

Biographical Sketch

Assaad Antoine EID.	<p>Position title: Associate Professor Department of Anatomy Cell Biology and Physiology Faculty of Medicine American University of Beirut Beirut, Lebanon</p> <p>Nationality: French and Lebanese</p> <p>Office: +961-1-350 000; ext: 4781</p> <p>Email: ae49@aub.edu.lb</p>
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I- EDUCATION AND ACADEMIC APPOINTMENTS

INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
American University of Beirut, Faculty of Medicine, Department of Anatomy Cell Biology and Physiology.		2015-Pres	Associate Professor
Paris Descartes University, Faculty of Applied and Biomedical Sciences, Paris, France.		2016-Pres	Visiting Professor
Paris Descartes University, Faculty of Applied and Biomedical Sciences, Paris, France.	H.DR*	June 2015	Physiopathology, Biochemistry and Metabolism
American University of Beirut, Faculty of Medicine, Department of Anatomy Cell Biology and Physiology.		2010-2015	Assistant Professor
University of Texas Health Science Center at San Antonio, Medicine/Nephrology.		2006-2010	Postdoctoral Fellowship
Claude Bernard University, Lyon, France	Doctorate	2006	Physiopathology, Biochemistry and Metabolism
Claude Bernard University, Lyon, France	M.Sc.	2001	Biomedical Engineering
Lebanese University, faculty of sciences II, Fanar, Lebanon	B.SC.	2000	Physiology

* Highest University Research Degree Given in France allowing his owner to apply for professorship position.

II- WORK EXPERIENCE

- 2015-Pres** Associate Professor, American University of Beirut, Faculty of Medicine, Department of Anatomy Cell Biology and Physiological Sciences.
- 2016-Pres** Visiting Professor, Paris Descartes University, Faculty of Applied and Biomedical Sciences, Paris, France.
- 06/2015** HDR (Habilitation à Diriger des Recherches) – Paris Descartes University, Faculty of Applied and Biomedical Sciences, Paris, France.
- 2010-2015** Assistant Professor, American University of Beirut, Faculty of Medicine, Department of Anatomy Cell Biology and Physiological Sciences.
- 2006-2010** Postdoctoral Fellowship in the department of Medicine, division of Nephrology of the University of Texas Health Science Center at San Antonio.
- 04/06-11/06** Postdoctoral Fellowship in the Molecular Biology and Genomic department of “Roanne Biothechnology” and the Zootechny department of the National Veterinary School of Lyon, France.
- 2001-2006** Doctorate training in the French National Institute of Health and Medical Research, INSERM Unit 499, “Metabolic and Renal Pathophysiology”.
Dissertation: “Renal gluconeogenesis in human and animal models of type 1 and type 2 diabetes”.
- 2000-2001** Biomedical Engineering Master training in the French National Institute of Health and Medical Research, INSERM Unit 329, “Metabolic and hormonal diseases”.
Dissertation: “ Polyclonal and monoclonal anti-estradiol antibodies production, molecular and biochemical characterization of the binding sites of these antibodies”.

III- HONORS AND AWARDS

- 12/2016** French-Lebanese Research Excellence Award prize.
- 04/2016** Visiting Professor, Paris Descartes University, Faculty of Applied and Biomedical Sciences, Paris, France.
- 08/2013** Mohamad Chaeib Foundation Scientific Research Award – First Prize.
- 08/2013** Elected in the Interacademy Medical Panel - Young physician Leaders 2013.
- 08/2013** Elected to participate in the World Health Summit - 2013
- 07/2012** Elected young affiliate of The Academy of Sciences for the Developing World (TWAS).
- 07/2009** Best Fellow – National Kidney Foundation
- 12/2009** 12th Annual Research Day Winner: Postdoctoral fellow category: University of Texas Health Science center at San Antonio.
- 2003-2006** National Center for Scientific Research (CNRS, Lebanon): Pre-Doctoral Fellowship.

IV- RESEARCH

IV.A. Research Interests

- Diabetes and diabetic complications
 - i. Diabetic Neuropathy
 - ii. Diabetic Nephropathy/Cardiomyopathy
- Signaling Mechanisms of diabetic neuropathy and nephropathy.
- Biomarkers identification to predict the onset and development of renal and cardiovascular injuries in diabetes.
- Drug synthesis and drug screening to inhibit diabetic complications development.
- Stem cells research in diabetes.

IV.B. Peer-Reviewed Publications

1- MohsenF, Anwar KM, Faraj W, Sauleau AE, Eid AH, and **Eid AA***. Colorectal Cancer Risk in Diabetes: Double the Trouble in Metabolic diseases. Submitted to JCI March 2017.

***Corresponding Author(s)**

2- Eid SA, EL Massry M, Haddad M, Dia B, Grenier J, Hichor M, Massaad C*, and **Eid AA***. Nox4-Induced Schwann cells Injury in Diabetic Pripheral Neuropathy. In preparation

***Corresponding Author(s)**

3- Eid SA, El Massry M, Dia B, Barakat R, Haddad M, Hichor M, Massaad C*, and **Eid AA***. Role of the mTORC1 pathway in Diabetic Neuropathy: Unveiling a novel mechanistic pathway in Schwann Cell Injury.

