

## ***CURRICULUM VITAE***

### ***Wael M. Al-Kattan, MBBS, FRCSC, FACS***

Executive Director of Sustainability and Strategic Planning, Alfaisal University  
Vice Dean for Admin and Head Department of Surgery, College of Medicine, Alfaisal University

Professor and Senior Consultant Surgeon  
General Surgery - Bariatric and Minimally Invasive Surgery - Hepatobiliary, Pancreatic &  
Gastrointestinal Surgery - Liver Transplantation

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Link: [http://com.alfaisal.edu/faculty\\_staff\\_surgery\\_obstetrics\\_radiology.html](http://com.alfaisal.edu/faculty_staff_surgery_obstetrics_radiology.html)

## **Undergraduate Education**

- Premedical Year:  
Collage of Science, King Saud University, Riyadh, Saudi Arabia (September 1989- July 1990)
- Medical school:  
M.B.B.S, medical degree, College of Medicine, King Saud University, Riyadh, Saudi Arabia (September 1990- February 1996)
- Internship:  
Completed one-year internship from April 1996 to March 1997

## **Post Graduate Education & Qualification**

- FRCS(C), General Surgery, The Royal College of Physicians and Surgeons, Canada, June 2003
- Minimal Invasive Surgery Fellowship, University of British Columbia, Vancouver, B.C. Canada, June 2004
- Laparoscopic Surgery University Diploma, University Louis Pasteur, Strasbourg, France, February 2005
- Hepatobiliary & Pancreatic Surgery and Liver Transplantation Fellowship, University of British Columbia, Vancouver, B.C, Canada, June 2005
- Macy Program, Diploma Program for Educators and Health Care Professionals, Harvard Macy Institute, Boston, USA, January 2009

## **Working Experience [Healthcare]**

- July 2005 to July 2007:  
Assistant Professor and Consultant, Minimally Invasive Surgery, and Hepatobiliary, Pancreatic & Upper Gastrointestinal Surgery, Department of Surgery, College of Medicine, King Khalid University Hospital, Riyadh, Saudi Arabia
- July 2005 to present:  
Consultant Minimally Invasive Surgery, and Hepatobiliary, Pancreatic & Upper Gastrointestinal Surgery, Head, Obesity Surgery Program, Dr. Sulaiman Al-Habib Medical Group, Riyadh, Saudi Arabia
- September 2013 to August 2017:  
Part-time Senior Consultant, Hepatobiliary, Pancreatic & Upper Gastrointestinal Surgery, and Minimally Invasive Surgery, King Fahad Medical City, Riyadh, Saudi Arabia.
- October 2017 to March 2019:  
Part-time Senior Consultant, Bariatric and Metabolic Surgery, and Minimally Invasive Surgery, King Saud Medical City, Riyadh, Saudi Arabia.
- April 2019 to November 2020:  
Part-time Senior Consultant, Hepatobiliary, Pancreatic & Upper Gastrointestinal Surgery, King Saud Medical City, Riyadh, Saudi Arabia.
- November 2021 to Present:  
Part-time Senior Consultant, Hepatobiliary, Pancreatic & Upper Gastrointestinal Surgery, Minimally Invasive Surgery, King Abdullah bin Abdulaziz University Hospital, Riyadh, Saudi Arabia.

## **Locum Positions and Visiting Consultant**

- October to November 2006:  
Locum Consultant, Minimally Invasive Surgery, and Hepatobiliary, Pancreatic & Upper Gastrointestinal Surgery, King Faisal Specialist Hospital and Research Center, Riyadh, Saudi Arabia
- April to May 2007:  
Locum Consultant, Hepatobiliary, Pancreatic & Upper Gastrointestinal Surgery, and Minimally Invasive Surgery, King Fahad Medical City, Riyadh, Saudi Arabia

## Working Experience [Medical Education]

- July 2005 to July 2007:  
Assistant Professor and Head Division of Hepatobiliary & Pancreatic Surgery, Department of Surgery, College of Medicine, **King Saud University** and King Khalid University Hospital, Riyadh, Saudi Arabia
- September 2007 to September 2010:  
*Joined in 2007 as founding faculty, Alfaisal University started its operations in Jan 2008.* Assistant Professor and Consultant of Surgery, Executive Director of Continuous Medical Education Center, College of Medicine, **Alfaisal University**, Riyadh, Saudi Arabia
- October 2010 to January 2014:  
Assistant Professor and Consultant of Surgery, Vice Dean of Academic and Student Affairs, College of Medicine, **Alfaisal University**, Riyadh, Saudi Arabia
- January 2014 to Present:  
Professor and Consultant of Surgery, Vice Dean for Admin, Head Department of Surgery, College of Medicine, **Alfaisal University**, Riyadh, Saudi Arabia
- September 2022 to Present:  
First Executive Director of Sustainability and Strategic Planning of Alfaisal University, Member of Council of Deans, Riyadh, Saudi Arabia

