SARAH AMEEN ALMOFTY

Assistant Professor, Ph.D. in Immunology

Personal Data

Nationality | Saudi Arabian

Department | Stem Cell Research

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Language Proficiency

Language	Read	Write	Speak
Arabic	✓	✓	✓
English	✓	✓	✓
Others - Japanese	Intermediate	Intermediate	Intermediate

Academic Qualifications

Date	Academic Degree	Place of Issue	Address
Apr 2011 – Mar 2015	Ph.D.	Department of Immunology, Graduate School of Medical Sciences	Kumamoto University, Japan
Apr 2009 – Mar 2011	Master of Medical Sciences	Department of Immunology, Graduate School of Medical Sciences	Kumamoto University, Japan
Apr 2008 – Mar 2009	Research student	Department of Immunology, Graduate School of Medical Sciences	Kumamoto University, Japan
Sep 2002 – Jun 2006	Bachelor of Biology	College of Sciences, Al-Taif University	Al-Taif, Saudi Arabia

PhD, Master or Fellowship Research Title: (Academic Honors or Distinctions)

PhD	GANP is involved in anti-HIV-1 infectivity response by facilitating the encapsidation of APOBEC3G into virion cores
Master	Regulation of DNA repair associated gene expression by GANP
Fellowship	Optimization of self-assembled layer-by-layer films for siRNA delivery, MIT, US

Additional Certificates:

Certificate	Institute	Year
NCBE (National Committee for Bioethics) Web-based training course	KACST, Saudi Arabia	2024
Executive Certificate in Strategy and Innovation	MIT Sloan School, US	2021
Faculty Mentorship Certification Program	Deanship of Academic Development, IAU	2018
Developing Core Competencies in Teaching and Learning in Higher Education	Deanship of Academic Development, IAU	2016, 2022
Graduate School Preparatory Japanese Language Course	Japan Student Service Organization, Osaka, Japan	2007 – 2008

Professional Record: (Beginning with the most recent)

Job Rank	Place and Address of Work	Date
Assistant professor	Department of Stem Cell Research, Institute for Research and Medical Consultation (IRMC), Imam Abdulrahman Bin Faisal University, Saudi Arabia	Mar 2016 – Present
Postdoctoral fellow	Koch Institute for Integrative Cancer Research, (Hammond Lab)	Aug 2019 – Jan 2021

Administrative Positions Held: (Beginning with the most recent)

Administrative Position	Office	Date
Coordinator of the Master of Science in Biotechnology Program	Institute for Research and Medical Consultation (IRMC), Imam Abdulrahman Bin Faisal University, Saudi Arabia	Sep 2021 – Present
Member of the Quality Committee	Institute for Research and Medical Consultation (IRMC), Imam Abdulrahman Bin Faisal University, Saudi Arabia	Sep 2023
Course Coordinator for Immunology (MSBE821 FLEC & FLAP)	Institute for Research and Medical Consultation (IRMC), Imam Abdulrahman Bin Faisal University, Saudi Arabia	Jan 2024 – June 2024

