

UNIVERSITY CURRICULUM VITAE FORMAT

DATE: November 27, 2024

NAME: Najla A. Al-Sweel, PhD, FACMG

PRESENT TITLE: Laboratory Director, Bionano Laboratories

HOME ADDRESS: 1427 E Komenda Way, Salt Lake City, UT 84124

OFFICE ADDRESS: Bionano Laboratories, SLC, UT and San Diego, CA

TELEPHONE NUMBER/E-MAIL ADDRESS: +1 (571) 331-1911 / naa44@cornell.edu

CITIZENSHIP: United States

EDUCATION:

A. Undergraduate Graduate and Professional

King Saud University, Riyadh, KSA

B.S. in Clinical Laboratory Sciences (CLS) (4.97/5.00 GPA)

Date Awarded: 2007

Georgetown University, Washington, D.C.

M.S. in Biochemistry & Molecular Biology (3.95/4.00 GPA)

Date Awarded: 2011

Cornell University, Ithaca, NY

PhD in Biochemistry, Molecular and Cell Biology (BMCB), minor in Genomics (4.1/4.0 GPA)

Date Awarded: 2017

B. Graduate and Professional

University of Utah, Department of Pathology and ARUP Laboratories, SLC, UT

ABMGG Laboratory Genetics and Genomics Fellowship

Date Awarded: 2021

POSTGRADUATE TRAINING:

A. Internship and Residencies

King Faisal Specialist Hospital & Research Center (KFSHRC), Riyadh, KSA

Medical Laboratory Technologist Intern

Inclusive Dates: 2006 – 2007

B. Research Fellowships

University of Utah, Department of Pathology and ARUP Laboratories, SLC, UT

ABMGG Laboratory Genetics and Genomics Fellowship

Inclusive Dates: 2018 – 2021

C. Postdoctoral Appointments

National Institutes of Health, Bethesda, MD

Laboratory Technician and Intern

Inclusive Dates: 2011

MILITARY: none

ACADEMIC APPOINTMENTS:

*King Saud University, Riyadh, KSA
Assistant Professor, Clinical Laboratory Sciences Department
Inclusive Dates: 2018*

*Cornell University, Ithaca, NY
Teaching Assistant, Department of Molecular Biology and Genetics
Inclusive Dates: 2012*

*King Saud University, Riyadh, KSA
Teaching Assistant, Clinical Laboratory Sciences Department
Inclusive Dates: 2007 – 2009*

HOSPITAL APPOINTMENTS (If applicable): none

OTHER EMPLOYMENT OR MAJOR VISITING APPOINTMENTS:

*Bionano Laboratories, SLC, UT and San Diego, CA
Laboratory Director
Inclusive Dates: July 2021 – April 2024*

*University of Utah School of Medicine and ARUP Laboratories, SLC, UT
Human Genetics course. Graduate Program in Genetic Counseling. Principles and Applications in
Molecular Diagnostics
Guest Lecturer
Inclusive Dates: July 2020 – June 2021*

*University of Utah, Department of Pathology and ARUP Laboratories, SLC, UT
ABMGG Laboratory Genetics and Genomics Fellow
Inclusive Dates: July 2018 – June 2021*

PRIVATE PRACTICE (If applicable): none

LICENSURE: specialty/#/expiration: not applicable

DRUG LICENSURE: CDS: #/expiration DEA: #/expiration: not applicable

CERTIFICATION:

*American Board of Medical Genetics and Genomics (ABMGG)
Laboratory Genetics and Genomics
Date Awarded: 2021*

MEMBERSHIPS, OFFICES AND COMMITTEE ASSIGNMENTS IN PROFESSIONAL SOCIETIES:

*American College of Medical Genetics
Member
Inclusive Dates: 2018 – present*

*American Society of Human Genetics
Member
Inclusive Dates: 2022 – present*

*Cancer Genomics Consortium
Member
Inclusive Dates: 2020 – present*

Saudi Society for Clinical Laboratory Sciences
Member

Inclusive Dates: 2018 – present

Cornell Center for Teaching Excellence
Participant

Inclusive Dates: 2012 – 2017

Cornell Graduate and Professional Women's Network
Member

Inclusive Dates: 2012 – 2017

Cornell Saudi Club
Vice President

Inclusive Dates: 2012 – 2016

HONORS AND AWARDS:

Fellow Research Award (2nd place)

Awarded By: Annual Department of Pathology Grand Rounds, University of Utah

Date: 2021

LPS Award for Outstanding Achievement in the field of BMCB

Awarded By: Cornell University

Date: 2018

Best Poster (third place)

Awarded By: Annual CLS Department Research Day, King Saud University

Date: 2018

Harry and Samuel Mann Outstanding Graduate Student Award

Awarded By: Cornell University

Date: 2014

Calvo Teaching Assistant Award

Awarded By: Department of Molecular Biology and Genetics, Cornell University

Date: 2013

Best Poster (third place)

Awarded By: Symposium on Replication, Recombination and Repair, Cornell University

Date: 2013

Best Poster (third place)

Awarded By: Tri-annual Internship Poster Presentations, Georgetown University

Date: 2011

King Saud University Scholar

Scholarship covering entire duration of Master's and Ph.D.

