

## CURRICULUM VITAE OF M. NASIR UDDIN, PhD, FAHA

### **M. NASIR UDDIN, PhD, FAHA**

**CEO & Chief Scientific Officer**, Emergent Biotechnologies, LLC,

**Executive & Scientific Director**, Orion Institute of Translational Medicine, Temple, Texas

### **Adjunct Associate Professor of Medical Physiology**

Texas A&M University College of Medicine

### **Adjunct Faculty of Biology**

Texas A&M University-Central Texas

Texas Bioscience Institute, Temple College

Austin Community College

**Visiting Professor**, Department of Public Health, North South University

Brac University, Dhaka, Bangladesh

Daffodil International University, Dhaka, Bangladesh

**Former Director of Research**, OB/Gyn Residency and Maternal Fetal and Neonatal Medicine Fellowship program

Texas A&M University College of Medicine/Baylor Scott & White Health

**Founding Coordinator & Professor**, Department of Life Science, North South University, Dhaka, Bangladesh

**Former Professor**, Department of Biochemistry and Molecular Biology, University of Dhaka, Bangladesh

**Consultant**, Panorama Research Inc., Sunnyvale, CA

**Consultant**, Larix Bioscience LLC, Sunnyvale, CA

**Research profile/publications link:** ([https://www.researchgate.net/profile/Mohammad\\_Uddin9](https://www.researchgate.net/profile/Mohammad_Uddin9)); (<https://scholar.google.com/citations?user=wujx27cAAAAJ&hl=en>); (<https://www.ncbi.nlm.nih.gov/pubmed/?term=Uddin+MN>).

### **Education and Post-Graduate Training**

- **B.Sc. (Hons) and M.Sc. in Biochemistry and Molecular Biology**, *University of Dhaka, Bangladesh (1988 & 1990)*
- **Ph.D:** *Gifu University, Gifu, Japan (2000)*
- **Postdoctoral Fellow:** *Japan Society for Promotion of Science, Gifu University, Japan (2003-2005)*
- **Postdoctoral Research Associate, Assistant Research Scientist:** *Texas A& M Health Science Center College of Medicine and Scott & White Healthcare, Temple, Texas, USA (2006-2010).*

### **Appointments**

**Assistant Professor/Associate Professor**

**Research Director of OB/GYN Residency and Neonatal-Perinatal Medicine Fellowship Program**

**Department of Obstetrics and Gynecology**

**Department of Pediatrics**

**Department of Internal Medicine**

**Texas A&M University College of Medicine/ Baylor Scott & White Health, Temple, Texas, USA (April 2011 to August 2017).**

**Research Scientist II/Associate Investigator**, Baylor Scott & White Health, Temple, TX (*April 2011 to August 2017*).

- **Research Faculty, *Obstetrics and Gynecology Residency and Female Pelvic Medicine and Reconstructive Surgery Fellowship Programs***, Scott & White Healthcare, Temple, Texas, USA (*2011 to October 2017*)
- **Graduate Faculty Member**, Texas A&M Health Science Center School of Graduate Studies, Temple, Texas, USA (*2012 to present*)
- **Adjunct Faculty, *Department of Pediatrics***, Texas A&M Health Science Center College of Medicine/Scott & White Healthcare, Temple, Texas, USA (*2011 to present*)
- **Research Faculty, *Pediatric residency and Neonatology Fellowship Program***, Scott & White Healthcare, Temple, Texas, USA (*2011 to present*)
- **Adjunct Faculty**, Texas Bioscience Institute, Temple, Texas, USA (*2012 to present*)
- **Adjunct Faculty**, Department of Biology, Temple College, Temple, Texas, USA (*2013 to present*)
- **Adjunct Faculty, *Department of Internal Medicine***, Texas A&M Health Science Center College of Medicine/Scott & White Healthcare, Temple, Texas, USA (*2011 to present*)
- **Assistant Research Scientist**, Texas A&M Health Science Center, Temple, TX (*2010-2011*)
- **Lecturer, Assistant Professor, Associate Professor and Professor**, Department of Biochemistry and Molecular Biology, University of Dhaka, Bangladesh (*1991- 2006*)

## **TEACHING EXPERIENCE**

<b>2011-present</b>	983 Elective Clerkship in maternal Fetal Medicine and Neonatology. Elective clerkship in a specific area of obstetrics and gynecology. Fourth year Medical Student. Texas A&M Health Science Center College of Medicine, Temple, TX
<b>2011-present</b>	991 Research. Original clinical and/or laboratory investigation in a specific area of obstetrics and gynecology. Fourth year Medical Student. Texas A&M Health Science Center College of Medicine, Temple, TX
<b>2011-present</b>	Mentoring Summer Research program. First year Medical Student. Texas A&M Health Science Center College of Medicine, Temple, TX
<b>2012-present</b>	Anatomy and Physiology I &II, Department of Biology, Temple College, Temple, TX.
<b>2012-present</b>	Special Studies & Bioethical Issues of Biotechnology, Biotechnology Laboratory Methods and Techniques, Texas Bioscience Institute, Temple, TX.
<b>2011-present</b>	Research mentor for residency and fellowship program at Scott & White Healthcare/Texas A&M Health Science Center, Temple, TX.
<b>2011-present</b>	Research mentor for medical students at Texas A&M Health Science Center, Temple, TX
<b>2011-present</b> <b>2013-present</b>	Research mentor for students for Texas Bioscience Institute, Temple, TX Auxiliary Faculty, Prehealth Studies, Baylor College, Waco, Texas
<b>1991-2006</b>	Teaching in the Undergraduate and Graduate Classes in the Department of

Biochemistry and Molecular Biology, University of Dhaka, Bangladesh (intermittently for 10 years).

**Subjects taught:** Cell Physiology, Human Physiology, Cell Biology, Neurochemistry, Physical and organic Chemistry, Basic Biochemistry and Molecular Biology, Integrated Physiology.

**Lab:** Biochemistry, Molecular Biology and Physiology

**2006-present**

Teaching in the graduate classes at Department of Public Health, North South University, Bangladesh as a visiting faculty.

**Subjects taught:** Reproductive and Child Health, Research Methodology

**Thesis Supervisor:** Masters of Public Health, North South University, Bangladesh

**Mentoring Experience:**

**Medical Students:**

1. **Amanda S. Walters**, 4<sup>th</sup> year Medical Student, Texas A&M Health Science center College of Medicine, Round Rock. "Retrospective data analysis on the comparison of pregnancy outcome between normal and preeclamptic pregnancy."
2. **Cody W. Clary**, 1<sup>st</sup> year Medical Student, Texas A&M Health Science center College of Medicine. "Placental apoptotic signaling in Pregnancy and Preeclampsia."
3. **Jessica Thomason**, 2<sup>nd</sup> year Medical Student, Texas A&M Health Science center College of Medicine. "(Pro)renin Receptor in Pregnancy and Preeclampsia."
4. **Lin Saunders**, 4<sup>th</sup> year Medical Student, Texas A&M Health Science center College of Medicine. "Pregnancy outcome in normal Pregnancy and Preeclampsia."
5. **Tammy Nguyen**, 4<sup>th</sup> year Medical Student, Texas A&M Health Science center College of Medicine. "Protein Kinase G signaling in hyperglycemia-induced cytotrophoblast cells."
6. **Jordan B Osborne**, 4<sup>th</sup> year Medical Student, Texas A&M Health Science center College of Medicine. "Urinary Angiotensinogen in normal Pregnancy and Preeclampsia."
7. **Jessica Wilson**, 3<sup>rd</sup> year Medical Student, Texas A&M Health Science center College
8. **Saiara Choudhury**, 2<sup>nd</sup> year Medical Student, Texas A&M Health Science center College

**Pre Medical Students:**

9. **Dean Leonard**, Premedical Student, Baylor University, Waco. "Effect of glucose in Cytotrophoblast Cells."
10. **Sarah W Yuen**, Premedical Student, Baylor University, Waco. "Effect of glucose in Cytotrophoblast Cells."
11. **Sarah Munir**, Premedical Student, University of Texas at Austin. "Pregnancy outcome in normal Pregnancy and Preeclampsia."
12. **Emily Hurt**, Premedical Student, Baylor University, Waco.

**Medical Residents:**

13. **Chase R. Cawyer, MD**, OB/Gyn Resident, Texas A&M Health Science center College of Medicine/Scott & White Hospital. "Gestational Diabetes and Preeclampsia."
14. **Jenna L. Sloan, MD**, OB/Gyn Resident, Texas A&M Health Science center College of Medicine/Scott & White Hospital. "Gestational Diabetes and Preeclampsia."
15. **Kelsey R Kelso, MD**, OB/Gyn Resident, Texas A&M Health Science center College of Medicine/Scott & White Hospital. "Cardiotonic Steroids in Preeclampsia: Human Translational Approach In Vivo and In Vitro Study."
16. **Dixie A. McClendon-Coker, MD**, OB/Gyn Resident, Texas A&M Health Science center College of Medicine/Scott & White Hospital. "Angiogenic imbalance in preeclampsia: a translational approach with patient, in vivo, and in vitro studies."