Scientific Achievements

#	Name of Investigator(s)	Research Title	Publisher and Date of Publication
1.	J. Francis Borgio, Noor B. Almandil, Prathas Selvaraj, J. Sherlin John, Rahaf Alquwaie, Eman AlHasani, Norah F. Alhur, Razan Aldahhan, Reem AlJindan, Dana Almohazey, **Sarah Almofty** et al.	The potential of Dutasteride for treating multidrug-resistant Candida auris Infection	Pharmaceutics, 2024 https://doi.org/10.3390/pharmaceutics16060810
2.	J. Francis Borgio, Rahaf Alhujaily, Rahaf Alquwai, Maryam_Jawad Alabdullah , Eman AlHasani , Wojod Alothman, Rawan Khalid Alaqeel, Aqeelah Salman Alfaraj, Ayidah Kaabi, Norah F. Alhur a, Sultan Akhtar, Reem AlJindan, **Sarah Almofty** et al.	Mining the nanotube-forming Bacillus amyloliquefaciens MR14M3 genome for determining anti-Candida auris and anti-Candida albicans potential by pathogenicity and comparative genomics analysis	Structural Biotechnology Journal, 2023 https://doi.org/10.1016/j.csbj.2023.08.031
3.	**Almofty S,** Vijaya Ravinayagam et al. *B Rabindran JERMY, Vijaya Ravinayagam,* ***Sarah Almofty***	Effect of CeO2/Spherical Silica and Halloysite Nanotubes Engineered for Targeted Drug Delivery System to Treat Breast Cancer Cells *Porous silicate and/or aluminosilicate matrix/cerium oxide nanoparitle nanocarrier for combination anti-cancer therapeutic and antioxidant delivery. (US- 17731905, filed patent 2022)*	OpenNano, 2023 https://doi.org/10.1016/j.onano.2023.100169
4.	Adam G. Berger, Elad Deiss-Yehiely, Chau Vo, Michael G. McCoy, **Sarah Almofty** et al.	Electrostatically assembled wound dressings deliver pro-angiogenic anti-miRs preferentially to endothelial cells	Biomaterials, 2023 https://doi.org/10.1016/j.biomaterials.2023.122188
5.	B. Rabindran Jermy, Mohammed Salahuddin, Gazali Tanimu, Hatim Dafalla, **Sarah Almofty et al.**	Design and Evaluation of Pegylated Large 3D Pore Ferrisilicate as a Potential Insulin Protein Therapy to Treat Diabetic Mellitus	Pharmaceutics, 2023 https://doi.org/10.3390/pharmaceutics15020593
6.	Faiza Qureshi, Muhammad Nawaz, Soleiman Hisaindee, **Sarah Ameen Almofty** et al.	Microwave Assisted Synthesis of 2-amino-4-chloro-pyrimidine Derivatives: Anticancer and Computational Study on Potential Inhibitory Action against COVID-19	Arabian Journal of Chemistry, 2022 https://doi.org/10.1016/j.arabjc.2022.104366
7.	**Almofty S,** Nawaz M et al.	Hydrothermal Synthesis of β-Nb_2ZnO_6 Nanoparticles for Photocatalytic Degradation of Methyl Orange and Cytotoxicity Study	International Journal of Molecular Sciences, 2022 https://doi.org/10.3390/ijms23094777

8.	Ahmad R., Ahmad N., Amir M., AlJhisi F., Alamer M., Al-Shaban H., Alsadah Z., Alsultan B., Aldawood N., Chathoth S., **Almofty S.**	Quality Variation and standardization of black pepper (Piper nigrum): A comparative geographical evaluation based on instrumental and metabolomics analysis	Journal of Biomedical Chromatography, 2020 https://doi.org/10.1002/bmc.4772
9.	Qureshi F., Nawaz N., Rehman S., **Almofty S.**, et al.	Synthesis and characterization of cadmium-bismuth microspheres for the catalytic and photocatalytic degradation of organic pollutants, with antibacterial, antioxidant and cytotoxicity assay	Journal of Photochemistry and Photobiology B: Biology, 2020 https://doi.org/10.1016/j.jphotobiol.2019.111723
10.	Jermy R., Alomari M., Ravinayagam V., **Almofty S.**, et al.	SPIONs/3D SiSBA-16 based Multifunctional Nanoformulation for target specific cisplatin release in colon and cervical cancer cell lines	Scientific reports, 2019 https://doi.org/10.1038/s41598-019-51051-w
11.	Alomari M., Jermy R., Ravinayagam V., Akhtar S., **Almofty S.**, et al.	Cisplatin-functionalized three-dimensional magnetic SBA-16 for treating breast cancer cells (MCF-7)	Artificial Cells, Nanomedicine, and Biotechnology, 2019 https://doi.org/10.1080/21691401.2019.1645155
12.	Alomari M, Almohazey D., **Almofty S.**, Khan F., Ababneh D.	Role of Lipid Rafts in Hematopoietic Stem Cells Homing, Mobilization, Hibernation, and Differentiation	Cells, 2019 https://doi.org/10.3390/cells8060630
13.	Khan F., Akhtar S., Almohazey D., Alomari M., **Almofty** S., Badr I., Elaissari A.	Targeted delivery of poly (methyl methacrylate) particles in colon cancer cells selectively attenuates cancer cell proliferation	Artificial Cells, Nanomedicine, and Biotechnology, 2019 https://doi.org/10.1080/21691401.2019.1577886
14.	Nawaz M., Almessiere MA., **Almofty SA**., Gungunes CD., Slimani Y., Baykal A.	Exploration of catalytic and cytotoxicity activities of CaxMgxNi1-2xFe2O4 nanoparticles	Photobiology B: Biology, 2019 https://doi.org/10.1016/j.jphotobiol.2019.05.003
15.	Alomari M., Almohazey D., **Almofty S.**, Alhibishi A., et al.	Magnetic-responsive polysaccharide-inorganic composite materials for cancer therapeutic	Sabyasachi Maiti and Sougata Jana "Polysaccharide Carries for Drug Delivary", Elsevier, (2019) https://doi.org/10.1016/B978-0-08-102553-6.00008-8
16.	Ravinayagam V., Adeeb S., Almohazey D., **Almofty S.**, et al.	Decursin induces apoptosis by regulating AMP-activated protein kinase and Bax/Bcl- 2 pathway in HepG2 cell line	European Journal of Integrative medicine, 2018 https://doi.org/10.1016/j.eujim.2018.10.003
17.	Nawaz M., **Almofty S.**, and Qureshi F.	Preparation, formation mechanism, photocatalytic, cytotoxicity and antioxidant activity of sodium niobate nanocubes	PLOSONE, 2018 https://doi.org/10.1371/journal.pone.0204061
18.	Khan F., Almohazey D., Alomari M., and **Almofty S.**	Culture and Functional Characterization of Human Embryonic Stem Cells: Current Trends and Challenges	Stem Cells International, 2018 http://doi.org/10.1155/2018/