Inclusive Dates: 2009 – 2017

BOARDS OF DIRECTORS/TRUSTEES POSITIONS: none

SERVICE ON NATIONAL GRANT REVIEW PANELS, STUDY SECTIONS, COMMITTEES: none

SERVICE ON MAJOR COMMITTEES:

- A. International (*Name, Inclusive Dates*)
- B. National (*Name, Inclusive Dates*)
- C. Medical School/University (*Name, Inclusive Dates*)
- D. Hospital (*Name, Inclusive Dates*)
- E. Department (*Name, Inclusive Dates*)
- F. Editorial Boards (*Journal Name, Inclusive Dates*)
- G. *AdHoc* Reviewer (*Journal Name, Inclusive Dates*)

SERVICE ON GRADUATE SCHOOL COMMITTEES: SERVICE ON HOSPITAL COMMITTEES: none

SERVICE TO THE COMMUNITY: none

SPONSORSHIP (Primary Mentorship) OF CANDIDATES FOR POSTGRADUATE DEGREE: none

SPONSORSHIP (Primary Mentorship) OF POSTDOCTORAL FELLOWS: none

TEACHING RESPONSIBILITIES: (Teaching effectiveness should be addressed in nominating letter)

- A. Lectures or Course Directorships
School, course name, lecture title, hours
- B. Research Training (other than Primary Mentorship)
Post Doctoral Fellows: name, dates (inclusive) of training
Pre Doctoral Students: name, dates (inclusive) of training

CLINICAL RESPONSIBILITIES: (Clinical effectiveness should be addressed in nominating letter)

GRANT SUPPORT: (*Please list in either chronological order with newest or most current first OR in reverse chronological order, as desired*)

- A. Principal Investigator
 - 1. *Funding Organization, title of award, inclusive dates of funding, amount of award*
- B. Co-Investigator
 - 1. *Funding Organization, title of award, inclusive dates of funding, amount of award*
- C. Pending
 - 1. *Funding Organization, title, proposed funding date, proposed award*

PUBLICATIONS:

- A. Refereed Original Article in Journal
 - 1. Nicholas T, **Al-Sweel** N, Farrell A, Boyden S, Moore M, Toydemir R, Mao R, Carey J, Jenkins S. Comprehensive variant calling from whole-genome sequencing identifies a complex inversion that disrupts ZFPM2 in familial congenital diaphragmatic hernia. *Mol Genet Genomic Med.* 2022 Apr; PMID: PMC9000945
 - 2. **Al-Sweel** N, Raghavan V, Dutta A, Ajith VP, Di Vietro L, Khondakar N, Manhart CM, Surtees JA, Nishant KT, Alani E. *mlh3* mutations in baker's yeast alter meiotic recombination outcomes by increasing noncrossover events genome-wide. *PLoS Genet.* 2017 Aug 21. PMID: PMC5578695
- B. Additional Publications
 - 1. Tantravahi S, Huber B, Parker C, Vagher J, Asch J, Pomicter T, **Al-Sweel** N, Toydemir R, Hong B. Genome wide-uniparental disomy as a mechanism of immune-escape in acquired aplastic anemia. *Br J Haematol.* 2022 Sep. PMID: 35876645, DOI: 10.1111/bjh.18351

2. Singh P, Fragoza R, Blengini C, Tran T, Pannafino G, **Al-Sweel N**, Schimenti K, Schindler K, Alani E, Yu H, Schimenti J. *MLH1/3 variants causing aneuploidy, pregnancy loss, and premature reproductive aging. Nat Commun. 2021 Aug. PMID: PMC8373927*
3. Ballout RA, Dickerson C, Wick MJ, **Al-Sweel N**, Openshaw AS, Srivastava S, Swanson LC, Bramswig NC, Kuechler A, Hong B, Fleming LR, Curry K, Robertson SP, Andersen EF, El-Hattab AW. *Int22h1/Int22h2-mediated Xq28 duplication syndrome: de novo duplications, prenatal diagnoses, and additional phenotypic features. Hum Mutat. 2020 Jul. PMID: PMC7292747*
4. Raghavan V, Bui DT, **Al-Sweel N**, Friedrich A, Schacherer J, Aquadro CF, Alani E. *Incompatibilities in Mismatch Repair Genes MLH1-PMS1 Contribute to a Wide Range of Mutation Rates in Human Isolates of Baker's Yeast. Genetics. 2018 Dec. PMID: PMC6283166*
5. Bui DT, Friedrich A, **Al-Sweel N**, Liti G, Schacherer J, Aquadro CF, Alani E. *Mismatch Repair Incompatibilities in Diverse Yeast Populations. Genetics. 2017 Apr. PMID: PMC5378106*
6. Murthy SRK, Dupart E, **Al-Sweel N**, Chen A, Cawley NX, Loh YP. *Carboxypeptidase E promotes cancer cell survival but inhibits migration and invasion. Cancer Lett. 2013 Dec. PMID: PMC3825807*

PRESENTATIONS:

- A. Scientific (Basic Science): none
- B. Professional (Clinical)
 1. Poster Presentation, ACMG Annual Clinical Genetics Meeting, SLC, UT, March 2023
 2. Poster presentation, ASHG Annual Meeting, LA, CA, October 2022
 3. Short oral presentation, Pathology Grand Rounds, University of Utah, May 2020 and 2021
 4. Poster presentation, ACMG Annual Clinical Genetics Meeting, Virtual Meeting, April 2021
 5. Poster presentation, ACMG Annual Clinical Genetics Meeting, Digital Edition, May 2021

ADDENDUM:

I am currently on maternity leave, during which I am focusing on my family and welcoming a new addition. In August 2024, my family relocated to New Jersey, as my husband accepted a position as an Assistant Professor in the Department of Biochemistry and Molecular Biology at Rutgers University.

(May 2024 – present)

Before my maternity leave, I was employed at Bionano, where I contributed to significant projects until the Salt Lake City offices closed. During my time there, I worked under Dr. Serrano, the CLIA Laboratory Director, who has kindly provided a letter of recommendation and serves as a reference for my work.

(July 2021-April 2024)