## Highlights and Achievement

### [Healthcare]

- Played key role in following (Alfaisal-Saudi Ministry of Health) collaborative projects:
  - Mystery Visitor Program
  - Nursing Bridging Project
  - Riyadh Second Health Cluster Training Program
  - General Administration of Safety and Security
  - General Administration of Compliance
  - General Administration of Dentistry
  - The Deputyship of Public Health
- Participated in facilitating Alfaisal University collaborations with many local and international entities for awareness, education, training and research
- Had major role in developing the policies and procedures for case selection, admission criteria, and post-op pathways, AlHabib Medical Group
- Establishing a unique bariatric unit with smooth multi-disciplinary approach to cases, AlHabib Medical Group

- A member of accreditation team, responsible for health records and OR standards, AlHabib Medical Group
- Member of the M&M committee, KFMC and AlHabib Medical Group
- Had a main advisory role developing OR policies and management of disposables/reusables/consumables supply chain, Surgery Dept, AlHabib Medical Group
- Participated in structuring the criteria and KPIs for evaluating staff/faculty performance.
- Analysis and creation of clinical bundles and services coding systems
- Enhancement of patient experience
- Promoting innovative solutions to ease patient access to online healthcare

### **[Medical Education]**

- Establishment of Department of Sustainability and Strategic Planning at Alfaisal University.
- Visionary leader in the field of strategic planning, driving sustainability initiatives.
- Leading the process of aligning Alfaisal institutional objectives with the Kingdom of Saudi Arabia's Vision 2030 and the United Nations Sustainable Development Goals.
- Supervised the university submissions for the UNESCO Japan Prize for Education for Sustainable Development for all participating colleges.
- Leading the development of Alfaisal University's Environmental, Social, and Governance (ESG) profile, following global reporting standards such as the Global Reporting Initiative (GRI).
- Headed the Institutional Context subcommittee during the accreditation process with the National Commission for Academic Accreditation and Assessment (NCAAA).
- Founding faculty member at Alfaisal University, serving in various roles including Assistant Professor, Consultant of Surgery, Executive Director of Continuous Medical Education Center, Head of Surgery Department, and Vice Dean for Academic Affairs.
- Played a pivotal role in the development and accreditation of the MBBS program at the College of Medicine.
- Extensive knowledge in developing and implementing continuing education and training programs.
- Varied experience in academic, clinical, and research affairs, both locally and internationally.
- Contributed to the planning and design of facilities, including lecture halls and laboratories.
- Varied managerial experience at prominent academic and clinical institutions.
- Chairman Curriculum Committee, College of Medicine, Alfaisal University

- Member of Credential Committee, College of Medicine, Alfaisal University
- Curriculum planning, design and development
- Constructing Faculty Development Programs
- Structuring and organizing Continuing Medical Education (CME) programs
- Constructing Problem Based Learning (PBL) Curriculum and Surgical Courses
- Case writer and facilitator in Problem Based Learning and teaching undergraduate medical courses.
- Chief editor Med Times, College of Medicine Newsletter, Alfaisal University
- Residents training programs in General Surgery, Minimally Invasive Surgery and Hepatobiliary & Pancreatic Surgery
- Examiner, Saudi Board in General Surgery, Saudi Council for Health Specialties
- Examiner, Hepatobiliary and Pancreatic Surgery Fellowship Program, King Faisal Specialist Hospital and Research Center (KFSH & RC)

### **Credentials accredited by Saudi Commission for Health Specialties (SCHS)**

1. Category: Consultant, Specialty: General Surgery
2. Category: Consultant, Specialty: Hepatobiliary and Pancreatic Surgery and Liver Transplantation
3. Category: Consultant, Specialty: Minimally Invasive Surgery
4. Category: Consultant, Specialty: Bariatric and Metabolic Surgery