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19.	Khan F., Akhtar S., Almohazey D., Alomari M., and **Almofty S.**	Extracts of Clove (Syzygium aromaticum) Potentiate FMSP-Nanoparticles Induced Cell Death in MCF-7 Cells	International Journal of Biomaterials, 2018 https://doi.org/10.1155/2018/8479439
20.	Khan F., Akhtar S., Almohazey D., Alomari M., and **Almofty S.**, and Eliassari A.	Fluorescent magnetic submicronic polymer (FMSP) nanoparticles induce cell death in human	Artificial Cells, Nanomedicine, and Biotechnology, 2018 http://doi.org/10.1080/21691401.2018.1491476
21.	Khan F., Almohazey D., Alomari M., and **Almofty S.**	Impact of nanoparticles on neuron biology: current research trends	International Journal of Nanomedicine, 2018 https://doi.org/10.2147/IJN.S165675
22.	Eid M., Shimoda M., Singh S., **Almofty S.**, et al.	Integrity of immunoglobulin variable region is supported by GANP during AID-induced somatic hypermutation in germinal center	International Immunology, 2017 https://doi.org/10.1093/intimm/dxx032
23.	Eid M., Maeda K., **Almofty S.**, et al.	GANP regulates the choice of DNA repair pathway by DNA-PKcs interaction in AID-dependent IgV region diversification	The Journal of Immunology, 2014 https://doi.org/10.4049/jimmunol.1400021
24.	Maeda K. *, **Almofty S. ***, et al. * Co-first author.	GANP interacts with APOBEC3G and facilitates its encapsidation into the virions to reduce HIV-1 infectivity	The Journal of Immunology, 2013 https://doi.org/10.4049/jimmunol.1302057
25.	Singh S., Maeda K., Eid M., **Almofty S.**, et al.	GANP regulates recruitment of AID to immunoglobulin variable regions by modulating transcription and nucleosome occupancy	Nature Communication, 2011 https://doi.org/10.1038/ncomms2823

Scientific Research Papers Presented to Refereed Specialized Scientific Conferences

#	Name of Investigator(s)	Research Title	Conference and Publication Date
1.	Amani A. AlHejji, Norah F Alhur, Nourah H Al Qahtani, Fahd M AlShehri, Zahra Alsafwani, Esra Ahdal, Sarah Almofty, Noor B. Almandil, Sayed AbdulAzeez, J. Francis Borgio. 2024. A comparative morphological analysis of fetal nucleated red blood cells from cord blood using live cell imaging and scanning electron microscopy. Saudi Journal of Medicine & Medical Sciences. 2024; 12(1):90. DOI: 10.4103/sjmms.SJMMS_40_24 [Link]		
2.	Mohammad H. Albakhit, Sarah Almofty, Rahaf Alquwaie, Norah F Alhur, Reem AlJindan, Noor B. Almandil, J. Francis Borgio, Sayed AbdulAzeez. 2024. Identification and characterization of biosynthetic gene clusters in bacterial stain IRMC272 to discover antifungal compounds against Candida auris. Saudi Journal of Medicine & Medical Sciences. 2024; 12(1):89. DOI: 10.4103/sjmms.SJMMS_40_24 [Link]		