***Corresponding Author(s)**

- 4- Hichor M, Kumar Sampathkumar N, Montanaro J, Borderie D, Petit PX, Gorgievski V, Tzavara E, **Eid AA**, Charbonnier F, Grenier J, Massaad C. Paraquat induces peripheral myelin disruption and locomotor defects: crosstalk with LXR and Wnt pathways. Accepted on October 25 in the Antioxid Redox Signaling, December 2016 (Epub ahead of print).
- 5- Eid S, Boutary S, Braych K, Sabra R, Hamdy A, Moodad S, Rashid A, Massaad C, Block K, Gorin Y, Abboud HE, and **Eid AA***. Rictor/mTORC2 axis Regulates Nox4 Mediated Podocyte Injury in Diabetic Nephropathy. Antioxid Redox Signaling. 25(13):703-719.
***Corresponding Author(s)**
- 6- Eid S, Massaad C*, and **Eid AA***. Oxidative Stress in Diabetic Neuropathy: Strategies for Treatment. Diabetes Case Rep 1:101. doi:10.4172/DCRS.10000101
***Corresponding Author(s)**
- 7- Daoud G, Monzer A, Bahmad H, Chamaa F, Hamdar L, Mouhieddine T, Shayya S, **Eid A**, Kobeissy F, Liu YN, Abou-Kheir W. Primary versus Castration-Resistant Prostate Cancer: Modeling Through Novel Murine Prostate Cancer Cell Lines. Oncotarget. 2016 Mar 28. doi: 10.18632/oncotarget.8436. [Epub ahead of print]
- 8- Nassif J, Abbasi SA , Nassar A , Abu-Musa A and **Eid AA***. The Role of NADPH-Derived ROS Production in the Pathogenesis of Endometriosis: A Novel Mechanistic Approach. J Biol Regul Homeost Agents. 30(1): 31-40, 2016.
***Corresponding Author(s)**
- 9- Jurjus A, Eid A, Al Kattar S, Zeenny MN, Gerges-Geagea A, Haydar H, Hilal A, Oueidat D, Matar M, Tawilah J, Hussein IH, Schembri-Wismayer P, Cappello F, Tomasello G, Leone A, Jurjus RA. Inflammatory bowel disease, colorectal cancer and type 2 diabetes mellitus: The links. BBA Clin. 5:16-24, 2015 .
- 10- Bouhadir KH*, Koubeissi A, Mohsen FA, El-Harakeh MD, Cheaib R, Younes J, Azzi G, **Eid AA***. Novel carbocyclic nucleoside analogs suppress glomerular mesangial cells proliferation and matrix protein accumulation through ROS-dependent mechanism in the diabetic milieu. II. Acylhydrazone-functionalized pyrimidines. Bioorg Med Chem Lett. 1;26(3):1020-4, 2016.
***Corresponding Author(s)**
- 11- Mouhieddine TH, Nokkari A, Itani MM, Chamaa F, Bahmad H, Monzer A, El-Merahbi R, Daoud G, **Eid A***, Kobeissy FH*, Abou-Kheir W*. Metformin and Ara-a Effectively Suppress Brain Cancer by Targeting Cancer Stem/Progenitor Cells. Front Neurosci. 2015 Nov 23;9:442.
***Corresponding Author(s)**
- 12- Abou-Kheir W, **Eid A**, El-Merahbi R, Assaf R, Daoud G. A Unique Expression of Keratin 14 in a Subset of Trophoblast Cells. PLoS One. 2015 Oct 2;10(10):e0139939.
- 13- Altara R, Manca M, Sabra R, **Eid AA**, Booz GW, Zouein FA. Temporal cardiac remodeling post-myocardial infarction: dynamics and prognostic implications in personalized medicine. Heart Fail Rev.

2015 Oct 23. [Epub ahead of print]

- 14-**Husari A, Boutary S, El Turk A, Abdel Aziz M, Kreidieh F, El-Sabban M, **Eid AA***. Inhibition of Nox4 Attenuates tobacco Smoke-Induced Tubular Epithelial Cells Injury. Submitted to AJP, Renal, Under Revision, January 2016.
***Corresponding Author(s)**
- 15-**Eid S, Massaad C*, **Eid AA***. Oxidative Stress in Diabetic Neuropathy: Strategies For Treatment. Diabetes Case Reports. Volume 1, Inaugural Issue, Accepted September 20, 2015.
***Corresponding Author(s)**
- 16-**Abou-Kheir W, **Eid A**, El-Merahbi R, Assaf R, Daoud G. A Unique Expression of Keratin 14 in a Subset of Trophoblast Cells. PLoS One. 2015 Oct 2;10(10):e0139939
- 17-**El Achkar G, Jouni M, Mrad MF, Hirz T, El Hachem N, Khalaf A, Hammoud S, Fayyad-Kazan H, **Eid AA**, Badran B, Abou Merhi R, Hachem A, Hamade E, Habib A. Thiazole derivatives as inhibitors of cyclooxygenases in vitro and in vivo. European Journal of Pharmacology 750: 66–73, 2015.
- 18-**El-Merahbi R, Liu YN, **Eid AA**, Daoud G, Hosry L, Monzer A, Mouhieddine T, Hamade A, Najjar F, Abou-Kheir W. Berberis Libanotica Ehrenb extracts show anti-neoplastic effects on Prostate Cancer Stem/Progenitor Cells. PLoS One. 9 (11): e112453, 2014.
- 19-**Eid S, Abdul-Massih C, El-Khuri CM, Hamdy A, Rashid A, **Eid AA***. New Mechanistic Insights In The Development of Diabetic Nephropathy: Role of Cytochromes P450 And Their Metabolites. Journal of Endocrine Disorders. 1 (2): 6, 2014.
***Corresponding Author(s)**
- 20-**Anwar KM, Abou Kheir W, Eid S, Fares J, Liu X, Eid AH*, **Eid AA***. Colorectal and Prostate Cancer Risk in Diabetes: Metformin, an actor behind the scene. Accepted in the Journal of Cancer. 5(9): 736-744, 2014.
***Corresponding Author(s)**
- 21-**Tyan PI, Radwan AH, **Eid AA**, Haddad AG, Wehbe D, and Taher AT. Novel Approach to Reactive Oxygen Species in Nontransfusion-Dependent Thalassemia. BioMed Research International. 2014:350432, 2014.
- 22-**Hajj-Hussein I, **Eid A**, Maksoud R, Jambart S, Bou Assi T, Zgheib Z, Oueidat D, Chams N, Chams S, Diab R, Barada K, Jurjus R, Cappello F, Remund J, Kreiker J, Leone A, Jurjus A. Estrogens Control Inflammation in Experimental Colitis. J Biol Regul Homeost Agents. 28(2): 213-224, 2014.
- 23-**Lee DY, Wauquier F, **Eid AA**, Roman LJ, Ghosh Choudhury G, Khazim K, Block K, Gorin Y. Nox4 NADPH Oxidase Mediates Peroxynitrite-Dependent Uncoupling of Endothelial Nitric Oxide Synthase and Fibronectin Expression in Response to Angiotensin II. Role of Mitochondrial Reactive Oxygen Species. J Biol Chem. J Biol Chem. 288(40):28668-86,

2013.