**SCHS registration ID # 05-R-M-28123**

License is valid and active

### **Credentials accredited by Medical Practitioners Act, British Columbia, Vancouver, Canada**

College of Physician Surgeon ID number (CPSID) # 23696

### **Royal College of Physician and Surgeon of Canada**

ID registration # 559494 Status: Active member

## **Surgical Training**

- April 1997 to April 1998:  
General Surgery Resident, King Faisal Specialist Hospital, Riyadh, Saudi Arabia
- April 1998 to June 1998:  
General Surgery Demonstrator, Department of Surgery, King Saud University, Riyadh, Saudi Arabia
- July 1998 to June 2003:  
Resident, General Surgery Training Program, University of Toronto, Toronto, Canada
- July 2003 to June 2004:  
Fellow, Minimal Invasive Surgery, University of British Columbia, Vancouver, Canada
- July 2003 to June 2005:  
Fellow, Hepatobiliary and Pancreatic Surgery and Liver Transplant Program, University of British Columbia, Vancouver, Canada

## **Training courses**

- Intensive Course in Laparoscopic Surgery, IRCAD/EITS, Strasbourg, France, February 2005.
- Advanced Laparoscopic Course in Hepatobiliary Surgery, European Association of Endoscopic Surgery (EAES), Berlin, Germany, and September 2006.
- Macy Program, Diploma Program for Educators and Health Care Professionals, Harvard Macy Institute, Boston, USA, January 2009

## **Distinctions & Awards**

- Letter of congratulation from the division of General Surgery for excellent performance at the 2000 CAGS Resident In-Training Examination
- Letter of congratulation from the division of General Surgery for excellent performance at the 2001 CAGS Resident In-Training Examination
- Letter of congratulation from the Division of General Surgery for excellent performance at the 2002 CAGS Resident In-Training Examination

- Resident teaching award for the year 2003, Division of General Surgery, Department of Surgery, University of Toronto

### **Authored Book**

- Kviety P, Yaqinuddin A and **Alkattan W**: “*Gastrointestinal Mucosal Defense System*”, Morgan and Claypool Publishers, Philadelphia, USA, 2014. ISBN-13: 978-1615041473
- A. Sabri Kemahli, MD, Khaled AlKattan, MD, and Wael AlKattan, MD: Chapter 6. Structuring Clinical Clerkships. “Clinical Training in Undergraduate Medical Education”, Nova Publishers, Nov 2020. ISBN: 978-1-53618-616-1



## Publications

1. Alotaibi F, Kabbani M, Abaalkhail F, Chorley A, Elbeshbeshy H, Al-Hamoudi W, Alabbad S,Boehnert MU, Alsofayan M, **Al-Kattan W**, Ahmed B, Broering D, Al Sebayel M, Elsiey H,: *“Low Utility of Fluorodeoxyglucose–Positron Emission Tomography/Computed Tomography for Detecting Hepatocellular Carcinoma in Patients Before Liver Transplantation”* Experimental and Clinical Transplantation **2017** Suppl 1: 37-4
2. **Al Kattan WM**, Alarfaj SM, Alnooh BM, Alsaif HF, Alabdul Karim HS,Al-Qattan NM, El-Sayed AA, Al-Qattan MM: *“Myofibroblast-Mediated Contraction”* Journal of the College of Physicians and Surgeons Pakistan **2017**, Vol. 27 (1): 38-43
3. Garaween G, Somily A, Raji A, Braun S, **Al-Kattan W**, Shibl A, Ehricht R, Senok A: *“Serogenotyping and emergence of extended-spectrum blactamase genes in non-typhoidal Salmonella: first report from Saudi Arabia”* J Med Microbiol. **2016** Nov;65(11):1343-1346
4. Abu-Zaid A, Alamodi AA, **Alkattan W**, Khaled Alkattan, Obeidat AS: *“Dual-degree MBBS–PhD programs in Saudi Arabia:A call for implementation”* Medical Teacher, **2016**, 38:sup1, S9-S11
5. Kharraz R, Hamadah R,AlFawaz D, Attasi J, Obeidat AS, **Alkattan W**, Abu-Zaid A: *“Perceived barriers towards participation in undergraduate research activities among medical students at Alfaisal University—College of Medicine: A Saudi Arabian perspective”* Medical Teacher, **2016** 38:sup1, S12-S18
6. Mina S, Mostafa S, Albarqawi HT, Alnajjar A,Obeidat As, **Alkattan W**, Abu-Zaid A: *“Perceived influential factors toward participation in undergraduate research activities among medical students at Alfaisal University—College of Medicine: A Saudi Arabian perspective”* Medical Teacher, **2016**, 38:sup1, S31-S36
7. Al-Qattan MM, Abou Al-Shaar H, **Alkattan WM** *“The pathogenesis of congenital radial head dislocation/subluxation”* Gene 586 **2016** 69–76