17. **Jessica C. Ehrig, MD**, OB/Gyn Resident, Texas A&M Health Science center College of Medicine/Scott & White Hospital. "Cardiotonic steroids induce stress signaling in preeclampsia: a translational approach with patient, in vitro and in vivo studies."
18. **Jamie E Stucker, MD**, OB/Gyn Resident, Texas A&M Health Science center College of Medicine/Scott & White Hospital "Translational studies on soluble (pro)renin receptor and placental (pro)renin receptor in normal and preeclamptic pregnancy."
19. **Anthony B. McDowell Jr., MD**, OB/Gyn Resident, Texas A&M Health Science center College of Medicine/Scott & White Hospital. "Effect of cinobufotalin on ovarian cancer cells function".
20. **Danielle N Jones, MD**, OB/Gyn Resident, Texas A&M Health Science center College of Medicine/Scott & White Hospital. "Comparison of pregnancy outcome between normal and preeclamptic pregnancy."
21. **Jill S. Simon, MD**, OB/Gyn Resident, Texas A&M Health Science center College of Medicine/Scott & White Hospital. "Placental pathophysiology during preeclampsia."
22. **Sylvia De Sola, MD**, OB/Gyn Resident, Texas A&M Health Science center College of Medicine/Scott & White Hospital. "Placental apoptotic and stress signaling during preeclamptic pregnancy."
23. **Katy B Welsey, MD**, OB/Gyn Resident, Texas A&M Health Science center College of Medicine/Scott & White Hospital. " Effect of Hyperglycemia on Cytotrophoblast cells".

#### **Perinatology & Neonatology Fellows:**

24. **Mary Antonette M Co, MD**, Neonatology Fellow, Texas A&M Health Science center College of Medicine/Scott & White Hospital. "Placental Apoptotic Signaling Is Augmented In Preeclampsia: An Adverse Impact On The Offspring"
25. **Ram Kalagiri, MD**, Neonatology Fellow, Texas A&M Health Science center College of Medicine/Scott & White Hospital. "Comparison of pregnancy outcome between normal and preeclamptic pregnancy."
26. **Niraj Vora, MD**, Neonatology Fellow.

#### **Female Pelvic Floor and Reconstructive Surgery**

27. **John S. Joyce, MD**, OB/Gyn Fellow, Texas A&M Health Science center College of Medicine/Scott & White Hospital. "Study apoptotic markers in urothelial cells in response to LPS and TNF- $\alpha$ ."
28. **Fiona M. Lindo, MD**, OB/Gyn Fellow, Texas A&M Health Science center College of Medicine/Scott & White Hospital. "Interstitial Cystitis."
29. **Laura F Gephart, MD**, OB/Gyn Fellow, Texas A&M Health Science center College of Medicine/Scott & White Hospital. "In vitro model of Interstitial Cystitis."

#### **Pulmonary Critical Fellow:**

30. **Badri Giri, MD**, Pulmonary Critical Fellow, Texas A&M Health Science center College of Medicine/Scott & White Hospital. Research topic: "Hypoxia induces the stress and apoptotic signaling in cultured rat lung microvascular endothelial cells."

#### **Summers Interns (High School and College students)**

31. **Amanda Roth, BS**, Texas Bioscience Institute, summer 2012 intern.
32. **Juan Castor**, Texas Bioscience Institute, summer 2012 intern.
33. **Carlee Camp**, Belton High School, summer 2012 intern.
34. **Bryonna Douglas**, High School Student, Shoemaker High School, Killeen, TX. "Effect of Cardiotonic Steroids on Endothelial Cells." 2013 intern.
35. **AHM Zuberi Ashraf**, Texas Bioscience Institute, summer 2014 intern.
36. **Esther Na**, High School Student, Killeen High School, TX. 2014 intern.
37. **B. Vincent**, High School Student, Killeen High School, TX. 2014 intern.

38. **Rychel Basinger**, Texas Bioscience Institute, summer 2015 intern.
39. **Nick A. Montelongo**, Texas Bioscience Institute, summer 2015 intern.
40. **Grace-Ann Osuji**, Texas Bioscience Institute, summer 2015 intern.
41. **Wahab Khan**, High School Student, Harker Heights High School, TX. 2014 intern.

**Doctoral Students:**

42. **Nurun Nabi, PhD**, Associate Professor, Department of Biochemistry and Molecular Biology, University of Dhaka, Bangladesh. Supervisor for PhD thesis on “Structural and functional aspects of (pro)renin receptor.” Gifu University, Japan.
43. **Afroza Sultana, PhD**, Supervisor for PhD thesis, Gifu University, Japan.
44. **John S. Joyce, MD**, MS in Biomedical Science, Texas A&M Health science Center College of Medicine.

***Mentored Numbers of Graduate and Postgraduate Students and Postdoctoral fellows, Department of Animal Biochemistry, Faculty of Applied Biological Sciences, Gifu University, Japan and Department of Biochemistry and Molecular Biology, Faculty of Applied Biological Sciences, University of Dhaka, Bangladesh***

**SCIENTIFIC PUBLICATIONS**

**Publications in 2012-2020:**

1. A. H. M. Zuberi Ashraf, Syeda H. Afroze, Grace A. Osuji, Saba Y. Kayani, Natalie Colon, Ahmed F. Pantho, Thomas J. Kuehl, Kimberly A Pilkinton, **Uddin MN**. Epigenetic Modifications in Ovarian Cancer: A Review. **J Cancer Treatment Diagn.**(2020);**4(2):17-35**.
2. Syeda H Afroze, Ahmed F Pantho, Anthony Lewis, MD, Kimberly A Pilkinton, Thomas J. Kuehl, David C Zawieja, **Uddin MN**. Pravastatin protects cytotrophoblast cell from a hyperglycemia-induced preeclampsia phenotype. **Scientific Reports (submitted)**.
3. N. Vora, R. Kalagiri, L. Mallett, J. Oh, U. Wajid, S. Munir, N. Colon, V. Raju, M. Beeram and **Uddin MN**. Proteomics and Metabolomics in Pregnancy—An Overview. **Obstetrical & Gynecological Survey. 74(2):111–125, FEB 2019**.
4. Syeda H. Afroze, Saiara Choudhury, Michelle Reyes, Nathan Drever, Tsutumu Nakagawa, Madhava R. Beeram, David C Zawieja Thomas J. Kuehl, **Uddin MN**. Expression of placental and soluble (pro)renin receptor in normal and preeclamptic pregnancy. **American J Hypertension (Press) 2019**.
5. Syeda H. Afroze, Chander Peddaboina, Anthony B. McDowell, A H M Zuberi Ashraf, Timothy C. McCormick, M. Karen Newell-Rogers, David C. Zawieja, Thomas J. Kuehl, Uddin MN. Differential effects of in vitro treatment with cinobufotalin on three types of ovarian cancer cells. **Anticancer Res. 2018 Oct;38(10):5717-5724.doi: 10.21873/anticanres.12909**.
6. A H M Zuberi Ashraf, Syeda H. Afroze, Kosei Yamauchi, David C. Zawieja, Thomas J. Kuehl, Laura Weiser Erlandson, **Uddin MN**. Differential Mechanism of Action of 3,4',7-O-trimethylquercetin in Three Types of Ovarian Cancer Cells. **Anticancer Res. 2018 Sep;38(9):5131-5137. doi: 10.21873/anticanres.12835**.
7. Natalie S. Colón, Ahmed F. Pantho, Lindsey K. Nguy, Syeda H. Afroze, Nathan Drever, Madhava R. Beeram, Thomas J. Kuehl, Uddin MN.Reduced urinary angiotensinogen

excretion in preeclampsia. *Hypertension in Pregnancy (Press) 2018*.