- 24-** Eid S, Maalouf R, Jaffa A, Nassif J, Ziyadeh FN, **Eid AA***. 20-HETE and EETs in Diabetic Nephropathy: A Novel Mechanistic Pathway. *PLoS One*. 8(8):e70029, 2013.
***Corresponding Author(s)**
- 25-** **Eid AA**, Lee DY, Roman LJ, Khazim K, Gorin Y. Sestrin 2 and AMPK connect hyperglycemia to Nox4-dependent eNOS uncoupling and matrix protein expression. *Mol Cell Biol*. 33(17): 3439-3460, 2013.
- 26-** Eid S, Abou-Kheir W, Sabra R, Daoud D, Jaffa A, Ziyadeh FN, Roman L, **Eid AA***. Involvement Of Renal Cytochromes P450 And Arachidonic Acid Metabolites In Diabetic Nephropathy. *J Biol Regul Homeost Agents*. 27(3):693-703, 2013.
***Corresponding Author(s)**
- 27-** Ford BM, **Eid AA**, Gooz M, Barnes JL, Gorin YC, Abboud HE ADAM17 mediates Nox4 expression and NADPH oxidase activity in the kidney cortex of OVE26 mice. *Am J Physiol Renal Physiol*. 1;305(3): F323-F332, 2013.
- 28-** Nassif J, Mattar S, Abu Musa A, **Eid A**. Endometriosis and cancer: what do we know? *Minerva Ginecol*. 65(2):167-79, 2013.
- 29-** **Eid AA**, Ford BM, Bhandary B, Cavagliery R, Block K, Barnes JL, Gorin Y, Choudhury GG, Abboud HE. mTOR Regulates Nox4-Mediated Podocyte Depletion in Diabetic Renal Injury. *Diabetes*. 62(8):2935-2947, 2013.
- 30-** **Eid AA***, Koubeissi A, Bou-Mjahed R, Al Khalil N, Farah M, Maalouf R, Bouhadir K*. Novel carbocyclic nucleoside analogs suppress glomerular mesangial cells proliferation and matrix protein accumulation through a ROS-depending mechanism in the diabetic milieu. *Bioorg Med Chem Lett*. 23(1):174-178, 2013.
***Corresponding Author(s)**
- 31-** Nayak BK, Feliers D, Sudarshan S, Friedrichs WE, Day RT, New DD, Fitzgerald JP, **Eid A**, Denapoli T, Parekh DJ, Gorin Y, Block K. Stabilization of HIF-2 α through redox regulation of mTORC2 activation and initiation of mRNA translation. *Oncogene*. 32(26):3147-3155, 2013.
- 32-** Jaffa MA, Kobeissy F, Al Hariri M, Chalhoub H, **Eid AA**, Ziyadeh FN, Jaffa AA. Global Renal Gene Expression Profiling Analysis in B₂-Kinin Receptor Null Mice: Impact of Diabetes. *PLoS ONE* 7(9): e44714, 2012.
- 33-** Mrad MF, Mouawad CA, Al-Hariri M, **Eid AA**, Alam J, Habib A. Statins modulate transcriptional activity of heme-oxygenase-1 promoter in NIH 3T3 cells. *J Cell Biochem*. 113(11): 3466-3475, 2012.
- 34-** Fitzgerald JP, Nayak B, Shanmugasundaram K, Friedrichs W, Sudarshan S, **Eid AA**, DeNapoli T, Parekh DJ, Gorin Y, Block K. Nox4 mediates renal cell carcinoma cell invasion

through hypoxia-induced interleukin 6- and 8- production. PLoS One. 7(1): e30712, 2012.

35- Maalouf RM[§], **Eid AA**[§], Gorin YC, Block K, Escobar GP, Bailey S, Abboud HE. Nox4-derived reactive oxygen species mediate cardiomyocyte injury in early type 1 diabetes. Am J Physiol Cell Physiol. 302(3):C597-604, 2012.

[§]**The authors contributed equally to this work**

36- Jurjus A, Hajj-Hussein I, **Eid A**. Health Tourism Quality in Lebanon: The First World Health Service at a Thirsd World Cost. ST-7: Education, Services and Public Paper # 7-7K @16-ICT & 8-C&C: 11-13/7/12. Linnaeus University, Vaxjo, Sweden editors: HO, M. Zineldin, F. Soliman, and M. Amsteus. Ppl-7, 2012. (ISBN 978-91-86983-58-1)

37- **Eid A**, Fagg BM, Gorin Y, Block K, Barnes JL, Choudhury GG, Kasinath BK, Abboud HE. AMP-activated Protein Kinase (AMPK) Negatively Regulates Nox4-dependent Activation of p53 and Epithelial Cell Apoptosis in Diabetes. J Biol Chem. 285: 37503 - 37512, 2010.

38- Block K, Parekh D, New D, Chelmicki T, **Eid A**, Reed R, Choudhury GG, Gorin Y, Abboud HE. NAD(P)H oxidase subunit, p22phox, inhibits the function of the tumor suppressor protein, tuberin. Am. J. Pathology, 176: 2447-2455, 2010.

39- Maalouf R, **Eid A**, Gorin Y, Abboud H.E, Bailey S.R. Nox4 mediates cardiomyocytes phenotypy in diabetes. Circulation. 120: S457, 2009.

40- **Eid A**, Gorin Y, Fagg BM, Maalouf R, Barnes JL, Block K, Abboud HE. Mechanisms of podocyte injury in diabetes: role of cytochrome P450 and NADPH oxidases. Diabetes. 58:1201-11, 2009.

41- Block K, **Eid A**, Griendling KK, Lee DY, Wittrant Y, Gorin Y. Nox4 NAD(P)H oxidase mediates Src-dependent tyrosine phosphorylation of PDK-1 in response to angiotensin II: role in mesangial cell hypertrophy and fibronectin expression. J Biol Chem. 283:24061-76, 2008.

42- **Eid A**, Bodin S, Ferrier B, Delage H, Boghossian M, Martin M, Baverel G, Conjard A. Intrinsic gluconeogenesis is enhanced in renal proximal tubules of Zucker diabetic fatty rats. J Am Soc Nephrol. 17:398-405, 2006.

43- **Eid A**, Baverel G, Ferrier B. Effect of type 2 diabetes on renal metabolism. Diabetes and Metabolism. 42:98-103, 2006. (English translation).

44- Guitton J, Conjard A, **Eid A**, Martin M, Boghossian M, Delage H, Baverel G, Ferrier B. Identification of novel targets of cephaloridine in rabbit renal proximal tubules synthesizing glutamine from alanine. Arch Toxicol.79:587-94, 2005.