3.	Wojod Alothman, Sarah Almofty, Rahaf Alquwaie, Norah F Alhur, Reem AlJindan, Noor B. Almandil, Razan Aldahhan, J. Francis Borgio, Sayed AbdulAzeez. 2024. Identifying gene clusters coding bioactive compounds in IRMC143B against Candida auris. Saudi Journal of Medicine & Medical Sciences. 2024; 12(1):88. DOI: 10.4103/sjmms.SJMMS_40_24 [Link]
4.	Showq H. Alshammery, Sarah Almofty, Rahaf Alquwaie, Norah F Alhur, Reem AlJindan, Noor B. Almandil, J. Francis Borgio, Sayed AbdulAzeez. 2024. The repurposing approach discovers a novel way to utilize an FDA-approved drug as an antifungal agent against Candida auris infection. Saudi Journal of Medicine & Medical Sciences. 2024; 12(1):85. DOI: 10.4103/sjmms.SJMMS_40_24 [Link]
5.	Adel S. Almutairi, Sarah Almofty, Rahaf Alquwaie, Norah F Alhur, Reem AlJindan, Noor B. Almandil, J. Francis Borgio, Sayed AbdulAzeez. 2024. Drug repurposing through structure-based drug design for discovering novel anti-Candida treatments. Saudi Journal of Medicine & Medical Sciences. 2024; 12(1):83. DOI: 10.4103/sjmms.SJMMS_40_24 [Link]
6.	Rahaf Alhujaily, Ayedah Kaabi, Norah F Alhur, Noor B Almandil, Sarah Almofty, Sayed Abdul Azeez, J Francis Borgio. 2023. Bacterial genome mining for effective biosynthetic gene cluster against *Candida auris*. Saudi Journal of Medicine & Medical Sciences. 2023; 11(1):116. [Link]
7.	Ahmed A Al yateem, Bader S Alsolo, Norah Fahad Alhur, Sarah Almofty, Noor B Almandil, Nourah H Al Qahtani, Fahd M. AlShehri, J Francis Borgio, Sayed Abdul Azeez. 2023. Direct Cell Multiplex PCR for Detecting Gender and Gene Variation in Early Pregnancy. Saudi Journal of Medicine & Medical Sciences. 2023; 11(1):113. [Link]
8.	Nourah AlGhamdi, Wejdan AlGhamdi, Layan Almulla, Zainab Albazroun, Rabindran Jermy & Sarah Almofty. Development of Cerium Nanoparticles for Delivering Cisplatin and Curcumin to Breast Cancer Cells (MCF-7). KAIMRC-WR, King Saud bin Abdulaziz University for Health Science, Convention Center, Jeddah. May 2022.
9.	Amna Anis, Farah AlRatrout, Hind AlQuwai, Muhammad Nawaz & **Sarah Almofty**. Evaluation of PLGA-Quercetin Nanoparticles Activity Against Breast Cancer Cells. The 9th Annual Research Day, KAIMRC-Eastern Region on Dec 16, 2021. (Received 2nd Place in the Oral Presentation)
10.	Layan AlMulla, Zainab ALBazroun, Norah AlGhamdi, Wejdan AlGhamdi, Sarah AlMofty, Rabindran Jermy. Development of Cerium Nanoparticles for Delivering Cisplatin and Curcumin to Breast Cancer Cells (MCF-7). Abstracts of "Institute for Research and Medical Consultations (IRMC) - Summer Research Program – 2021" presented at Imam Abdulrahman Bin Faisal University, Dammam, Saudi Arabia, on September 14, 2021. Saudi Journal of Medicine & Medical Sciences. 2022;10(1):92. [Link]
11.	Farah N. AlRatrout, Amna M. Anis, Hind Al-Garawi, Sarah AlMofty, Nawaz Muhmmad. Evaluation of PLGA-Quercetin Nanoparticles' Activity Against Breast Cancer Cells. Abstracts of "Institute for Research and Medical Consultations (IRMC) - Summer Research Program – 2021" presented at Imam Abdulrahman Bin Faisal University, Dammam, Saudi Arabia, on September 14, 2021. Saudi Journal of Medicine & Medical Sciences. 2022;10(1):92. [Link]
12.	Aqeelah Salman Alfaraj, Maryam Jawad Alabdullah, Rawan Khalid Alaqeel, Alsuwat HS, Almofty SA, Akhtar S, AlJindan R, AbdulAzeez S, Borgio JF*. 2022. Screening and Isolation of Novel Native Bacteria with Anti-Candida Activity against Multidrug-Resistant Candida auris. Abstracts of "Institute for Research and Medical Consultations (IRMC) - Summer Research Program – 2021" presented at Imam Abdulrahman Bin Faisal University, Dammam, Saudi Arabia, on September 14, 2021. Saudi Journal of Medicine & Medical Sciences. 2022;10(1):92. [Link]

