Simplex Virus 1 ICP0 Protein Using an *In Vitro* High-Throughput Screening Assay. *J Virol*. (2019) Jun 14;93(13). PMID:PMC6580980
12. Polpitiya Arachchige S, Henke W, **Kalamvoki M**, Stephens EB. Analysis of herpes simplex type 1 gB, gD, and gH/gL on production of infectious HIV-1: HSV-1 gD restricts HIV-1 by exclusion of HIV-1 Env from maturing viral particles. *Retrovirology*. (2019) Apr 2;16(1):9. PMID:PMC6444546
13. Dogrammatzis C, Deschamps T, **Kalamvoki M**. Biogenesis of Extracellular Vesicles during Herpes Simplex Virus 1 Infection: Role of the CD63 Tetraspanin. *J Virol*. (2019) Jan 4;93(2). PMID:PMC6321934
14. Deschamps T, **Kalamvoki M**. Extracellular Vesicles Released by Herpes Simplex Virus 1-Infected Cells Block Virus Replication in Recipient Cells in a STING-Dependent Manner. *J Virol*. (2018) Aug 29;92(18). PMID:PMC6146713
15. Arachchige SP, Henke W, Pramanik A, **Kalamvoki M**, Stephens EB. Analysis of Select HSV-1 Proteins for Restriction of Human Immunodeficiency Virus Type 1: The HSV-1 gM Protein Potentially Restricts HIV-1 by Preventing the Intracellular Transport and Processing of Env gp160. *J Virol*. (2017) Nov 1. pii: JVI.01476-17. PMID:PMC5752927
16. Deschamps T, **Kalamvoki M**. Evasion of the STING DNA-Sensing Pathway by VP11/12 of Herpes Simplex Virus 1. *J Virol*. (2017) Jul 27; 91(16). PMID: PMC5533902.
17. Deschamps T, Dogrammatzis C, Mullick R, **Kalamvoki M**. Cbl E3 Ligase Mediates the Removal of Nectin-1 from the Surface of Herpes Simplex Virus 1-Infected Cells. *J Virol*. (2017) May 26; 91(12). PMID: PMC5446655

18. Deschamps T, **Kalamvoki M**. Impaired STING Pathway in Human Osteosarcoma U2OS Cells Contributes to the Growth of ICP0-Null Mutant Herpes Simplex Virus. *J Virol.* (2017) Apr 13;91(9). PMID:PMC5391473.
19. **Kalamvoki M**, and Deschamps T. Extracellular vesicles during herpes simplex virus infection. *Review. Virol. Journal.* (2016) 13(1) 63: doi: 10.1186/s12985-016-0518-2. PMID: PMC4822280
20. **Kalamvoki M**, Du T and Roizman B. Cells infected with herpes simplex virus 1 export to uninfected cells exosomes containing STING and viral mRNAs and miRNAs. *Proc Natl Acad Sci U S A*, (2014). Nov 18;111(46): E4991-6. PMID: PMC4246290
21. **Kalamvoki M** and Roizman B. HSV-1 degrades, stabilizes, requires, or is stung by STING depending on ICP0, the Us3 protein kinase and cell type. *Proc Natl Acad Sci U S A*, (2014). Feb 4; 111(5): E611-7. PMID: PMC3918790
22. **Kalamvoki M**, Gu H and Roizman B. Overexpression of the ubiquitin specific protease 7 resulting from transfection or mutations in the ICP0 binding site accelerates rather than depresses HSV-1 gene expression. *J. Virol*, (2012) Dec;86(23):12871-8. PMID: PMC3497670
23. **Kalamvoki M** and Roizman B. The histone acetyl transferase CLOCK is an essential component of the herpes simplex virus 1 transcriptome that includes TFIID, ICP4, ICP27 and ICP22. *J. Virol*, (2011) Sep;85(18):9472-7. PMID: PMC3165755
24. **Kalamvoki M** and Roizman B. Circadian CLOCK histone acetyl transferase localizes at ND10 nuclear bodies and enables herpes simplex virus gene expression. *Proc Natl Acad Sci U S A*, (2010), 107(41): 17721-26. PMID: PMC2955081
25. **Kalamvoki M** and Roizman B. Interwoven roles of Cyclin D3 and cdk4 recruited by ICP0 and ICP4 in the expression of herpes simplex virus genes. *J. Virol.* (2010), 84(19):9709-17. PMID:PMC2937768
26. **Kalamvoki M** and Roizman B. Role of herpes simplex virus ICP0 in the transactivation of genes introduced by infection or transfection: a reappraisal. *J. Virol.* (2010), 84(9):4222-8. PMID:PMC2863771
27. **Kalamvoki M** and Roizman B. ICP0 enables and monitors the function of D cyclins in herpes simplex virus 1 infected cells. *Proc Natl Acad Sci U S A*, (2009), 106(34):14576-80. PMID:PMC2732861
28. **Kalamvoki M** and Roizman B. Nuclear retention of ICP0 in cells treated with HDAC inhibitor or transfected with DNA before infection with herpes simplex virus 1. *Proc Natl Acad Sci U S A*, (2008), 105(51), 20488-20493. PMID:PMC2629265
29. **Kalamvoki M**, Qu J and Roizman B. Translocation and colocalization of ICP4 and ICP0 in cells infected with herpes simplex virus 1 mutants lacking glycoprotein E, glycoprotein I or the virion host shutoff product of UL41. *J. Virol.* (2008), 82(4), 1701-1713. PMID:PMC2258734
30. **Kalamvoki M** and Roizman B. Bcl-2 blocks accretion or depletion of stored calcium but has no effect on the redistribution of the IP3R-I receptor mediated by glycoprotein E of herpes simplex virus 1. *J. Virol.* (2007), 81(12), 6316-6325. PMID:PMC1900130
31. **Kalamvoki M**, Georgopoulou U and Mavromara P. The NS5A protein of HCV genotype 1a is cleaved by caspases to produce C-terminal truncated forms of the protein that reside mainly in the cytosol. *J. Biol. Chem.* (2006), 281 (19), 13449-13462. PMID: 16517592
32. Georgopoulou U, Tsitoura P, **Kalamvoki M** and Mavromara P. The protein phosphatase 2A represents a novel cellular target for Hepatitis C virus NS5A protein. *Biochimie*, (2006), 88 (6), 651-62. PMID: 16460864
33. Kalliampakou A, **Kalamvoki M** and Mavromara P. The HCV NS5A protein down-regulates the HCV IRES-dependent translation. *J.Gen.Virol.* (2005), 86, 1015-1025). PMID: 15784895
34. **Kalamvoki M** and Mavromara P. Calcium-Dependent Calpain Proteases Are Implicated in Processing of the Hepatitis C Virus NS5A Protein. *J. Virol.* (2004), 78 (21), 11865-11878. PMID:PMC523276
35. **Kalamvoki M**, Miriagou V, Hadziyannis A, Georgopoulou U, Varaklioti A, Hadziyannis S, Mavromara P. Expression of immunoreactive forms of the hepatitis C NS5A protein in E. coli and their use for diagnostic assays. *Arch Virol.* (2002), 147 (9), 1733-45. PMID: 12209313