IV.C. Patent

1- **Eid AA**, Habib R, Badr K. International Patent Application Serial No.: PCT/US2015/048983. Determination of Risk for Development of Cardiovascular Disease by Measuring Urinary Levels of Podocin and Nephryn Messenger RNA, 2016.

V - RESEARCH SUPPORT

V.A. Ongoing research support

V.A.1- As Lead Principal Investigator/ Principal Investigator.

1- United Kingdom-Lebanon Tech Hub (UKLTH) (Eid (Medicine), Costantine and Kanj (Engineering): PIs)

Innovative Research Grant, 01/01/2017 – 01/31-2020) (\$1.150.000,00)

Title: “A Novel Non-Invasive Glucose Monitoring Device”

2- MPP - American University of Beirut

Regular Research Grant, 02/01/2017 - 01/31/2019 (\$120.000,00)

Title: “Mechanisms of Schwann Cells Injury in Diabetes: Unveiling New Mechanistic Pathways for Innovative Therapeutic Approaches”.

3- Qatar National Research Funds (Eid (Lebanon), Gorin (USA), Manusami (Qatar): PIs)

National Priority Research Program

Regular Multicenter Research Grant, 11/01/2015 - 10/31/2018 (\$900.000,00)

Title: Sestrin 2 as a novel therapeutic target and biological marker in diabetic nephropathy

4- CEDRE - Research Program

(EID and MASAAD, PIs)

Regular Research Grant, 01/01/2015-12/31/2016 (€20.000,00)

Extension till 12/31/2017 (€ 10.000,00)

This grant enter in the scope of the Cooperation Program Agreement signed between the French and the Lebanese governments aimed to reinforce the cooperation and the partnership between a Lebanese laboratory and a French laboratory.

Title: “Role of oxysterols and Reactive Oxygen Species (ROS) in Diabetic Neuropathy”

5- National Center for Scientific Research - Lebanon (Eid, PI)

Regular Research Grant, 10/01/2015-09/30/2017 (\$ 25.000,00)

Title: “Involvement of renal cytochromes P450 and their metabolites in diabetic Renal Injury”.

V.A.2- As Mentor/Supervisor

1- Alpha Omega Alpha Carolyn L. Kuckein Student Fellowship Award

Title: “MicroRNA-based regulation of Cytochrome P 450 enzymes as a novel approach in the management of diabetic nephropathy”.

V.A.3- As Co- Principal Investigator

1- MPP - American University of Beirut (EID, C0-PI)

Regular Research Grant, 06/01/2016-05/31/2019 (\$120.000,00)

Title: “Podocyturia mRNAs: earlier and superior predictors of cardiovascular outcomes in

diabetic and non diabetic hypertensive patients”.

V.B. Prior research support

- 1- **MPP** - American University of Beirut
Regular Research Grant, 11/01/2013-10/31/2016 (\$100.000,00)
Title: Diabetic Nephropathy: Involvement of Renal Cytochromes P450 and Their Metabolites.
- 2- **Qatar National Research Funds**, National Priority Research Program (EID, PI)
Regular Research Grant, 01/09/2012-31/08/2016 (\$1.000.000,00)
Title: Mechanism of epithelial Cells Injury in Diabetes
- 3- **Qatar National Research Funds**, National Priority Research Program (EID, PI)
Regular Research Grant, 01/09/2012-31/08/2016 (\$1.000.000,00)
Title: AMPK, mTOR and Tuberin: Novel Biological Pathways Linking Diabetes to Colorectal Cancer
- 4- **Juvenile Diabetes Research Foundation** - JDRF (EID, PI)
01/08/2010-31/07/2013 (\$128.000,00)
Title: Mechanisms of Epithelial Cells Injury: NADPH oxidases and Diabetic Nephropathy.
The grant was transferred to AUB as a transitional grant with no cost extension till 2014
- 5- **Farouk Jabr Award** - American University of Beirut
Research award, (\$25.000,00)
Title: Synthesis & Biological study of novel carbocyclic nucleoside analogs
- 5- **MPP** - American University of Beirut (EID, PI)
Regular Research Grant (Medical Practice Plan), 11/01/2011-10/31/2013 (\$120.000,00)
Title: Glomerular Epithelial Cell Injury in Diabetes: A Novel Crosstalk Between AMPK and NADPH
- 6- **National Center for Scientific Research** - CNRS Lebanon (EID, PI)
Regular Research Grant, 10/01/2011-09/30/2013 (L.L 36.000.000)
Title: “Mechanisms of Kidney Cell Injury in diabetes”
- 7- **MPP** - American University of Beirut (Barada K., PI and Eid Co-PI)
Regular Research Grant (Medical Practice Plan), 04/01/2013-03/31/2016 (\$120.000,00)
Title: “Neural regulation of glucose absorption in rat jejunum via sglT1 and glut2: dependence on intraluminal glucose concentration and potential implications for obesity and diabetes”.
- 8- **MPP** - American University of Beirut (Jaffa AA., PI and Eid Co-PI)
Regular Research Grant (Medical Practice Plan), 04/01/2013-03/31/2016 (\$120.000,00)
Title: “Molecular and Cellular Mechanisms of Diabetic Nephropathy”.
- 9- **MPP** - American University of Beirut (Mrad F., PI and Eid Co-PI)
Regular Research Grant (Medical Practice Plan), 04/01/2013-03/31/2014 (\$40.000,00)
Title: “Inhibitory reflex of glucose on its own absorption from a distant intestinal site: role of

artificial sweeteners and type 2 diabetes mellitus”.

10- National Center for Scientific Research - Lebanon (Bouhadir K., PI and Eid Co-PI)

Regular Research Grant, 10/01/2013-09/30/2015 (L.L 36.000.000)

Title: “Preparation of potentially active hydrazono-carbanucleosides for diabetic nephropathy”.

11 - American Heart Association - AHA (EID, PI)

Postdoctoral Fellowship, 07/01/2008-06/30/2010

Title: Oxidant stress in diabetic nephropathy/Role of glomerular epithelial cells.

(awarded but retracted due to conflict with the NKF grant).

12- National Center for Scientific Research - CNRS Lebanon (EID, PI)

Pre-Doctoral Fellowship, 2003-2006

13- National Kidney Foundation - NKF (EID, PI)

Post doctoral Fellowship Grant, 07/01/2008-09/30/2010

Title: Oxidant stress in diabetic nephropathy/Role of glomerular epithelial cells.