8. Ram R. Kalagiri, Niraj Vora, Jessica L. Wilson, Syeda H. Afroze, Venkata N. Raju, Vinayak Govande, Madhava R. Beeram, Thomas J. Kuehl, **Uddin MN**. Diabetes and Preeclampsia Affecting Pregnancy -A Retrospective Cross-Sectional Study. *J Investig Med. 2017 Nov 22*. pii: jim-2017-000537. doi: 10.1136/jim-2017-000537. [Epub ahead of print].
9. Yamauchi K, Syeda H. Afroze, Mitsunaga T, T. McCormick, TJ Kuehl, DC Zawieja, Uddin MN. 3,4',7-O-trimethylquercetin Inhibits Invasion and Migration of Ovarian Cancer Cells. *Anticancer Res. 2017 Jun;37(6):2823-2829*.
10. Ahmed F. Pantho, Mason Price, AHM Zuberi Ashraf, Umaima Wajid, Maryam Emami Khansari, Afsana Jahan, Syeda H. Afroze, Md Mhahabubur Rhaman, Corey R. Johnson, Thomas J. Kuehl, Md. Alamgir Hossain, Uddin MN. Synthetic Receptors Induce Anti Angiogenic and Stress Signaling on Human First Trimester Cytotrophoblast Cells. *Int J Environ Res Public Health. 2017 May 11;14(5)*. pii: E517. doi: 10.3390/ijerph14050517.
11. K Yamauchi, T. Mitsunaga, SH Afroze Afroze, **MN Uddin**. Structure-Activity Relationships of Methylquercetin on Anti-migration and Anti-proliferation Activity in B16 Melanoma Cells. *Anticancer Res. 2017 Apr;37(4):1575-1579*.
12. T. Nakagawa, C. Suzuki-Nakagawa, A. Watanabe, E Asami, M. Matsumoto M, Nakano, A. Ebihara, **MN Uddin**, F Suzuki. Site-1 protease is required for the generation of soluble (pro)renin receptor. *J Biochem. 2016 Dec 24*. pii: mvw080. doi: 10.1093/jb/mvw080. [Epub ahead of print]
13. Syeda H. Afroze, Ram R. Kalagiri, Michelle Reyes, Jacqueline D. Zimmerman, Madhava R. Beeram, Nathan Drever, David C. Zawieja, Thomas J. Kuehl, **Uddin MN**. Apoptotic and stress signaling markers are augmented in preeclamptic placenta and umbilical cord. *BBA Clinical 6 (2016) 25–30*
14. Anthony McDowell, Syeda H. Afroze, Richard Tobin, Timothy C. McCormick, Martha Karen Newell-Rogers, David C. Zawieja, Thomas J. Kuehl, **Uddin MN**. Cinobufotalin as a Novel Agent to Inhibit in Vitro Epithelial Ovarian Cancer Cell Proliferation, Migration and Invasion. *Open Journal of Obstetrics and Gynecology, 2016, 6, 343-351*.
15. Kalagiri RR, Carder T, Choudhury S, Vora N1, Ballard AR, Govande V, Drever N, Beeram MR, **Uddin MN**. Inflammation in Complicated Pregnancy and Its Outcome. *Am J Perinatol. 2016 May 9*. [Epub ahead of print].
16. R.R Kalagiri, S. Choudhury, T. Carder, V. Govande, M. R. Beeram, **Uddin MN**. Neonatal thrombocytopenia as a consequence of maternal preeclampsia. *AJP Rep. 2016 Mar;6(1):e42-7*. doi: 10.1055/s-0035-1565923. Epub 2015 Oct 28.
17. C. Cawyer, SH Afroze, N. Drever, SR Allen, RO Jones, DC Zawieja, TJ Kuehl, **Uddin, MN**. Attenuation of hyperglycemia-induced apoptotic signaling and anti-angiogenic milieu in cultured cytotrophoblast cells. *Hypertens Pregnancy. 2016 May;35(2):159-69*. doi: 10.3109/10641955.2015.1122035. Epub 2016 Mar 1.
18. Badri Giri, S.H Afroze, S. Choudhury, R. Karanjeet, S.A. Ghamande, D C Zawieja, **Uddin MN**. Hypoxia Modulates the Cellular Signaling in Cultured Rat Lung Microvascular Endothelial Cells. *Biores Comm. 2016; 2(2), 230-237*.

19. Syeda H Afroze, Jenna Sloan, Grace-Ann C Osuji, Nathan Drever, Kimberly Pilkinton, David C Zawieja, Thomas J. Kuehl, and **Uddin MN**. Cinobufotalin impedes Sw.71 cytotrophoblast cell line function via cell cycle arrest and apoptotic signaling. *Mol Cell Biochem.* 2016 Nov;422(1-2):189-196. Epub 2016 Oct 3.
20. Jessica C. Ehrig, S. H. Afroze, M. Reyes Steven R. Allen, Nathan Drever, Kimberly A. Pilkinton, Thomas J. Kuehl, **Uddin, MN**. Cardiotonic steroids induce apoptotic and stress signaling proteins in first trimester cytotrophoblast cells. *Placenta.* 2015 Sep 3. pii: S0143-4004(15)30043-6. doi: 10.1016/j.placenta.2015.08.016. [Epub ahead of print]
21. Mary AM Co, M. Koneru, J. Santiago, MR. Beeram, **Uddin MN**. In the Cradle of Death: A Rare Case of Intrauterine Herpes Simplex Virus infection. *Clin Pediatr (Phila).* 2015 Jul 15. pii: 0009922815596071. [Epub ahead of print] No abstract available.
22. T. Nguyen, S. Lin, A. F. Pantho, B. M Kohl-Thomas, M. R. Beeram, D. C Zawieja, T. J. Kuehl, **Uddin MN**. Hyperglycemia Down-regulates cGMP-dependent Protein Kinase I Expression in First Trimester Cytotrophoblast Cells. *Mol Cell Biochem.* 2015 Apr 12. [Epub ahead of print].
23. J. Thomason, M. Reyes, S. R. Allen, R. O. Jones, M. R. Beeram, T.J. Kuehl, F. Suzuki, **Uddin MN**. Elevation of (pro)renin and (pro)renin receptor in preeclampsia. *Am J Hypertens.* 2015 Mar 11. pii: hpv019. [Epub ahead of print].
24. Co MA, Leonard D1, Perger L, Govande VP, Beeram MR, Jones RO, Allen SR, Kuehl TJ, **Uddin MN**. Placental apoptotic signaling is augmented in preeclampsia: An adverse impact on the offspring. *Pregnancy Hypertens.* 2015 Jan;5(1):137. doi: 10.1016/j.preghy.2014.10.280. Epub 2015 Feb 23.
25. Jahan M, Hasanuzzaman M, Mahbuba S, Jahan H, Chowdhury S, Ahsan GU, Kuehl TJ, **Uddin MN**. Prevalence of preeclampsia in pre-gestational diabetic pregnancy in Bangladeshi patients. *Pregnancy Hypertens.* 2015 Jan;5(1):113-4. doi: 10.1016/j.preghy.2014.10.231. Epub 2015 Feb 23.
26. Cawyer C, Leonard D, Drever N, Jones RR, Allen SR, Beeram MR, Kuehl TJ, **Uddin MN**. Hyperglycemia impedes first trimester cytotrophoblast function via apoptotic signaling. *Pregnancy Hypertens.* 2015 Jan;5(1):133. doi: 10.1016/j.preghy.2014.10.272. Epub 2015 Feb 23.
27. Stucker J, Leonard D, Thomason J1 Perger L, Allen SR, Beeram MR, Kuehl TJ, **Uddin MN**. Translational studies on soluble (pro)renin receptor and placental (pro)renin receptor in normal and preeclamptic pregnancy. *Pregnancy Hypertens.* 2015 Jan;5(1):138. doi: 10.1016/j.preghy.2014.10.283. Epub 2015 Feb 23.
28. S. Afroze, Munshi MK, Martinez A, **Uddin MN**, Gergely M, Szykarski C, Guerrier M, Nizamutdinov D, Dostal D, Glaser SS. Activation of the Renin-Angiotensin System Stimulates Biliary Hyperplasia During Cholestasis Induced by Extrahepatic Bile Duct Ligation. *Am J Physiol Gastrointest Liver Physiol.* 2015 Feb 12:ajpgi.00116.2014. doi: 10.1152/ajpgi.00116.2014. [Epub ahead of print].
29. S. Lin, D. Leonard, M. A. M. Co, D. Mukhopadhyay, B. Giri, L. Perger, M. R. Beeram, T. J. Kuehl, **Uddin, MN**. Preeclampsia has an adverse impact on maternal and fetal health. *Transl Res.* 2014 Oct 16. pii: S1931-5244(14)00368-5. doi: 10.1016/j.trsl.2014.10.006. [Epub ahead of print].
30. Darijana Horvat, M. E. Khansari, A. Pramanik, M. R. Beeram, T. J. Kuehl, Md. A. Hossain, **Uddin MN**. A Synthetic Thiourea-Based Tripodal Receptor that Impairs the Human First Trimester Cytotrophoblast Cells Function. *Int J Environ Res Public Health.* 2014 Jul 21;11(7):7456-69. doi: 10.3390/ijerph110707456.
31. Jessica R Ehrig, Horvat D, Leonard D, Allen SR, Jones RO, Kuehl TJ, **Uddin MN**. Cardiotonic steroids induce anti-angiogenic and anti-proliferative profiles in first trimester cytotrophoblast cells. *Placenta.* 2014 Aug 7. pii: S0143-4004(14)00641-9. doi: 10.1016/j.placenta.2014.07.014. [Epub ahead of print].
32. **Uddin MN**; Horvat, Darijana; Jones, Richard; Beeram, Madhava; Zawieja, David; Perger, Lena; Sprague, David; Kuehl, Thomas. Suppression of aldosterone and progesterone in preeclampsia. *J Matern Fetal Neonatal Med.* 2014 Aug 28:1-6. [Epub ahead of print]
33. Chase R Cawyer, Horvat D, Leonard D, Allen SR, Jones RO, Zawieja DC, Kuehl TJ, **Uddin**