Current Researches

#	Research Title	Name of Investigator(s)
1.	Awarded Research Grant (12968-iau-2023-iau-R-3-1-HW) under the Activation and Rebuilding the Labs Initiative, RDIA, KSA	Rabindran Jermy, Sarah Almofty, Firdos Khan and Dana Almohazey
2.	Developing a Smart Multifunctional Au/Hierarchical Aluminosilicate Drug Delivery System for Targeted Cancer Therapeutics	Sarah Almofty, Vijaya Ravinayagam and Rabindran Jermy

Membership of Scientific and Professional Societies and Organizations

- Ibn Khaldun Fellowship Program for Saudi Arabian Women-KACST-MIT (2019-2021)
- Japanese Society of Immunology, membership (JSI-annual meeting 2009-2015)
- King Abdullah Scholarship Program, Ministry of Higher Education of Saudi Arabia (2007-2015)

Teaching Activities

Postgraduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
1	Immunology	MSBE821	Lectures and Labs
2	Cell Physiology and Biochemistry course	MSBE801	Labs

Brief Description of Postgraduate Courses Taught: (Course Title – Code: Description)

1	**MSBE821– Immunology:** The course is designed for the students in the master's Program in Biotechnology. The course focuses on providing the fundamentals of the immune system and integrating the clinical aspects of immune-driven diseases with cutting-edge immuno-based technologies and therapeutics to gain the required knowledge and skills for criticizing, evaluating, and solving immunological problems. Students will gain in-depth knowledge in four areas: 1) Immune system components and types of responses, immunogenicity, immune system pathology, and cancer immunology. 2) Immunoassays and immunoinformatics. 3). Modern vaccine technologies and Immunotherapeutics. 4). Principles of GMP manufacturing of vaccines and monoclonal antibodies. **In addition, the students will learn how to integrate the learnt course's materials in vaccines development, immuno-informatics, and immunological techniques by formulating a brief, written proposal, to develop modern vaccine candidates and demonstrate immuno-biotechnological solutions for the unmet health needs in immune-mediated diseases.**

Course Coordination

#	Course Title and Code	Coordination	Co-coordination	Undergrad.	Postgrad.	From	To
1	MSBE821– Immunology	Sarah Almofty	Dr. Iman Almansour		✓		

Supervision of Master and/or PhD Thesis

#	Degree Type	Title	Institution	Date
3.	M.Sc. in Biotechnology	Comparing the Effect of Two Pyrimidine Analogues on Colorectal Cancer Cells by Thamer AL-Shammari	Institute for Research and Medical Consultation, Imam Abdulrahman bin Faisal University	2021
2.	M.Sc. in Biotechnology	The Cell Death Role of Doxorubicin in Breast and Ovarian Cancer Cells by Zahra AL-Khalifa	Institute for Research and Medical Consultation, Imam Abdulrahman bin Faisal University	2021 - 2022

Administrative Responsibilities, Committee and Community Service

Volunteer Work

#	From	To	Type of Volunteer	Organization (student no.)
1.	Jul 2023	Sep 2023	Co-Mentor	Summer Research Program-IRMC (5), Imam Abdulrahman bin Faisal University
2.	Jul 2022	Sep 2022	Co-Mentor	Summer Research Program-IRMC (5), Imam Abdulrahman bin Faisal University
4.	May 2021	July 2021	Mentor	Summer Research Program-IRMC (7), Imam Abdulrahman bin Faisal University
5.	Nov 2018	Nov 2018	Mentor	MIT Saudi Hackthon (66), Princess Noura University
6.	Sep 2018	Dec 2018	Mentor	The National Olympiad for Scientific Creativity (2), Imam Abdulrahman bin Faisal University
7.	Feb 2017	Jun 2017	Mentor	Practical hands-on training (6), Imam Abdulrahman bin Faisal University
8.	Jul 2016	Aug 2016	Mentor	Saudi Aramco Research Science Initiative (3), Imam Abdulrahman bin Faisal University
9.	April 2016	May 2016	Mentor	Training on proposal writing for high school students (3), Imam Abdulrahman bin Faisal University

Web links and online IDs:

- LinkedIn| https://www.linkedin.com/in/sarahalmofty/
- ORCID | https://orcid.org/0000-0002-2271-8262
- Web of Science | Researcher ID: P-1770-2016
- Google Scholar | Sarah Almofty

Last Update

03/ 09/2024