8. Al-Qattan MM, Arafah MM, **AlKattan WM**: “[Pachydermodactyly: A case report](#)” *Plast Surg Case Studies* **2016**;2(1):4-6.
9. Sarkar A, Raji A, Garaween G, Soge O, Ladino R, **Al-Kattan W**, Shibl A, Senok AC: “[Antimicrobial resistance and virulence markers in methicillin sensitive \*Staphylococcus aureus\* isolates associated with nasal colonization](#)” *Microbial Pathogenesis* 93 **2016** 8e12
10. Al-Khayal K, Abdulla M, Al-Obeed O, **Al Kattan W**, Zubaidi A, Vaali-Mohammed MA, Alsheikh A, Ahmad R: “[Identification of the TP53-induced glycolysis and apoptosis regulator in various stages of colorectal cancer patients](#)” *Oncology Reports* 35: 1281-1286, **2016**
11. Khan S, Ansari AA, Khan AA, **Al-Kattan W**, Al-Obeed O, Ahmad R: “[Design, synthesis and in vitro evaluation of anticancer and antibacterial potential of surface modified Tb\(OH\)<sub>3</sub>@SiO<sub>2</sub> core-shell nanoparticles](#)” *Royal Society of Chemistry Advances* **2016**, 6, 18667–18677
12. Khan S, Ansari AA, Khan AA, Ahmad R, Obaid O, **AlKattan W**: “[In vitro evaluation of anticancer and antibacterial activities of cobalt oxide nanoparticles](#)” *J Biol Inorg Chem* **2015** 20:1319–1326
13. Mansoor S, Juhardeen H, Alnajjar A, Abaalkhail F, **Al-Kattan W**, Alsebayel M, Al hamoudi W, Elsiesy W: “[Hyponatremia as the Initial Presentation of Cryptococcal Meningitis After Liver Transplantation](#)” *Hepat Mon.* **2015** September; 15(9): e29902.
14. **Al Kattan W**, Ouban A, Nawab R, Al-Obaid O: “[Characterization and analysis of claudin-1 expression in colorectal cancer and its metastases: A pilot study](#)” *Integr Mol Med*, **2015** Volume 2(4): 243-247
15. Elsiesya H, Abaalkhail F, al Sebayela M, Broering M, al Hamoudia W, Yousifa S,

- Al-Kattan W**, Selima K: *“Spontaneous Clearance of Hepatitis C Genotype 4 After Liver Replantation”* Transplantation Proceedings, 47, 1234e1237 **2015**
16. Alnajjar A, Al-Hussainib H, Al Sebayel M, **Al-Kattan W**, Elsiey H: *“Liver Transplantation for Budd-Chiari Syndrome With Large Solitary Focal Nodular Hyperplasia of the Liver in a Patient With Essential Thrombocytemia: Case Report”* Transplantation Proceedings, 47, 2282e2286 **2015**
  17. **AlKattan WM**, Al-Qattan MM, Bafaqeeh SA: *“The pathogenesis of the clinical features of oral-facial-digital syndrome type”* Saudi Med J **2015**; Vol. 36 (11)
  18. Yaqinuddin A, Kvietys P, Ganguly PK, Ikram F, Yaesh S, **AlKattan W** *“PBL correlates with content acquisition assessment: a study at hybrid PBL program at Alfaisal University”* Medical Teacher 2012; 34(1):83
  19. Al-Qattan M, Hassanain J, Mahmoud S, El-Shayeb A, Tashkandi M, **Al-Kattan WM**: *“On the Neglected Entity of Unilateral Gynecomastia”* Annals of Plastic Surgery, Volume 55, Number 3, **2005**
  20. Al-Qattan MM, Rasool M, **Al-Kattan W**: *“Fabrication of silicone oral splints for severe burn microstomia in children”* Burns 31 **2005** 217–219
  21. Al-Qattan MM, **Al-Kattan WM**: *“Skin wound healing, ischemia-reperfusion injury and nerve regeneration: Similarities in the sequential events and molecular basis”* Can J Plast Surg **2004**; 12(3):131-133.

