

Deemah Dabbagh, dladabbagh@ksu.edu.sa

Riyadh, Saudi Arabia, 0502022524, www.linkedin.com/in/deemah-dabbagh

PROFILE

A Virologist with 7 years experience in Molecular Virology. Area of expertise is virus-host interactions and antiviral screening on agents of public health concern including HIV-1 and SARS-CoV-2. Dedicated to finding novel treatment strategies/targets for problematic infectious diseases.

EXPERIENCE

Oct 2021 — Present

Assistant Professor, Department of Clinical Laboratory Sciences, King Saud University Riyadh, Saudi Arabia

- Design and manage research projects in public health infectious diseases and virology
- Conduct lectures for undergraduate and graduate level students
- Manage graduate academic programs as a member in the graduate program management committee
- Represent the department at scientific conferences and academic events

Aug 2015 — Aug 2021

Graduate Researcher, George Mason University Manassas, VA, USA

Contributions to the field of Virology

- Identified a family of host proteins possessing broad spectrum antiviral activity against enveloped viruses, coined by dissertation advisor and self as SHREK (Surface-Hinged Rigidly Extended Killer)
- Received the John Brady award of excellence in retrovirus research as recognition for outstanding work in the field of retrovirology
- *Patent: Wu, Y., Fu, Y., Zhou, Z., Dabbagh, D. Method and system for inactivating virus infectivity for producing live-attenuated vaccines. 2022. Patent Number: US11382967B2*

Experience in planning and management of research projects

- Designed and executed research projects independently
- Worked on multiple research projects in collaboration with different research groups
- Designed and performed experiments using a wide range of laboratory techniques including in-vitro virus infection and infectivity assays, HIV-1 virus production, SARS-CoV-2 VLP production, Retroviral and AAV vector production and purification, FACS, transfection, transduction, plasmid cloning, chromatography, ELISA, luminescence, PCR, mammalian cell culture, Western blotting, immunomagnetic pull-down, cell surface marker staining, siRNA and shRNA knockdown, generation of stable cell lines, fluorescent microscopy, among other techniques

Experience in lab management

- Created standardized protocols for experimental operation and improved existing protocols in the molecular virology research laboratory
- Performed trouble shooting of instruments and assays
- Mentored and trained junior research staff and incoming graduate students

Feb 2014 — Aug 2015

Lecturer, Department of Clinical Laboratory Sciences, King Saud University Riyadh, Saudi Arabia

Teaching

- Conducted lectures and tutorials for undergraduate students
- Taught and demonstrated diagnostic microbiology laboratory practicals

Management

- Head of department procurement committee
- Active member of student straining committee: planned and managed student off-campus training and field trips to hospital and public health laboratories
- Active member of academic event planning committee
- Academic counselor for first year undergraduate students

Nov 2011 — Aug 2012

Lab Instructor, Department of Clinical Laboratory Sciences, King Saud University Riyadh, Saudi Arabia

Teaching

- Taught practical microbiology and hematology to undergraduate students. Provided hands on demonstrations and oversaw student laboratory performance

Management and Administration

- Maintained microbiology teaching laboratory inventory and managed practical microbiology purchases
- Created laboratory procedure manuals for the hematology and microbiology lab classrooms
- Active member of multiple departmental committees: procurement committee, exam and timetable organization committees

Sep 2010 — Nov 2011

Teaching Assistant, King Saud Bin Abdulaziz University for Health Sciences

Riyadh, Saudi Arabia

- Gave laboratory practicals in medical sciences
- Served as substitute lecturer
- Organized activities and events for students within the university and at other locations such as hospitals
- Performed administrative departmental duties

Jun 2009 — Jul 2010

Medical Technology Intern, King Faisal Specialist Hospital and Research Center

Riyadh, Saudi Arabia

- Executed tests in areas including chemistry, urinalysis, hematology, serology, histology, bacteriology and molecular genetics for medical diagnosis
- Carried out routine processing of patient specimens (including blood and other body fluids)
- Performed blood typing tests for blood transfusions
- Operated testing kits and sophisticated lab equipment such as chemical and serological analyzers, as well as bacterial identification and antimicrobial sensitivity analyzers
- Logged data from medical tests and entered results into patients' medical records

EDUCATION

Aug 2015 — Aug 2021

Doctor of Philosophy in Virology and Infectious Diseases, George Mason University

Manassas, VA, USA

GPA 3.94/4

Aug 2012 — Feb 2014

Master of Science in Microbiology, Georgetown University

Washington, D.C.