- MN. Hyperglycemia impairs cytotrophoblast function via stress signaling. *Am J Obstet Gynecol.* 2014 Nov;211(5):541.e1-8. doi: 10.1016/j.ajog.2014.04.033. Epub 2014 May 1.
34. Uddin MN, Beeram MR, Kuehl TJ. Diabetes Mellitus and Preeclampsia. *Med J Obstet Gynecol* 2013; 1(3): 1016. Review.
  35. Nabi AHMN, Kuehl TJ and Uddin MN. Role of interleukin-6 in cardiovascular diseases. In *Interleukin-6: Genetics, Clinical Applications and Role in Disease* edited by Giovanni D'Aquino and Edward N. DeVito. Series: **Protein Biochemistry, Synthesis, Structure and Cellular Functions Immunology and Immune System Disorders**. Binding: ebook. Pub. Date: 2013 - 2nd Quarter. Pages: 7x10 - (NBC-R). ISBN: 978-1-62417-593-0 (Book Chapter).
  36. Uddin MN, S. Allen, R. Jones, S.S. Glaser, D. C. Zawieja and T. J. Kuehl (2012) Pathogenesis of preeclampsia: translational aspects: marinobufagenin and angiogenic imbalance as biomarkers of the syndrome. *Transl Res.* 2012 Aug; 160(2):99-113. Epub 2012 Feb 2. An invited featured article review article.
  37. Uddin MN, Kelso K, Horvat D, Allen S, Jones R, Fothergill R, and Kuehl T. J. (2012). Upregulation of (pro)renin and its receptor in preeclampsia: a translational approach with in vivo, in vitro and patient studies. *Journal of Hypertension Vol 30 e-supplement 1 September 2012, e226.*
  38. Uddin MN, D. Horvat, S. Allen, R. Jones, D. C. Zawieja and T. J. Kuehl (2012). Marinobufagenin causes cerebral vascular leak syndrome in preeclampsia: a translational approach. *Journal of Hypertension Vol 30 e-supplement 1 September 2012, e288.*
  39. Uddin MN, Horvat D, Fothergill R, Kelso K, Jones R, Zawieja DC, Kuehl TJ (2012). Suppression of aldosterone and progesterone in preeclampsia: role of marinobufagenin: a translational approach. *Hypertension.* 2012; 60: A315
  40. Uddin MN, Horvat D, Fothergill R, Kelso K, Jones R, Zawieja DC, Kuehl TJ (2012). Elevation of (pro)renin and its receptor in preeclampsia: a rat model and human patients. *Hypertension.* 2012; 60: A314
  41. Uddin MN, Horvat D, S. Allen, R. Jones, S.S. Glaser, D. C. Zawieja and T. J. Kuehl (2013) Marinobufagenin enhances in vitro monolayer hyperpermeability of human brain microvascular endothelial cell via the disruption of tight junction proteins. **Under preparation.**
  42. Uddin MN, D. Horvat, S. Allen, R. Jones, A. Ichihara, S.S. Glaser, D. C. Zawieja and T. J. Kuehl (2011). A cardiotonic steroid causes cerebral vascular leak syndrome in hypertension during pregnancy: a translational approach. *Journal of Investigative Medicine & Volume 60, Number 1, January 2012.*
  43. D. Horvat, S. Allen, R. Jones, A. Ichihara, S.S. Glaser, D. C. Zawieja, T. J. Kuehl and Uddin MN (2012). Cardiotonic steroids triggers cytotrophoblast dysfunction via cell cycle arrest and apoptotic signaling. *Journal of Investigative Medicine & Volume 60, Number 1, January 2012.*
  44. Uddin MN, S. Allen, R. Jones, S.S. Glaser, D. C. Zawieja and T. J. Kuehl (2012). A bufadienolide suppresses aldosterone availability in preeclampsia: a translational approach with in vivo, in vitro and patient study. *American Journal of Obstetrics & Gynecology Vol. 206, Issue 1, Supplement, Page S108.*
  45. Uddin MN, S. Allen, R. Jones, S.S. Glaser, D. C. Zawieja and T. J. Kuehl (2012). A bufadienolide causes cerebral vascular leak syndrome in preeclampsia: in vivo and in vitro study. *American Journal of Obstetrics & Gynecology Vol. 206, Issue 1, Supplement, Page S109.*
  46. D. Horvat, K. Kelso, S. Allen, R. Fothergill, D. Zawieja, T. Kuehl and MN Uddin. "Role of cinobufotalin in the pathogenesis of preeclampsia: in vivo and in vitro studies." *The FASEB Journal.* 2012;26:1b158.
  47. Uddin MN, D. Horvat, S. R Allen, R O Jones, D. Zawieja and T. Kuehl. "Cardiotonic steroids induce stress signaling in preeclampsia: a translational approach with in vivo, in



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9. Dean D, Yamauchi Y, Afroze SH, Mitsunaga T, McCormick TC, Zawieja DC, Kuehl TJ, **Uddin MN**. A Methylquercetin inhibits the migration and invasion of Ovarian Cancer Cell. Presentation at the Central Society for Clinical and Translational Research Annual Meeting 2017 on April 20-21, Chicago, IL.
10. Afroze SH, Dean D, Peddaboina C, McCormick TC, Newell-Rogers MK, Zawieja DC, Kuehl TJ, **Uddin MN**. IN VITRO ANTI-METASTATIC ACTIVITY OF CINOBUFOTALIN IN SK-OV-3, CRL-1978 AND CRL-11731 OVARIAN CANCER CELL LINES. Presentation at the Central Society for Clinical