VI- Memberships in Professional Societies

VI.1. Memberships in Professional Societies

2016- Pres	Founding President of the Lebanese Association for Diabetes Research (LADR)
2012-Pres	Elected in the Interacademy Medical Panel - Young physician Leader 2013
2012-Pres	Young affiliate of The Academy of Sciences for the Developing World (TWAS)
2012-Pres	Member of the American Heart Association
2011-Pres	Member of the Lebanese Association for the Advancement of Sciences (LAAS)
2011-Pres	Member of the Lebanese Association for the Advancement of Sciences Annual Meetings Organizing Committee
2010-Pres	Member of the European Association for the Study of Diabetes
2008-Pres	Member of the American Society of Nephrology

VI.2. Editorial Board

- Journal of Endocrine Disorders
- Journal of Diabetes & Metabolism
- Integrative Obesity and Diabetes (IOD)
- Diabetes Case Reports

VI.3. Reviewer Activities

- American Journal of Physiology
- Scientific Report
- Diabetes
- FASEB

- Diabetologia
- Hemoglobin
- Plos One

VII- TEACHING

VI.A. Teaching Related Roles and Responsibilities.

Since I joined AUB, in November of 2010, I was involved in developing, implementing, coordinating and teaching medical, graduate and undergraduate courses.

VI.A.1. Course Development and Implementation

VI.A.1.1. Impact Curriculum – Faculty of Medicine.

Since joining AUB, and as member of PRIME “Program for Research and Innovation in Medical Education”, I had a major contribution in the new curriculum that was developed and implemented last year 2013-2014 in our medical school “The Impact Curriculum”. I was responsible for developing and implementing a new interdisciplinary, integrated, basic science course “Cellular and Molecular Basis of Medicine” as well as I actively contributed in the Development of a new interdisciplinary, integrated basic science and clinical course “Renal Module”.

Cellular and Molecular Basis of Medicine – IDTH 201

1) Course Description:

“The Cellular and Molecular Basis of Medicine” is an interdisciplinary, integrated, basic science course which draws upon the disciplines of histology, cell and molecular biology, cell physiology, biochemistry and pharmacology to present the basic concepts and principles that underlie the normal structure and function of the human body at the cellular and molecular level”.

2) Credits and Audience:

This is a 7 credits course that is tailored for Med 1 students.

3) Implementation Date:

Fall of 2013 – 2014.

Renal Module – IDTH 228

1) Course Description:

“The Renal module” is an integrated course that covers the anatomy, histology, physiology, pathology, pathophysiology and pharmacology related to the kidneys and urinary system, and the application of this knowledge in solving related clinical problems.

2) Credits and Audience:

This is a 4 credits course that is tailored for Med 2 students.

3) Implementation Date:

Fall of 2014 – 2015.

VI.A.1.2. Graduate Program.

During the last year 2013-2014, major changes were implemented in the graduate program of the faculty of Medicine at AUB. The “General Physiology: Cellular Mechanisms” and homeostasis” courses were totally redesigned to fit the research oriented needs lectures and discussions of graduate students. New topic, a series of discussion, paper presentations, research techniques and methodology, covering the basic, translational and clinical research areas of the various topics of these 2 courses were introduces.

General Physiology: Cellular Mechanisms – PHYL 3101) Course Description:

The “General Physiology: Cellular Mechanisms” course describes and highlights the aspects of membrane transport processes across symmetrical and asymmetrical cell membranes, electrophysiology, membrane potentials, action potentials in excitable cells, synaptic transmissions, and excitation-contraction coupling in muscles.

2) Credits and Audience:

This is a 4 credits core course that is offered to Ph.D. and masters graduate students.

3) Implementation Date:

Fall of 2013 – 2014.

Homeostasis – PHYL 3001) Course Description:

The “Homeostasis” course studies the internal environment and its physiological regulation by two homeostatic organs: the lungs and the kidneys. Didactic lectures cover the physiology of the topic, treating internal environment, homeostasis and feedback mechanisms, the lung, the kidney, and electrolytes

2) Credits and Audience:

This is a 2 credits course that is offered to Ph.D. and masters graduate students.

3) Implementation Date:

Spring of 2013 – 2014.

VI.A.1.3. Undergraduate Program - Nursing.

I was appointed by the chair on a committee charged to redesign the “Human Morphology for Paramedical and Undergraduate Students” (HUMR 246) and the “Human Physiology for Paramedical and Undergraduate Students” (PHYL 246) courses that were offered by our department to the nursing students and other undergraduate students. The results of the our work, was the creation of 2 new courses that will replace the histology and physiology courses for nursing. HUMR 244 “Introduction To Human Biology” and HUMR 248 “Human Anatomy and Physiology” will be offered to the nursing students of the Hariri School of Nursing starting this year.

Introduction to Human Biology – HUMR 2441) Course Description:

The “Introduction To Human Biology” course is an introductory course that meets the needs of a diverse group of students who are preparing for careers in allied health sciences, medical technologies or other non-medical careers like psychology or biomedical sciences. It introduces the students to the very basic terms and concepts in anatomy, histology and physiology. The course covers the basic biology of the cells, tissues and organs of the human body

2) Credits and Audience:

This is a 2 credits core course that is offered to nursing undergraduate students and other paramedical, undergraduate students.

3) Implementation Date:

Fall of 2014 – 2015.

Human Anatomy and Physiology – HUMR 2481) Course Description:

The “Human Anatomy and Physiology” course provides a strong foundation for understanding the structural complexities of the human organism and related physiological functions. The course, as conceived, will integrate structure and function and offer practical advantages in fine-tuning the balance between anatomy, histology and physiology. In addition, clinical correlations will be included for a vertical integration in addition to the horizontal integration.

2) Credits and Audience:

This is a 5 credits course that is offered to nursing undergraduate students as well as to other undergraduate students.

3) Implementation Date:

Annually; 2014 – 2015.

VI.A.2. Course Coordination

As a coordinator, I was responsible for the development and innovation as well as day to day operation of different courses that were offered to Medical, graduate and undergraduate students. I worked closely with the different instructors involved in the teaching of the materials described in each course and in the planning and execution of the course in order to provide quality assurance of course delivery and facilitating student success. My duties included: course planning, course design and development, Syllabus preparation, course delivery, selection, with the help of the instructors, of educational resources, Examination preparation and assessment, Handling all matters related to examination grading and analysis, students’ learning outcomes and course evaluation, Handling student concerns and complaints about grade-related issues, and providing leadership in final grade preparation and submission.