GPA 3.65/4

Sep 2004 — Jun 2009

Bachelor of Science in Clinical Laboratory Sciences, King Saud University

Riyadh, Saudi Arabia

Graduated with honors and a GPA of 4.67/5

KEY SKILLS

Communication

Problem Solving

Leadership

Data Analysis

Project Management

Critical Thinking

SELECT PUBLICATIONS

Dabbagh, D., He, S., Hetrick, B., Chilin, L., Andalibi, A., & Wu, Y. (2021). Identification of the SHREK Family of Proteins as Broad-Spectrum Host Antiviral Factors. *Viruses*, 13(5), 832.

Hetrick, B., Chilin, L. D., He, S., **Dabbagh, D.**, Alem, F., Narayanan, A., Luchini, A., Li, T., Liu, X., Copeland, J., Pak, A., Cunningham, T., Liotta, L., Petricoin, E. F., Andalibi, A., & Wu, Y. (2022). Development of a hybrid alphavirus-SARS-CoV-2 pseudovirion for rapid quantification of neutralization antibodies and antiviral drugs. *Cell reports methods*, 2(3), 100181.

Hetrick, B., Yu, D., Olanrewaju, A. A., Chilin, L. D., He, S., **Dabbagh, D.**, Alluhaibi, G., Ma, Y. C., Hofmann, L. A., Hakami, R. M., & Wu, Y. (2021). A traditional medicine, respiratory detox shot (RDS), inhibits the infection of SARS-CoV, SARS-CoV-2, and the influenza A virus in vitro. *Cell & bioscience*, 11(1), 100.

Fu, Y., He, S., Waheed, A. A., **Dabbagh, D.**, Zhou, Z., Trinité, B., Wang, Z., Yu, J., Wang, D., Li, F., Levy, D. N., Shang, H., Freed, E. O., & Wu, Y. (2020). PSGL-1 restricts HIV-1 infectivity by blocking virus particle attachment to target

cells. *Proceedings of the National Academy of Sciences of the United States of America*, 117(17), 9537–9545.

He, S., Waheed, A. A., Hetrick, B., **Dabbagh, D.**, Akhrymuk, I. V., Kehn-Hall, K., Freed, E. O., & Wu, Y. (2020). PSGL-1 Inhibits the Incorporation of SARS-CoV and SARS-CoV-2 Spike Glycoproteins into Pseudovirions and Impairs Pseudovirus Attachment and Infectivity. *Viruses*, 13(1), 46.

Liu, Y., Fu, Y., Wang, Q., Li, M., Zhou, Z., **Dabbagh, D.**, Fu, C., Zhang, H., Li, S., Zhang, T., Gong, J., Kong, X., Zhai, W., Su, J., Sun, J., Zhang, Y., Yu, X. F., Shao, Z., Zhou, F., Wu, Y., ... Tan, X. (2019). Proteomic profiling of HIV-1 infection of human CD4+ T cells identifies PSGL-1 as an HIV restriction factor. *Nature microbiology*, 4(5), 813–825.

Meltzer, B., **Dabbagh, D.**, Guo, J., Kashanchi, F., Tyagi, M., & Wu, Y. (2018). Tat controls transcriptional persistence of unintegrated HIV genome in primary human macrophages. *Virology*, 518, 241–252.

de la Fuente, C., Pinkham, C., **Dabbagh, D.**, Beitzel, B., Garrison, A., Palacios, G., Hodge, K. A., Petricoin, E. F., Schmaljohn, C., Campbell, C. E., Narayanan, A., & Kehn-Hall, K. (2018). Phosphoproteomic analysis reveals Smad protein family activation following Rift Valley fever virus infection. *PLoS one*, 13(2), e0191983.

Yi, F., Guo, J., **Dabbagh, D.**, Spear, M., He, S., Kehn-Hall, K., Fontenot, J., Yin, Y., Bibian, M., Park, C. M., Zheng, K., Park, H. J., Soloveva, V., Gharaibeh, D., Retterer, C., Zamani, R., Pitt, M. L., Naughton, J., Jiang, Y., Shang, H., ... Wu, Y. (2017). Discovery of Novel Small-Molecule Inhibitors of LIM Domain Kinase for Inhibiting HIV-1. *Journal of virology*, 91(13), e02418-16.

SELECT CONFERENCE PRESENTATIONS

Feb 2022	PSGL-1 and the SHREK Family of Virion Inactivators Annual Saudi Laboratory and Diagnostic Congress	Riyadh, Saudi Arabia
May 2021	Identification of the SHREK Family of Proteins as Broad-spectrum Antiviral Host Factors HIV Dynamics and Replication Program Think Tank Meeting	Boston, MA, USA
May 2021	Identification of the SHREK Family of Proteins as Broad-spectrum Antiviral Host Factors Cold Spring Harbor Laboratories Retrovirus Meeting	Cold Spring, NY, USA
Apr 2018	Tat Controls Transcriptional Persistence of Unintegrated HIV Genome in Primary Human Macrophages International Symposium on Neurovirology	Chicago, IL, USA