- and Translational Research Annual Meeting 2017 on April 20-21, Chicago, IL.
11. Uddin MN, Wang H, Wages JM, Yu B, Afroze SH, Reyes M, Dean D, Larrick JW, Drever N, Kuehl TJ. EXCRETION OF URINARY MARINOBUFAGENIN AND ANGIOGENIC FACTORS IN PREGNANCIES WITH INCREASED RISK FOR PREECLAMPSIA. Presentation at the Central Society for Clinical and Translational Research Annual Meeting 2017 on April 20-21, Chicago, IL.
  12. Zuberi Ashraf AHM, Afroze SH, Peddaboina C, McCormick TC, Newell-Rogers MK, Kuehl TJ, Zawieja DC, **Uddin MN**. COMPARISON OF CINOBUFATALIN INDUCED APOPTOTIC SIGNALING IN THREE DIFFERENT OVARIAN CANCER CELL LINES. Presentation at the Central Society for Clinical and Translational Research Annual Meeting 2017 on April 20-21, Chicago, IL.
  13. Reyes M, Afroze SH, Zimmerman JD, Kalagiri RR, Beeram MR, Drever N, Allen SR, Jones RO, Kuehl TJ, **Uddin MN**. DETRIMENTAL SIGNALING INVOLVED IN PLACENTAL PATHOPHYSIOLOGY DURING PREECLAMPTIC PREGNANCIES. Presentation at the Central Society for Clinical and Translational Research Annual Meeting 2017 on April 20-21, Chicago, IL.
  14. Midori A, Afroze SH, Cromer WE, Beeram MR, Kuehl TJ, Zawieja DC, **Uddin MN**. EFFECT OF CARDIOTONIC STEROIDS ON MONOLAYER PERMEABILITY AND JUNCTIONAL PROTEINS IN LYMPHATIC ENDOTHELIAL CELLS. Presentation at the Central Society for Clinical and Translational Research Annual Meeting 2017 on April 20-21, Chicago, IL.
  15. Chase Cawyer, SH Afroze, Katy Wesley, N Drever, M M. Costantine, S R. Allen, R Jones, T J. Kuehl, **Uddin MN**. Pravastatin protects cytotrophoblasts from a hyperglycemia-induced preeclampsia phenotype. **Submitted at the Society for Maternal Fetal Medicine Annual meeting 2016, Atlanta, GA.**
  16. R. Kalagiri, J. Wilson, S.H. Afroze, N.Drever, A R Steven, R O Jones, M R. Beeram, T J. Kuehl, **Uddin MN**. **Submitted at the Society for Maternal Fetal Medicine Annual meeting 2016, Atlanta, GA.**
  17. SH Afroze, JW. Larrick, S C. Wright, N Drever, S R. Allen, V Sharma, A R. Mendelsohn, J M. Wages, T J. Kuehl, **Uddin MN**. Anti-MBG antibodies attenuate MBG-induced anti-proliferative and anti-angiogenic milieu in cytotrophoblast cell model. **Submitted at the Experimental Biology Annual meeting 2016, San Diego, CA.**
  18. SH Afroze, R. Tobin, C. Peddaboina, T. C McCormick, M. Karen Newell-Rogers, D. C Zawieja, T. J. Kuehl, and **Uddin, MN**.Effect of Cinobufotalin on Three Different Ovarian Cancer Cell Lines. **Submitted at the Experimental Biology Annual meeting 2016, San Diego, CA.**
  19. SH Afroze, K. Wesley, N. Drever, MM. Costantine, SR. Allen, DC Zawieja, TJ. Kuehl, **Uddin MN**. Pravastatin Protects Against Glucose-Induced Anti-Proliferative, Anti-Invasive And Anti-Angiogenic Milieu In Cytotrophoblasts. **Presented at the AHA High Blood Pressure Meeting, September 2015. Washington, DC.**
  20. SH Afroze, K. Wesley, N. Drever, MM. Costantine, SR. Allen, DC Zawieja, TJ. Kuehl, **Uddin MN**. Pravastatin Protects Against Glucose-Induced Anti-Proliferative, Anti-Invasive And Anti-Angiogenic Milieu In Cytotrophoblasts.**Presented at the AHA High Blood Pressure Meeting, September 2015. Washington, DC.**
  21. JL. Wilson, Mary AM. Co, R. Kalagiri, N. Drever, MR. Beeram, TJ. Kuehl, **Uddin, MN**. Comparison of Groups With and Without Diabetes Mellitus in Pregnancies and Preeclampsia: A Retrospective Cross-Sectional Study.**Presented at the AHA High Blood Pressure Meeting, September 2015. Washington, DC.**
  22. S. Choudhury, J. Stucker, M. Reyes, SH. Afroze, N. Drever, SR. Allen, DC. Zawieja, TJ. Kuehl, **Uddin, MN**. **Presented at the AHA High Blood Pressure Meeting, September 2015. Washington, DC.**
  23. Chase Cawyer, Sarah Yuen, Ahmed F. Pantho, Nathan Drever, Madava M Beeram, David C. Zawieja, Thomas J. Kuehl, **Uddin MN**.Hyperglycemia Hinders First Trimester Cytotrophoblast Migration and Induces Apoptosis. **Presented at the EB meeting 2015, Boston, MA.**
  24. S. Afroze, Co MA, McDowell A, McCormick TC, Kuehl TJ, Zawieja DC, **Uddin MN**.Cinobufotalin Inhibits Ovarian Cancer Cells Proliferation, Migration and Invasion. **Presented at the EB meeting 2015, Boston, MA.**
  25. Jamie Stucker, Jessica Thomason, Dean Leonard, Lena Perger, Steven R. Allen, Madhava R. Beeram, Thomas J. Kuehl, **Uddin, MN**. Translational studies on soluble (pro)renin receptor and placental (pro)renin receptor in normal and preeclamptic pregnancy. **Presented at the Society for Maternal Fetal Medicine Annual meeting 2015, San Diego, CA.**
  26. Chase Cawyer, Dean Leonard, Sarah Yuen, Steven R. Allen, Richard R Jones, Nathan Drever, Madhava R. Beeram, Thomas J. Kuehl, **Uddin MN**.Hyperglycemia Impedes First Trimester

- Cytotrophoblast Function via apoptotic Signaling. **Presented at the Society for Maternal Fetal Medicine Annual meeting 2015, San Diego, CA.**
27. B. Giri, Horvat, D, Ghamande SA, Zawieja DC, Kuehl TJ, **Uddin MN.** Hypoxia induces the stress and apoptotic signaling in cultured rat lung microvascular endothelial cells. Oral presentation at **the CHEST Annual Meeting, October 2014, Austin, Texas.**
  28. Mary Antonette M Co, Madhava R. Beeram, Vinayak P Govande, Steven R Allen, Richard O. Jones, , Thomas J. Kuehl, **Uddin, MN.** Apoptotic signaling is augmented in preeclampsia: an adverse impact on offspring. **Presented at the AHA High Blood Pressure Meeting, September 2014. San Francisco, CA.**
  29. Jamie Stucker, Jessica Thomason, Dean Leonard, Lena Perger, Steven R. Allen, Madhava R. Beeram, Thomas J. Kuehl, **Uddin, MN.** Translational studies on soluble (pro)renin receptor and placental (pro)renin receptor in normal and preeclamptic pregnancy. **Presented at the XIX World Congress of Hypertension in Pregnancy, October, 2014, New Orleans, LA.**
  30. Chase Cawyer, Dean Leonard, Sarah Yuen, Steven R. Allen, Richard R Jones, Nathan Drever, Madhava R. Beeram, Thomas J. Kuehl, **Uddin MN.** Hyperglycemia Impedes First Trimester Cytotrophoblast Function via apoptotic Signaling. **Presented at the XIX World Congress of Hypertension in Pregnancy , October, 2014, New Orleans, LA.**
  31. Mary Antonette M Co, Madhava R. Beeram, Vinayak P Govande, Steven R Allen, Richard O. Jones, , Thomas J. Kuehl, **Uddin, MN.** Placental Apoptotic Signaling Is Augmented In Preeclampsia: An Adverse Impact On The Offspring. **Presented at the XIX World Congress of Hypertension in Pregnancy, October, 2014, New Orleans, LA.**
  32. Mobashera Jahan, M. Hasanuzzaman, Sharmin Mahbuba, Hosne Jahan, Sakib Chowdhury, Khadija Leena, Gias U. Ahsan, Thomas J. Kuehl, Uddin MN. Prevalence of preeclampsia in pre-gestational diabetic pregnancy in Bangladeshi patients. **Presented at the XIX World Congress of Hypertension in Pregnancy, October, 2014, New Orleans, LA. Trainee travel Award Winner.**
  33. Dean Leonard, Darijana Horvat, Madhava R. Beeram, Steven R. Allen, Cynthia J. Meininger, David C. Zawieja, Thomas J. Kuehl, **Uddin MN.** Hyperglycemia induces apoptotic signaling in first trimester cytotrophoblast cells. **Presented at the EB meeting 2014, San Diego, CA.**
  34. J. Castor, D. Horvat, M. Khansari, D. Sprague, M.A. Hossain, M. Beeram, T. Kuehl and **M.N. Uddin.** Urea and thiourea-based tipodal ligands induce anti-angiogenic milieu on human first trimester cytotrophoblast cells. **Presented at the EB meeting 2014, San Diego, CA.**
  35. Darijana Horvat, Dean M. Leonard, Steven R. Allen, Richard O. Jones, Madhava R. Beeram, Thomas J. Kuehl, **Uddin MN.** Apoptotic Signaling is Augmented in the Preeclamptic Placenta. **Presented at the EB meeting 2014, San Diego, CA.**
  36. Mary Antonette M Co, Madhava R. Beeram, Vinayak P Govande, Steven R Allen, Richard O. Jones, , Thomas J. Kuehl, **Uddin, MN.** The Higher Expression of Apoptotic and Stress Signaling Markers in Preeclamptic Umbilical Cord and Placenta. **Presented at the Central Society for Clinical and Translational Research Annual Meeting 2014. Chicago, IL. Trainee travel Award Winner.**
  37. Badri Giri, Darijana Horvat, Shekhar A. Ghamande, David C Zawieja, Thomas J Kuehl, **Uddin, MN.** Hypoxia induces the stress and apoptotic signaling in cultured rat lung microvascular endothelial cells. **Presented at the Central Society for Clinical and Translational Research Annual Meeting 2014. Chicago, IL. Trainee travel Award Winner.**
  38. Jessica C. EHRIG, Darijana HORVAT, Steven R. ALLEN, Richard O. JONES, Kimberly A. Pilkinton, Thomas J. KUEHL, **UDDIN, MN.** Cardiotoxic steroids induce apoptotic and stress signaling proteins in first trimester cytotrophoblast cells. **Presented at the Central Society for Clinical and Translational Research Annual Meeting 2014. Chicago, IL. Trainee travel Award Winner.**
  39. Leonard, Dean, Thomason, Jessica, Horvat, Darijana, Munir, Sarah, Allen, Steven R, Beeram, Madhava R, Kuehl, Thomas J., **Uddin, MN.** Placental expression of renin-angiotensin system components and (pro) Renin receptor in normal and preeclamptic pregnancy. **Presented at the Central Society for Clinical and Translational Research Annual Meeting 2014. Chicago, IL. Trainee travel Award Winner.**
  40. **Uddin, MN,** Horvat, Darijana, Leonard, Dean, Allen, Steven R, Jones, Richard O, Beeram, Madhava R, Kuehl, Thomas J. Hyperglycemia impairs first trimester cytotrophoblast function and Induces anti-angiogenic milieu via stress signaling. **Presented at the Central Society for Clinical and Translational Research Annual Meeting 2014. Chicago, IL. Faculty travel Award Winner.**
  41. Horvat, Darijana, Leonard, Dean, Beeram, Madhava R, Koneru, Madhavi, Allen, Steven R, Jones, Richard O, Kuehl, Thomas J, , **Uddin, MN.** Reduced urinary angiotensinogen excretion in preeclampsia. **Presented at the Central Society for Clinical and Translational Research Annual Meeting 2014. Chicago, IL. Trainee travel Award Winner.**