Medical courses.

- General Physiology, Cellular Mechanisms – PHYL 210; 3 credits (Coordinator)
- Homeostasis - PHYL 200; 2 credits (Coordinator)
- Cellular and Molecular Basis of Medicine - IDTH 201; 7 credits (Coordinator)
- Renal Module - IDTH 228; 4 credits (Coordinator)

Graduate courses.

- General Physiology, Cellular Mechanisms – PHYL 210; 3 credits (Coordinator)

- Homeostasis - PHYL 200; 2 credits (Coordinator)
- Co-coordinator of HUMR 310: Methods in Morphology (Co- coordinator)

Undergraduate courses (Paramedical).

- Human Physiology for Paramedical and Undergraduate Students - PHYL 246; 3 credits (Coordinator)
- Human Anatomy and Physiology – HUMR 248; 5 credits (Co-coordinator)

VI.A.3. Course Teaching

Involved in teaching the following courses:

VI.A.3.1- Teaching: Medical courses

Cellular and Molecular Basis of Medicine - IDTH 201; 7 credits

1) Lectures taught:

- Introduction to Homeostasis
- Receptors and signaling
- Epithelia and transport
- Channels
- Body fluids and cell volume regulation

2) Laboratory sessions:

- Epithelial tissue Histology

3) Team Based Learning (TBL) session:

- Epithelial Transport, Cell Volume and Body fluids.

4) Audience:

- Med 1 students

Renal Module (Med 2)- IDTH 228; 3 credits

1) Lectures that will be taught:

- Histology of kidney and urinary tract
- Renal sodium transport
- Renal water transport.

2) Laboratory sessions:

- Kidney and urinary tract histology

3) Audience:

- Med 2 students

VI.A.3.2- Teaching: Medical and Graduate courses (From 2010 till 2013)

General Physiology: Cellular Mechanisms - PHYL 200/300; 3 credits

1) Lectures taught:

- Epithelia
- Signal transduction
- Ion Channels

2) *Discussion sessions:*

- Membrane Phenomena and Signal Transduction
- Epithelial transport and channelopathy

3) *Audience:*

- This course was given till 2012-2013 to medical and master graduate students and since 2013-2014 it is given only to the Ph.D. and the Master graduate students.

Cell and tissue Biology - HUMR 205/305; 3 credits

1) *Lectures taught:*

- Epithelial tissue

2) *Laboratory sessions:*

- Epithelial histology

3) *Audience:*

- This course was given till 2012-2013 to medical and master graduate students and since 2013-2014 it is given only to the Ph.D. and the Master graduate students.

Organ Histology - HUMR 206/306; 3 credits

1) *Lectures taught:*

- Urinary system

3) *Laboratory sessions:*

- Kidney and urinary tract histology

3) *Audience:*

- This course was given till 2012-2013 to medical and master graduate students and since 2013-2014 it is given only to the Ph.D. and the Master graduate students.

Homeostasis - PHYL 202/302; 2 credits

1) *Lectures taught:*

- Renal circulation
- Renal sodium transport
- Renal water transport

2) *Discussion session:*

- Diabetic nephropathy

3) *Audience:*

- This course was given till 2012-2013 to medical and master graduate students and since 2013-2014 it is given only to the Ph.D. and the Master graduate students.

VI.A.3.3- Teaching: Graduate courses

From 2010 till 2013

Biomedical Research Techniques - HUMR 310; 3 credits

1) *Lectures taught:*

- Signal Transduction methods

2) *Laboratory sessions:* It's a combination of a discussion and hands on session where students will be taught all the concepts of using technics in identifying alterations in the signaling pathway (discussion) and hands on session to perform a kinase assay.

- Signal Transduction methods

3) *Audience:*

- This course is given to Ph.D. and the Master graduate students.

From 2010 till 2012

Directed Reading and Research - HUMR 313; 2 credits

1) *Lectures taught:* I supervised the project of several master students majoring in Physiology, and Human Morphology

3) *Audience:*

- This course is given to Ph.D. and the Master graduate students.

2013-2014

General Physiology: Cellular Mechanisms - PHYL 300; 3 credits

1) *Lectures taught:* I was the main person in charge of these lectures. I prepare the slides for the lecture, present the lecture to the students and prepare the exam questions related to these lectures.

- Epithelia
- Signal transduction
- Ion Channels

2) *Discussion sessions:*

- Membrane Phenomena and Signal Transduction
- Epithelial transport and channelopathy

3) *Audience:*

- This course is given to Ph.D. and the Master graduate students.

Cell and tissue Biology - HUMR 305; 3 credits

1) *Lectures taught*

- Epithelial tissue

2) *Laboratory sessions:*

- Epithelial histology

3) *Audience:*

- This course is given to Ph.D. and the Master graduate students.

Organ Histology - HUMR 306; 3 credits

1) *Lectures taught:*

- Urinary system
- Endocrine system

2) *Laboratory sessions:*

- Kidney and urinary tract histology
- Endocrine system histology

3) *Audience:*

- This course is given to Ph.D. and the Master graduate students.

Homeostasis - PHYL 302; 2 credits

1) *Lectures taught:*

- Renal circulation
- Renal sodium transport
- Renal water transport

2) *Discussion session:*

- Diabetic nephropathy

3) *Audience:*

- This course is given to Ph.D. and the Master graduate students.

Advanced Physiology - PHYL 311/312; 2 credits

1) *Presentation:* In this presentation the student were exposed to the different research topic of my laboratory from the concept of the idea, methodology followed, results obtained and grant writing.

- Mechanisms underlying the onset and development of diabetic Complications.

2) *Audience:*

- This course will act as a virtual rotation for Master and PhD candidates.

VI.A.3.4- Teaching Undergraduate Course

Human Physiology for Paramedical and Undergraduate Students - PHYL 246; 4 credits

1) *Lectures taught:*

- Signal transduction
- Urinary system

2) *Audience:*

- This course is given to Nursing students, students majoring in nutrition or food sciences, and to Medical laboratory students.