## Submitted Research

22. **Al-Kattan W**: *“Migration and perforation of a biliary stent into both the duodenum and the ascending colon”*, Saudi J. Gastroenterology.
23. **Wael Al-Kattan**: *“Update on management of metastatic colorectal cancer to the liver, what is new and where is the debate”*, (Review article by invitation), Saudi J. Gastroenterology.

## Presented Abstracts and Conferences:

1. Hussien Elsiesy, Faisal Abaalkhail, Almoataz Hashim, Khaled Atallah, Mohamed Al Sebayel, Waleed Al-hamoudi, **Wael Al-Kattan**: *“Hepatitis B prophylaxis post liver transplantation with tenofovir or entecavir”*, APASL June, 2013 and EASL (International Liver Congress), April 2013.
2. Hussien Elsiesy, Waleed Al-hamoudi, Faisal Abaalkhail, Almoataz Hashim, Khalid Selim, **Wael Al-Kattan**: *“Decreasing Hepatitis C prevalence among hemodialysis patients in Kingdom of Saudi Arabia over the past 3 decades”*, APASL, June 2013.
3. Hussien Elsiesy, Sarra Yousif, Moahemd Shagrani, Hessah Al Hussaini, Mohamed Al Sebayel, Waleed Alhamoudi, Faisal Abaalkhail, **Wael Al-Kattan**: *“Liver Transplantation for progressive familial intrahepatic cholestasis type 3 (PFIC-3) presenting in the fifth decade of life”*, APASL, Istanbul, March 2015 and ILC, Vienna, April 2015
4. W. Alhamoudi<sup>1</sup>, F. Abaalkhail, A. Bendahmash, N. Allam, N. Almasri, H. Al-bahili, M. Al-Sebayel, D. Broering, H. Elsiesy, **Wael Al-Kattan**: *“The impact of metabolic syndrome and prevalent liver diseases on living donor liver transplantation: a pressing need to expand the pool”*, ILC, Vienna, April 2015
5. Hussien Elsiesy, Faisal Abaalkhail, Waleed Alhamoudi, Hessah Al Hussaini, Mohamed Al Sebayel, Dieter Broring, Mohammed Shagrani, **Wael Al-Kattan**: *“Plasmapheresis, intravenous immunoglobulin and Rituximab successfully treat recurrent progressive familial intrahepatic cholestasis type 2 after liver transplantation”*, APASL Istanbul, March 2015
6. Hussien Elsiesy, Sara Yousef, Khalid Selim, Waleed Alhamoudi, Mohamed Shagrani, Mohamed Al Sebayel, Dieter Broring, Faisal Abaalkhail, **Wael Al-Kattan**: *“safety of right-lobe living donor liver transplant from donors with Gilbert Syndrome”*, International Living Donor Liver Transplantation, Seoul, November 2014 and APASL, Istanbul, March 2015

7. Hussien Elsiey, Aziza A. Ajlan, Ahmed Aljedai, Rania Alarieh, Waleed K. Al-Hamoudi, Delal Alkortas, Mohammed Al Sebayel, Dieter C. Broering, Faisal A. Abaalkhail, **Wael Al-Kattan**: *“Severe anemia with Sofosbuvir based therapy for Hepatitis C (HCV) recurrence post Liver transplantation on mycophenolate mofetil”*, (MMF), AASLD, Boston, November 2014
8. Abaalkhail F, **Al-Kattan W**: *“Impact of Using of Hepatitis B Core Disease Donor on Liver Transplantation”*,
9. Abaalkhail F, **Al-Kattan W**: *“The Incidence of Tuberculosis in Post Liver Transplantation Recipients From a High Endemic Area”*
10. Muhammad Zafar, **Wael Al-Kattan**: *“Utilization of Hospital Facilities with Concurrent Use of Clinical Simulation Center for the Development of Clinical Skills”*,
11. Zafar, M., **Al-Kattan, W M.**: *“Utilization of Hospital Facilities with Concurrent Use of Clinical Simulation Center for the Development of Clinical Skills”*, (Abstract and Poster)
12. Mostafa S, Albarqawi H, Mina S, AlNajjar A, **Al-Kattan W**, Obeidat A. *“What influences students to pursue research activities during their undergraduate medical years? : A Saudi Arabian perspective”*, Asia Pacific Medical Education Conference (APMEC), 2015
13. Ranim F, Khan T, Awad AM, AlTannir M, **Al-Kattan W**, Obeidat A, *“Role of patient safety in medical curricula: A student perspective”*, Asia Pacific Medical Education Conference (APMEC), 2015
14. Kafaji R, Mansoor S, Awad A, Khan T, AlTannir M, **Al-Kattan W**, Obeidat A. *“Analysis of influence on students’ perception on adopting integrated curriculum”*, Asia Pacific Medical Education Conference (APMEC), 2015