42. S. Lin, A. F. Pantho, B. M Kohl-Thomas, M. R. Beeram, D. C Zawieja, T. J. Kuehl, **Uddin MN**. Hyperglycemia Down-regulates cGMP-dependent Protein Kinase I Expression in First Trimester Cytotrophoblast Cells. **Presented at the Central Society for Clinical and Translational Research Annual Meeting 2014. Chicago, IL. Trainee travel Award Winner.**
43. O. Gasheva, **MN Uddin**, D. Horvat, T. Kuehl, D. C. Zawieja (2013). Contractile Behavior of the Uterine Lymphatic Vessels: Health and Hypertension During Pregnancy. **Presented to the AHA Scientific Sessions.**
44. **Uddin MN**, D. Horvat, S. R. Allen, R. O. Jones, T. J. Kuehl (2013). Reduced urinary angiotensinogen excretion in preeclampsia. **Presented to the AHA Scientific Sessions.**
45. D. Horvat, J. Castor, W. E. Cromer, T. J. Kuehl, D. C. Zawieja, **Uddin MN**, (2013). Cardiotoxic Steroids Cause Monolayer Hyperpermeability in Lymphatic Endothelial Cells via Nitric Oxide Dependent Pathway. **Presented to the AHA Scientific Sessions.**
46. C. Cawyer, D. Horvat, R. E. Fothergill, R. O. Jones, S. R. Allen, T. J. Kuehl, **Uddin MN** (2013). Does hyperglycemia hinder first trimester cytotrophoblast cell invasion? **Presented to the AHA Scientific Sessions.**
47. **Uddin MN**, D. Horvat, J. Thomason, J. Stucker, M. Reyes, R. O. Jones, S. R. Allen, T. J. Kuehl (2013). Placental Expression of Prorenin and (Pro)renin Receptor in Normal and Preeclamptic Pregnancy. **Presented to the SMFM.**
48. C. Cawyer, D. Horvat, D. Leonard, R. O. Jones, S. R. Allen, T. J. Kuehl, **Uddin MN** (2013). Hyperglycemia Impairs Cytotrophoblast Function via Stress Signaling. **Presented to the SMFM.**
49. D. Horvat, J. Castor, W. E. Cromer, T. J. Kuehl, D. C. Zawieja, **Uddin MN**, (2013). Cardiotoxic Steroids Cause Monolayer Hyperpermeability in Lymphatic Endothelial Cells via Nitric Oxide Dependent Pathway. **Presented to the SMFM.**
50. **Uddin MN**, D. Horvat, M. Reyes, S. R. Allen, R. O. Jones, D. C. Zawieja, F. Suzuki, T. J. Kuehl (2013). Prorenin and its receptor during pregnancy and preeclampsia: a translational approach with patients, a rat model and in vitro studies. **Presented at Scott & White 1st Annual Research Days 2013 at Temple, TX on May 8-9, 2013.**
51. D. Horvat, S. R. Allen, R. O. Jones, D. C. Zawieja, T. J. Kuehl, **Uddin MN** (2013). Suppression of Aldosterone and Progesterone in Pre-eclampsia: Patient and Rat Model Studies. **Presented at Scott & White 1st Annual Research Days 2013 at Temple, TX on May 8-9, 2013.**
52. O. Gasheva, **Uddin MN**, T. J. Kuehl, D. C. Zawieja (2013). Contractility of the Squirrel Monkey Uterine Lymphatic Vessels. **Presented at Scott & White 1st Annual Research Days 2013 at Temple, TX on May 8-9, 2013.**
53. O. Gasheva, **Uddin MN**, D. Horvat, T. J. Kuehl, D. C. Zawieja (2013). Influences of Pregnancy on the Contractile Behavior of the Uterine Lymphatic Vessels. **Presented at Scott & White 1st Annual Research Days 2013 at Temple, TX on May 8-9, 2013.**
54. J. Ehrig, D. Horvat, R. S. R. Allen, R. O. Jones, D. C. Zawieja, T. J. Kuehl, **Uddin MN** (2013). Cardiotoxic Steroids Induce Anti-angiogenic and Anti-Proliferative Profiles in First Trimester Cytotrophoblast Cells. **Presented at Scott & White 1st Annual Research Days 2013 at Temple, TX on May 8-9, 2013.**
55. C. Cawyer, D. Horvat, K. G. Pringle, S. R. Allen, R. O. Jones, R. E. Fothergill, T. J. Kuehl, **Uddin MN** (2013). Hyperglycemia Impedes First Trimester Cytotrophoblast Cell Invasion and Induces An Anti-angiogenic Milieu. **Presented at Scott & White 1st Annual Research Days 2013 at Temple, TX on May 8-9, 2013.**
56. J. Castor, D. Horvat, W. E. Cromer, S. R. Allen, T. J. Kuehl, D. C. Zawieja, **Uddin MN** (2013). Effect of Cardiotoxic Steroids on Monolayer Permeability and Junction Proteins in Lymphatic Endothelial Cells. **Presented at Scott & White 1st Annual Research Days 2013 at Temple, TX on May 8-9, 2013.**
57. **Uddin MN**, D. Horvat, K. G. Pringle, S. R. Allen, R. O. Jones, D. C. Zawieja, F. Suzuki, T. J. Kuehl (2013). (Pro)renin and its receptor during pregnancy and preeclampsia: a translational approach with patients, a rat model and in vitro studies. **Presented at the Central Society for Clinical Research Annual Meeting 2013 at Chicago, IL on 25-26 April 2013. Travel Award Winner.**
58. D. Horvat, K. G. Pringle, S. R. Allen, R. O. Jones, D. C. Zawieja, F. Suzuki, T. J. Kuehl, **Uddin MN** (2013). Suppression of aldosterone and progesterone in preeclampsia: patients and a rat model studies. **Presented at the Central Society for Clinical Research Annual Meeting 2013 at Chicago, IL on 25-26 April 2013. Travel Award Winner.**
59. **Uddin MN**, D. Horvat, A. L. Roth, K. G. Pringle, S. R. Allen, R. O. Jones, D. C. Zawieja, T. J. Kuehl (2013). Role of (pro)renin and its receptor in pathogenesis of preeclampsia: a rat model and human patients studies. **Presented at the Experimental Biology meeting 2013 at Boston on 20-25**