Human morphology for nurses – HUMR246; 3 credits

1) *Lectures taught:*

- Epithelia,
- Endocrine system
- Urinary system

2) *Laboratory sessions:*

- Epithelia histology
- Histology of the endocrine system
- Histology of the urinary system

3) *Audience:*

- This course is given to Nursing students.

VI.B.Students Supervised

VI.B.1. Biomedical Sciences Master programs - AUB

VI.B.1.1. Master Thesis Advisor – AUB

06/ 2011-06/2012

Stephanie Eid.

Master in Biomedical Sciences – Major Physiology

Thesis Title: "The Involvement of Renal Cytochrome P450 and Arachidonic Acid metabolites in Diabetic Nephropathy"

- 06/ 2011-06/2012** ***Sarah Abou Merhi.***
Master in Biomedical Sciences – Major: Physiology
Thesis Title: "AMPK, tuberin, and mTOR : Novel biological pathways linking diabetes to colorectal"
- 06/ 2012-09/2013** ***Ghina El Nounou.***
Master in Biomedical Sciences – Major: Human Morphology
Thesis Title: "Mechanisms of Proximal Tubular cell injury: Role of AMPK and the Cytochromes P450 Enzymes"
- 06/ 2013-07/2014** ***Christelle Al Zaghrini.***
Master in Biomedical Sciences – Major: Physiology
Thesis Title: "Molecular Mechanisms Underlying the Attenuation of Diabetes-Induced Renal Injury by mesenchymal Stem Cells"
- 06/ 2014-07/2015** ***Rafka Abou Salem.***
Master in Biomedical Sciences – Major: Physiology
Thesis Title: "Cellular and Molecular Mechanisms of Diabetic Cardiomyopathy: Role of NADPH oxidases"
- 06/ 2014-07/2015** ***Mohamed El Massry.***
Master in Biomedical Sciences – Major: Neurosciences
Thesis Title: "Role of NADPH Oxidases Induced- Reactive Oxygen Species (ROS) production in diabetic Neuropathy"
- 06/ 2015 - 07/2016** ***Rasha Barakat.***
Master in Biomedical Sciences – Major: Neurosciences
Thesis Title: "Diabetes and Depression: Common Biological links"
- 06/ 2015 - 07/2016** ***Mary Haddad.***
Master in Biomedical Sciences – Major: Neurosciences
Thesis Title: "Mechanisms of Schwann Cell Injury in Diabetes: Role of cytochromes P450 pathways"
- 06/ 2015 - Pres** ***Batoul Dia.***
Master in Biomedical Sciences – Major: Neurosciences
Thesis Title: "Mechanisms of Schwann Cells Injury in Diabetes: AMPK and mTOR signaling"
- 06/ 2016 - Pres** ***Patricia Abou Assi.***
Master in Biomedical Sciences – Major: Physiology
Thesis Title: "Role of Autophagy in Diabetes-Induced Podocyte Injury"

VI.B.1.2. Master Thesis Co-Advisor – AUB

- 06/ 2012-08/2013** **Jessy Tabet.**
Master in Biomedical Sciences – Major: Pharmacology and Toxicology
Thesis Title: “Role of Cytochrome P450 products of arachodonic acid metabolism in the renal complications of diabetes mellitus in rats”
- 06/ 2012-08/2013** **Nadine Zeinab.**
Master in Biomedical Sciences – Major: Pharmacology and Toxicology
Thesis Title: “The role of Cytochrome P-450 mediated metabolites of arachodonic acid in diabetic cardiovascular dysfunction in rats”
- 07/ 2014-08/2014** **Rita Bassil.**
Master in Biomedical Sciences – Major: Pharmacology and Toxicology
Thesis Title: “To Be Announced”
- 07/ 2014-08/2014** **Maysaa Hamza.**
Master in Biomedical Sciences – Major: Pharmacology and Toxicology
Thesis Title: “To Be Announced”
- 06/ 2012-08/2013** **Layal Hamdar.**
Master in Biomedical Sciences – Major: Human Morphology
Thesis Title: “To Be Announced”
Graduation expected in the Fall of 2014/2015.

VI.B.1.3. Master Thesis Committee Member – AUB

- 2011** **Alissar Monzer**
Master in Biomedical Sciences – Major: Pharmacology and Toxicology
Thesis Title: “The Slow Pressor Response to Angitensin 2 In Rats with Streptozotocin-induced Diabetes Mellitus ”
- 2013** **Yunis Mayasi.**
Master in Biomedical Sciences – Major: Neurosciences
Thesis Title: “Attenuation of endotoxin-induced Apoptosis in Rat’s Brain by a Synthetic Peptide Analogue of Thymulin (PAT)”
- 2013** **Stephanie Jambart**
Master in Biomedical Sciences – Major: Human Morphology
Thesis Title: “Modulation of cytokines in TNBS Induced Colitis Treated with Estrogen”
- 2013** **Omar Sarkis**
Master in Biomedical Sciences – Major: Human Morphology
Thesis Title: “Epigenetic Therapy in Rhabdomyosarcoma”
- 2013** **Josephine Bou Dagher.**
Master in Biomedical Sciences – Major: Neurosciences
Thesis Title: “Molecular and structural substrates of the neurotoxic effects of Lidcoaine injection in the brainstem rostral ventro-medial medulla”

- 2013** **Maha Mouteirek.**
Master in Biomedical Sciences – Major: Physiology
Thesis Title: “Effective Targeting of Chronic Myeloid Leukemia Stem Cells Using a Combination of Arsenic Trioxide and Interferon Alpha”
- 2013** **Oula Dagher.**
Master in Biomedical Sciences – Major: Biochemistry
Thesis Title: “Crosstalk Between Thromboxane and Bradykinin Receptors in Vascular Smooth Muscle Cells”
- 2014** **Rita Berkachy.**
Master in Biomedical Sciences – Major: Neurosciences
Thesis Title: “Evidence For Glut2-Mediated Glucose Influx in Rat Jejunum at Low Glucose Concentration ”