15. Muhsen I, Sarraj JU, Naji HA, Qannita S, Kherallah SA, AlTannir N, Bashir M, AbuZaid A, Yaqinuddin A, **Al-Kattan W**, Obeidat A. *“Assessing research competencies needed for undergraduate medical students, its delivery and assessment: mentors perspective”*, Asia Pacific Medical Education Conference (APMEC), 2015
16. Kherallah Sa, Naji HA, Muhsen IN, Sarraj JU, Qannita AS, , AlTannir M, Bashir M, AbuZaid A, Yaqinuddin A, **Al-Kattan W**, Obeidat A, *“Evaluating the effectiveness of current medical textbooks as undergraduate learning recourse- A student perspective”*, Asia Pacific Medical Education Conference (APMEC), 2015
17. Eldeib A, Eldeib O, Albali N, Awad AM, Ahmed E, AlTannit M, **Al-Kattan W**, Obeidat A, *“Evaluating the Effectiveness of Current Medical Textbooks as Undergraduate Learning Recourse- A Student Perspective”*, Asia Pacific Medical Education Conference (APMEC), 2015
18. Awad A M, Barakat A, Ahmed E, Abdulbaki A, Khalf M, Alsheikh A, AlTannit, **Al-Kattan W**, Obidat A, *“The Arab Medical Aspirations League (AMAL) : An Innovative Student Initiative In Research Education”*, Asia Pacific Medical Education Conference (APMEC), 2015
19. Haya Azouz Aalaa Aldalati, Imad AlabdulRazzak, , Ahmed Abu-Zaid, Akef Obeidat, **Wael Al-Kattan**: *“The Impact of University Preparatory Program (UPP) on Medical Students’ Performance: Evidence from Alfaisal University”*, The International Association for Medical Education (AMEE), Glasgow 2015
20. Aalaa Aldalati, Imad AlabdulRazzak, Haya Azouz, Ahmed Abu-Zaid, Akef Obeidat, **Wael Al-Kattan**: *“The Efficacy of Saudi Standard Achievement Admission Test “SAAT” in Predicting Medical Students’ Academic Performance in Pre-Clinical Years: A Pilot Study”*, The International Association for Medical Education (AMEE), Glasgow 2015

21. **Al-Kattan W**, Al-Dalati A, “*A Combined Approach of Clinical Skills Training Utilizing Near-Peers, In-Campus Faculty and Clinicians: An Innovative Integrated Model*”, The International Association for Medical Education (AMEE), Glasgow 2015
22. **Al-Kattan W**, Al-Dalati A, *Does The Saudi General Aptitude (Qudorat) Predict Academic Performance (cGPA) among Pre-Clinical Medical Students? A Pilot Study from Alfaisal University, College of Medicine*, The International Association for Medical Education (AMEE), Glasgow 2015

### Research Projects and KACST Grants

- *Use of DNA methylation as a biomarker to predict graft rejection in kidney and liver organ transplants SR 1.41 million, (Co-investigator)*

Summary: DNA methylation is the most common type of epigenetic change which has gained attention over the past few years. This is because; alterations in DNA methylation patterns can affect gene expression profiles of a lexicon of genes in diseases, especially cancer. In recent studies, however, a link has been established that connects DNA methylation changes and transplantation. The major concern in transplantation medicine is graft rejection. It has been demonstrated that DNA methylation changes are at least in part responsible for the transplant outcomes. In-addition, if we understand how and which changes in DNA methylation patterns are associated with graft rejection, these then can be used as biomarkers for predicting transplant rejection. There is certain amount of cell-free circulating DNA in serum/plasma. This DNA can easily be used as a biomarker to detect alterations in DNA methylation associated with graft rejection. The main aim of this study is to use DNA methylation markers for the determination of graft prognosis and the diagnosis of transplant rejection.