**April 2013.**

60. D. Horvat, J. Castor, W. E. Cromer, S. R. Allen, R. O. Jones, D. C. Zawieja, T. J. Kuehl, **Uddin MN** (2013). Effect of cardiotoxic steroids on monolayer permeability and junction proteins in lymphatic endothelial cells. **Presented at the Experimental Biology meeting 2013 at Boston on 20-25 April 2013.**
61. O. Gasheva, Uddin MN, D. Horvat, T. Kuehl, D. Zawieja. Contractile behavior of the uterine lymphatic vessels. **Presented at the Experimental Biology meeting 2013 at Boston on 20-25 April 2013.**
62. **Uddin MN**, K.R. Kelso, R. E. Fothergill, S. R. Allen, R. O. Jones, T. J. Kuehl (2013). Role of (pro)renin and its receptor in pathogenesis of preeclampsia: a rat model and human patients studies. **Presented at the Society for Maternal-Fetal Medicine 2012, February 11-16, at Hilton Union Square, San Francisco, CA.**
63. J. Ehrig, R. E. Fothergill, S. R. Allen, R. O. Jones, T. J. Kuehl, **Uddin MN**, (2013). cardiotoxic steroids induce an anti-angiogenic profile in first trimester cytotrophoblast cells. **Presented at the Society for Maternal-Fetal Medicine 2012, February 11- 16, at Hilton Union Square, San Francisco, CA.**
64. **Uddin MN**; D Horvat; AL Roth; ME Khansari; DCC Sprague; MA Hossain; TJ Kuehl (2012). A thiourea-based tipodal ligand on cytotrophoblast function. **Oral presentation at the 13th RCMI International Symposium on Health Disparities "Translating Science to Better Health: The Power of Diversity & Multicultural Engagement". December 10-13, 2012 in San Juan, Puerto Rico.**
65. **Uddin MN**, Kelso K, Horvat D, Allen S, Jones R, Fothergill R, and Kuehl T. J. (2012). Upregulation of (pro)renin and its receptor in preeclampsia: a translational approach with in vivo, in vitro and patient studies. **Oral presentation at the 24th Meeting of the International Society of Hypertension (ISH), Sept 30 – Oct 4, 2012, Sydney, Australia.**
66. **Uddin MN**, D. Horvat, S. Allen, R. Jones, D. C. Zawieja and T. J. Kuehl (2012). Marinobufagenin causes cerebral vascular leak syndrome in preeclampsia: a translational approach. **Presented at the 24th Meeting of the International Society of Hypertension (ISH), Sept 30 – Oct 4, 2012, Sydney, Australia.**
67. **Uddin MN**, Horvat D, Fothergill R, Kelso K, Jones R, Zawieja DC, Kuehl TJ (2012). Elevation of (pro)renin and its receptor in preeclampsia: a rat model and human patients. **Presented at the AHA High Blood Pressure Research Scientific Sessions, Sept 19 – 22, 2012, Washington DC.**
68. **Uddin MN**, Horvat D, Fothergill R, Kelso K, Jones R, Zawieja DC, Kuehl TJ (2012). Suppression of aldosterone and progesterone in preeclampsia: role of marinobufagenin: a translational approach. **Presented at the AHA High Blood Pressure Research Scientific Sessions, Sept 19 – 22, 2012, Washington DC.**
69. Kelso K, Horvat D, Allen S, Fothergill R, Zawieja D, Kuehl T. J., and **Uddin MN** (2012). Cardiotoxic Steroids in Preeclampsia: Human Translational Approach InVivo and In Vitro Study. **Resident Research Day/Bunkley Research Day Paper Presentation, Department of Obstetrics and Gynecology, Scott & White Healthcare, April 26, 2012.**
70. Ehrig J, Horvat D, Allen S, Fothergill R, Zawieja D, Kuehl T. J., and **Uddin MN** (2012). Cardiotoxic steroids induce stress signaling in preeclampsia: a translational approach with patient, in vitro and in vivo studies. **Resident Research Day/Bunkley Research Day Paper Presentation, Department of Obstetrics and Gynecology, Scott & White Healthcare, April 26, 2012.**
71. Dixie McClendon-Coker, Horvat D, Allen S, Fothergill R, Zawieja D, Kuehl T. J., and **Uddin MN** (2012). Angiogenic imbalance in preeclampsia: a translational approach with patient, in vivo, and in vitro studies. **Resident Research Day/Bunkley Research Day Paper Presentation, Department of Obstetrics and Gynecology, Scott & White Healthcare, April 26, 2012.**
72. **Uddin MN**, D. Horvat, S. Allen, R. Jones, D. C. Zawieja and T. J. Kuehl (2011). Role of cardiotoxic steroids in preeclampsia: a translational approach with in vivo, in vitro, and patient studies. **Presented at the Central Society for Clinical Research Annual Meeting 2012 at Chicago, IL on 26-27 April 2012.**
73. **Uddin MN**, D. Horvat, S. Allen, R. Jones, D. C. Zawieja and T. J. Kuehl (2011). Cardiotoxic steroids induce stress signaling in preeclampsia: a translational approach with in vivo, in vitro and patient studies. **Presented at the Experimental Biology meeting 2012 at San Diego, CA on 22-26 April 2012.**

74. **Uddin MN**, D. Horvat, D. C. Zawieja (2011). Exogenous nitric oxide (no) modulates the g-protein coupled signaling proteins in cultured lymphatic smooth muscle cells. **Presented at the Experimental Biology meeting 2012 at San Diego on 22-26 April 2012.**
75. D.Horvat, K. Kelso, S. Allen, R. Futhergill, R. Jones, S.S. Glaser, D. C. Zawieja and T. J. Kuehl and **Uddin MN** (2012). Role of cinobufotalin in the pathogenesis of preeclampsia. **Presented at the Experimental Biology meeting 2012 at San Diego on 22-26 April 2012.**
76. **Uddin MN**, D. Horvat, S. Allen, R. Jones, A. Ichihara, S.S. Glaser, D. C. Zawieja and T. J. Kuehl (2012). A cardiotoxic steroid causes cerebral vascular leak syndrome in hypertension during pregnancy: a translational approach. **Presented (oral) at the AFMR Southern Regional meeting 2012, February 9 - 11, at New Orleans, LA.**
77. D. Horvat, S. Allen, R. Jones, A. Ichihara, S.S. Glaser, D. C. Zawieja, T. J. Kuehl and **Uddin MN** (2012). Cardiotoxic steroids triggers cytotrophoblast dysfunction via cell cycle arrest and apoptotic signaling. **Presented (oral) at the AFMR Southern Regional meeting 2012, February 9 - 11, at New Orleans, LA.**
78. **Uddin MN, S. Allen, R. Jones, S.S. Glaser, D. C. Zawieja and T. J. Kuehl (2011).** A bufadienolide suppresses aldosterone availability in preeclampsia: a translational approach with in vivo, in vitro and patient study. **Presentation at the Society for Maternal-Fetal Medicine 2012, February 6 - 11, at Hyatt Dallas Regency at Reunion, Dallas, TX.**
79. **Uddin MN**, S. Allen, R. Jones, S.S. Glaser, D. C. Zawieja and T. J. Kuehl (2011). A bufadienolide causes cerebral vascular leak syndrome in preeclampsia: in vivo and in vitro study. **Presentation at the Society for Maternal-Fetal Medicine 2012, February 6 - 11, at Hyatt Dallas Regency at Reunion, Dallas, TX.**
80. **Uddin MN**, S. Allen, R. Jones, A. Ichihara, S.S. Glaser, D. C. Zawieja and T. J. Kuehl (2011). Involvement of pro(renin) and its receptor associated novel renin angiotensin system in pathogenesis of preeclampsia. **Presented in the AHA High Blood Pressure Research Scientific Sessions 2010, September 21-24, at Orlando, FL.**
81. **Uddin MN**, S. Allen, R. Jones, D. C. Zawieja and T. J. Kuehl (2011) Comparison of urinary levels of marinobufagenin and angiogenic factors between preeclamptic and normally pregnant patients. **Presented in the AHA High Blood Pressure Research Scientific Sessions 2010, September 21-24, at Orlando, FL.**
82. **Uddin MN**, S. Allen, R. Jones, D. C. Zawieja and T. J. Kuehl (2011) Marinobufagenin and angiogenic imbalance are the indicators of cerebral vascular leak syndrome in preeclampsia. **Presented in the joint annual meeting of the American Federation of Medical Research (AFMR) and Central Society for Clinical Research (CSCR) 2011 at Chicago on April 14-16 2011.**
83. **Uddin MN**, S. Allen, R. Jones, D. C. Zawieja and T. J. Kuehl (2011) Cinobufotalin inhibits Cytotrophoblasts Function. **Presented to the Experimental Biology meeting 2011 at Washington DC on 9-13 April 2011.**
84. **Uddin MN** (2011) The Role of Marinobufagenin in the Causation of a Cerebral Vascular Leak Syndrome in a Rat Model of Preeclampsia. **Presented to the Experimental Biology meeting 2011 at Washington DC on 9-13 April 2011.**
85. **Uddin MN**, O. Gasheva and D. C. Zawieja (2011) Nitric oxide (no) dependent cellular signaling in cultured lymphatic smooth muscle cells. **Presented to the Experimental Biology meeting 2011 at Washington DC on 9-13 April 2011.**
86. **Uddin MN**, D. Horvat, S. Demarrow, E. Agunanne, J. Puschett (2010). "Marinobufagenin Modulates Gadd45A Stress Signaling in a Rodent Model of Human Preeclampsia." **Presented in the AHA High Blood Pressure Research Scientific Sessions 2010, October 13-16, at Washington DC.**
87. **Uddin MN** and S. S. Glaser (2010) Modulation of Renin Angiotensin System, Prorenin and its receptor in a Rodent Model of Human Preeclampsia." **Accepted to present in the AHA High Blood Pressure Research Scientific Sessions 2010, October 13-16, at Washington DC.**
88. E Agunanne, D Horvat, R Harrison, **Uddin MN**, R Jones and JB Puschett (2010). Marinobufagenin Levels are Elevated in Preeclamptic Patients. **Accepted to present in the AHA High Blood Pressure Research Scientific Sessions 2010, October 13-16, at Washington DC.**
89. **Uddin MN**, D. Horvat, E. Agunanne, J. Puschett (2010). "Marinobufagenin Enhances Human Brain Microvascular Endothelial Cell Monolayer Hyperpermeability via the Disruption of Tight Junction Proteins." **Presented as an abstract in the AHA Scientific Sessions 2010, November 13-17, at Chicago, IL.**
90. **Uddin MN**, D. J. Puschett (2010). "Alterations in Renin-Angiotensin Aldosterone System and