VI.B.2. Master programs – Other institutions

- 07/2012** **Ribal Bou Mjahed**
Master of “Pharmacology/Bioactive Molecules” from the Lebanese University
Thesis Title: “Novel Therapeutic Approaches for the Treatment of Diabetic Nephropathy”
- 07/2013** **Lana Majzoub**
Master of “Molecular Diagnostic and Forensic Sciences” from the Lebanese University
Thesis Title: “Identifying the Cellular and Molecular Mechanisms Leading to Endometriosis
- 07/2013** **Kawthar Braysh**
Master of “cancerology” from the Lebanese University
Thesis Title: “Diabetes-Related Cancer: Role of VEGF”
- 07/2013** **Hanine Lattouf**
Master of “Cancerology” from the Lebanese University
Thesis Title: “Novel Biological Pathways Linking Diabetes to Colorectal Cancer”
- 07/2013** **Fatima Mohsen**
Master of “Pharmacology/Bioactive Molecules” from the Lebanese University
Thesis Title: “Synthesis of Novel carbocyclic nucleoside analogs aimed to treat diabetes microvascular complications especially diabetic nephropathy”

VI.B.3. Ph.D. Program

- 02/2013-04/2017** ***Stephanie Eid***
Miss Stephanie Eid is registered as a Ph.D. student at the University of Paris Descartes – Paris, France and at the American University of Beirut. Her thesis is directed by Drs Charbel Massaad and Assaad A. Eid.
Thesis Title: “Role of oxysterols and Reactive Oxygen Species (ROS) in diabetic Neuropathy”
- 01/2013-4/2017** ***Kawthar Braych***
Miss Kawthar Braych is registered as a Ph.D. student at the University of Palermo – Palermo, Italy and the American University of Beirut. Her thesis is directed by Drs Francesco Cappello and Assaad A. Eid.
Thesis Title: “ VEGF in Glomerular Epithelial Cell Injury during the onset and development of Diabetic Nephropathy”.
- 02/2014-Pres** ***Fatima Mohsen***
Miss Mohsen is registered as a Ph.D. student at the University of Strasbourg, France and at the American University of Beirut. Her thesis is directed by Drs Eric- André Sauleau and Assaad A. Eid.
Thesis Title: “AMPK, mTOR and Tuberin: Novel Biological Pathways Linking Diabetes to Colorectal Cancer”
- 01/2017- Pres** ***Mohamed El Massry***
Mr. El Massry is registered as a Ph.D. student at the University of Paris Descartes – Paris, France and at the American University of Beirut. His thesis is directed by Drs Charbel Massaad and Assaad A. Eid.
Thesis Title: “Mechanisms of Schwann cells injury in Diabetic Neuropathy ”
- 01/2017 – Pres** ***Rasha Barakat***
Miss. Barakat is registered as a Ph.D. student at the University of Paris Descartes – Paris, France and at the American University of Beirut. Her thesis is directed by Drs Christian Boitard and Assaad A. Eid.
Thesis Title: “Role of ICOS/ICOS Ligand in peripheral Diabetic Neuropathy ”

VI.B.4. Postdoctoral Fellow Supervised

2012-Pres	<i>Ali Kobeissi</i>	<i>Postdoctoral Fellow</i>
2013-Pres	<i>Cesar Abdul-Masih</i>	<i>Postdoctoral Fellow</i>
2013-2014	<i>Paul Tiyen</i>	<i>Postdoctoral Fellow</i>

VI.B.5. AUB Medical Students Supervised – Basic Research

Class of 2012	<i>Bachir Abiad</i>
Class of 2013	<i>Firas Kreidieh</i>
Class of 2014	<i>Nour Al Jalbout</i>
Class of 2014	<i>Ahmad Al Turk</i>
Class of 2014	<i>Mahmoud Abed El Aziz</i>
Class of 2014	<i>Rakan Nasser Eldine</i>

Class of 2014	Hassan Mostafa
Class of 2015	Rami Diab For his work in the lab Mr. Diab was awarded the Alpha Omega Alpha Carolyn L. Kuckein Student Fellowship Award under the supervision of Dr. Assaad A. Eid.
Class of 2015	Ali Alawieh
Class of 2015	Elie Khalife
Class of 2015	Rani Shayto
Class of 2015	Jana Nouredine
Class of 2015	Serge Sultanem
Class of 2015	Christelle Yacoub
Class of 2016	Christopher El Khuri
Class of 2016	Rayan El Sibai
Class of 2016	Jad Mhanna
Class of 2019	Nour Hijazzi (accepted in the MD-PHD program of MUSC, USA)
Class of 2019	Anasthasia Chahine
Class of 2019	Nancy Mikati

VIII- PUBLIC LECTURES

VII.1. Invited Speaker

- 05/2012** Qatar Foundation Annual Research Forum – Doha Qatar
Title of the Presentation: Involvement of Renal Cytochrome P450 and Arachidonic Acid Metabolites in Diabetic Nephropathy”
- 06/2014** 14th International Conference on Oxidative Stress Reduction, Redox Homeostasis and Antioxidants. Paris, France.
Title of the Presentation: “Cytochromes P450 Enzymes and their Role in Diabetic Nephropathy: What’s New?”
- 06/2014** 3rd International Conference on Nephrology & Therapeutics - Valencia, Spain.
Title of the Presentation: New Actors in Diabetic Nephropathy: Pathways Behind The Scene.
- 11/2014** 5th World Congress on Diabetes & Metabolism - Las Vegas, USA

VII.2. Chair in Meetings

- 04/2013** Lebanese Association for the Advancement of Sciences (LAAS)
Chaired the Keynote Session
- 11/2013** American Society of Nephrology (ASN)
Chaired Session Title: "Cell Signaling and Oxidative Stress"

XI- UNIVERSITY SERVICES

VIII.1. Memberships in University Committee

- 2014-Pres** Member of the Second year Medical Teaching Committee, Faculty of Medicine, AUB
- 2013-Pres** Member of the Graduate Committee, Faculty of Medicine, AUB
- 2013-Pres** Member of PRIME “Program for Research and Innovation in Medical Education, Faculty of Medicine, AUB
- 2012-Pres** Member of the First year Medical Teaching Committee, Faculty of Medicine, AUB
- 2012-2013** Member of the Purchasing Task force, Faculty of Medicine, AUB
- 2012-2013** Member of the Task force to review and evaluate the state of graduate studies at the Faculty of Medicine, AUB
- 2011-Pres** Member of the Annual AUB Biomedical Research Day Organizing Committee
- 2011-Pres** Advisor of the Graduate Master Programs (3 programs) of Physiology, Human Morphology and Neurosciences of the Department of Anatomy, Cell Biology and Physiology, Faculty of Medicine, AUB
- 2011-Pres** Co-Director of the Renal and Cardiovascular Research group at the Faculty of Medicine, AUB