- *Determining the role of Homocysteinemia in Non-Alcoholic Fatty Liver Disease and its association with methylenetetrahydrofolate reductase (MTHFR) C677T/A1298C polymorphisms, (Co-investigator)*

Summary: Non-Alcoholic Fatty Liver Disease (NAFLD) is a common condition, with estimated prevalence of about 16% in the Kingdom of Saudi Arabia. Its burden is expected to rise due to increasing prevalence of obesity and diabetes mellitus in the region. NAFLD is considered liver component of the metabolic syndrome and therefore an indirect cardiovascular risk factor.

Hyperhomocysteinemia is being increasingly associated with NAFLD.

Pathogenesis of NAFLD involves dysregulation/derangements of homocysteine, folate, and vitamin B<sub>6</sub> and B<sub>12</sub> metabolism. Recently, Cystathionine- $\beta$ -Synthase (CBS) and Cystathionine- $\gamma$ -lyase (CSE), key enzymes that regulate the levels of homocysteine and cysteine and production of endogenous H<sub>2</sub>S, have been implicated in NAFLD. In order to develop novel diagnostic markers and therapeutic targets, we in this study, want to determine the levels of homocysteine, folate, vitamin B<sub>6</sub> and B<sub>12</sub>, and H<sub>2</sub>S (as surrogate marker for CBS/CSE and glutathione systems) in known cases of NAFLD and normal population in the Kingdom of Saudi Arabia. In addition, we will also explore MTHFR C677T and A1298C polymorphisms (key polymorphism which affect homocysteine metabolism) in all cases and controls in order to explore their role in the development of NAFLD.

- *Determination of DNA methylation profile of breast cancer patients to develop diagnostic and prognostic biomarkers SR 1.2 million, (Collaborator)*

Summary: Breast cancer remains one of the most frequent cancers among women around the world. Late onset of symptoms and uncertain course of the disease contribute significantly to the mortality due to this cancer. Breast cancer is usually detected through the traditional triple test including physical examination, mammography and aspiration cytology. These tests, along with treatment advances, have increased survival rates globally; however, survival rates remain



unacceptably high in KSA. Thus, there is a need to develop new strategies which could detect cancer in preclinical and pre-symptomatic phase. In-addition, these newer strategies should be able to detect and predict metastatic, recurrent and chemotherapy resistant disease. Several studies have shown that cancer patients have high serum levels of tumor specific DNA alterations, with over 90% of circulating DNA being derived from tumors. Most common epigenetic modification of the DNA in cancers is "DNA methylation". Modifications in methylomes are an early event in cancers and remain involved throughout the process of oncogenesis. Aberrant modifications in DNA methylation patterns can be used as robust biomarkers for diagnosing and prognosticating breast cancer. However, these aberrant changes DNA methylation patterns have shown to be population specific. The main aim of this study is to develop DNA methylation based biomarkers to 1) diagnose breast cancer 2) predict metastatic potential and chemotherapy resistance in breast cancer patients from Saudi Arabia.

**Memberships:**

1.	Canadian Association of General Surgery	CAGS
2.	Ontario Association of General Surgery	OAGS
3.	American College of Surgeons	ACS
4.	Society of Surgical Oncology	SSO
5.	European Society of Surgical Oncology	ESSO
6.	Society of American Gastrointestinal and Endoscopic Surgeons SAGES	
7.	European Association of Endoscopic Surgery	EAES
8.	American Society of Metabolic Surgery ASMBS	
9.	International Federation for the Surgery of Obesity	IFSO
10.	European Association for the Study of the Liver	EASL
11.	International Liver Transplant Society	ILTS

**Areas of Interest:**

- General Surgery
- Minimal invasive surgery
- Bariatric Surgery
- Hepatobiliary, Pancreatic and Gastrointestinal Surgery
- Liver Transplantation

**Area of Strength:**

- All General Surgery Procedures
- Laparoscopic Metabolic and Bariatric Surgery
- Advanced Laparoscopic General Surgery Procedures
- Laparoscopic and Open Colorectal Surgery
- Laparoscopic Adrenalectomy
- Benign and Malignant Gastric and Gastro-esophageal Disease Surgery
- Hepatobiliary and Pancreatic Oncology Surgery
- Benign Hepatobiliary and Pancreatic Surgery
- Retroperitoneal tumors and GI Oncology Surgery
- Cadaveric Liver Transplantation
- Living Related Liver Transplantation

## References

### 1. Academic References:

#### **Dr. Thomas Aretz**

Vice President of Education  
Associate Professor of Pathology  
Harvard Medical International  
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