- Oxidative Stress in a Rodent Model of Human Preeclampsia." **Submitted as an abstract in the AHA Scientific Sessions 2010, November 13-17, at Chicago, IL.**
91. S. H. Afroze, **Uddin MN**, P. Cao and D. Gizachew (2010). "Cellular uptake of exogenous Arf6 inhibits the proliferation, invasion and migration of MDA-MB-231 breast cancer cells." **Presented as an abstract in the American Association for Cancer Research Conference on Translational Cancer Medicine 2010 (Europe). March 21-24, 2010 held in Amsterdam, The Netherlands.**
  92. **Uddin MN**, D. Horvat, S. Demorrow, E. Agunenne, J. Puschett (2010). "Marinobufagenin is an upstream modulator of Gadd45a stress signaling in cytotrophoblast cells." **Presented for presentation to the Experimental Biology meeting 2010, at Anaheim, CA. (Travel Award Winner from the American Society of Biochemistry and Molecular Biology).**
  93. E. Agunenne, **Uddin MN**, D. Horvat, J. Puschett (2010). "Circulating angiogenic factors in a rat model of preeclampsia." **Presented for presentation to the Experimental Biology meeting 2010, at Anaheim, CA.**
  94. **Uddin MN**, D. Horvat, S. Demarrow, E. Agunanne, B. Kumar, J. Puschett (2009). "Marinobufagenin induces in vivo and in vitro stress signaling." **Presented to the SSCI meeting 2010, at New Orleans, LA. ( Trainee Research Award Winner from the American Federation of Medical Research)**
  95. E. Agunanne, **Uddin MN**, D. Horvat, J. Puschett (2009). "Resibufogenin prevents angiogenic imbalance in a rat model of preeclampsia." **Presented to the SSCI meeting 2010, at New Orleans, LA.**
  96. B Kumar, **Uddin MN**, E Aggunanne, D Horvat, J B Puschett (2009) "Cinobufatalin induces the syndrome of preeclampsia in a rat model." **Presented to the SSCI meeting 2010, at New Orleans, LA.**
  97. **Uddin MN**, E. Agunanne, D. Horvat, J. Puschett (2009). Marinobufagenin causes enhanced permeability in human brain microvascular endothelial cells via apoptotic signaling. Presented in **the 42nd Annual Meeting of American Society of Nephrology (ASN) 2009, October 29 - November 2 at San Diego, CA.**
  98. E. Agunanne, **Uddin MN**, D. Horvat, J. Puschett (2009). Angiogenic factors in a rat model of preeclampsia. Accepted for presentation to the **63<sup>rd</sup> High Blood Pressure Research Conference 2009. September 23-26 at Chicago, IL.**
  99. E. Agunanne, D. Horvat, **Uddin MN**, J. Puschett (2009). Differential effects of resibufogenin and digibind® in a rat model of preeclampsia. **38<sup>th</sup> Annual meeting of American College of Clinical Pharmacology, September 13-15, 2009 at San Antonio, Texas.**
  100. E. Agunanne, **Uddin MN**, D. Horvat, J. Puschett (2008). Imbalance of angiogenic factors in a rat model of preeclampsia. **Presented in the SSCI meeting 2009, at New Orleans, LA.**
  101. E. Agunanne, D. Horvat, **Uddin MN**, J. Puschett (2008). Digibind prevents the syndrome of preeclampsia in a rat model of this syndrome. **Presented in the Experimental Biology meeting 2009, at New Orleans, LA.**
  102. S. Humayra Afroze, **Uddin MN** and D. Gizachew (2008). Arf6 induces apoptotic signaling and impairs CHO-K1 cells function. **Presented to the chemistry in cancer research: A Vital Partnership in Cancer Drug Discovery and Development; A joint conference presented by the American Association for Cancer Research and the American Chemical Society, February 8-11, 2009, Westin New Orleans Canal Place, New Orleans, LA.**
  103. **Uddin MN**, D. Horvat, Ed W. Childs and J. B. Puschett (2008). Marinobufagenin induces in vivo and in vitro vascular permeability. **Presented to Jackson cardiovascular and renal meeting, October 15-18, 2008 at Jackson, MS.**
  104. **Uddin MN**, D. Horvat and J. B. Puschett (2008). Alteration of Renin-angiotenin system in a Rat Model of Preeclampsia. **Presented to the 62<sup>nd</sup> High Blood Pressure Research Conference 2008. September 17-20 at Atlanta, GA.**
  105. **Uddin MN**, D. Horvat and J. B. Puschett (2008). Angiogenic Imbalance in a rat model of Preeclampsia. **Presented to the American Society for Nephrology (ASN) conference, held in Philadelphia, PA, November 4- November 9, 2008).**
  106. D. Horvat, **Uddin MN**, and J. B. Puschett (2008). Resibufogenin prevents preeclampsia in a rat model. **Presented to the 16th World Congress of the International Society for the Study of Hypertension in Pregnancy (ISSHP), to be held September 21-24, 2008, at Washington, DC.**
  107. **Uddin MN**, F. Hunter, S.S. Glaser, D. Horvat, Ed W Childs and JB Puschett (2008). Marinobufagenin impairs proliferation and triggers enhanced vascular permeability in rat lung microvascular endothelial cells. **Presented in the Combined Regional Meeting of SSCI to be held on 21-23 February, 2008. ( Trainee Research Award Winner from the American Federation of Medical Research).**

108. L. B. Mclean, F. Hunter, D. Horvat, **Uddin MN**, Ed W Childs and JB Puschett (2008). Vascular permeability changes in a rat model of preeclampsia. **Presented in the Combined Regional Meeting of SSCI to be held on 21-23 February, 2008).**
109. **Uddin MN**, D. Horvat, S.S. Glaser, L.B. McLean and JB Puschett (2007). Marinobufagenin inhibits cytotrophoblast function by modulating MAPK signaling and activation of apoptosis. (**Presented to the American Society for Nephrology (ASN) conference, held in San Francisco, California, October 31- November 5, 2007).**
110. **Uddin MN**, D. Horvat, S.S. Glaser, L.B. McLean and J.B. Puschett (2007). Marinobufagenin inhibits proliferation via Na<sup>+</sup>/K<sup>+</sup>-ATPase-dependent downregulation of ERK and JNK signaling in CHO cells (**Presented to the 2007 Combined Annual Meeting of CSCR and MWAFFMR, held April 12-13, 2007 at the Hard Rock Hotel in Chicago, IL, USA).**
111. L. B. McLean, S. Danchuk, S. Sukhanov, D. Horvat, **Uddin MN**, J. B. Puschett (2007). Resibufogenin corrects volume expansion-mediated hypertension and reduces oxidative stress (**Presented in the World Congress of Nephrology, held April 21-25, 2007 at Rio, Brazil).**
112. **Uddin MN**, D. Horvat, S.S. Glaser, L.B. McLean and J.B. Puschett (2007) Marinobufagenin inhibits proliferation via downregulation of ERK and JNK signaling in CHO cells (**Presented to the European Renal Association, European Dialysis and Transplant Association to be held June 21- 25, 2007 at Barcelona, Spain).**
113. A.H.M.N. Nabi, **Uddin MN**, T. Nakagawa, A. Ichihara, T. Inagami and F. Suzuki (2006). (Pro) renin Receptor: Biochemical study on the binding to prorenin andrenin. **Presented in the meeting of the International Society for Hypertension (ISH 2006) held in October 12- 19, 2006 at Fukuoka, Japan.**
114. A.H.M. Nabi, Ayano Kageshima, **Uddin MN**, Tsutomu Nakagawa, Enoch Y. Park, Fumiaki Suzuki (2006) Binding properties of rat prorenin and renin to the recombinant rat prorenin/renin receptor prepared by a baculovirus expression system. 5P-A-106 (Quality Control of Proteins and Proteolysis/Proteases) 20th IUBMB (Kyoto)
115. **Uddin MN**, Afroza Sultana, Takakura Ayano, A.H.M. Nurun Nabi and Fumiaki Suzuki (2005). "The short term effect of laughter therapy on the components of renin- angiotensin system in patients with type 2 diabetes". Abstract accepted for oral presentation in the 4<sup>th</sup> conference on "**Heart and Gene**", Tsukuba 28<sup>th</sup>August, 2005.
116. **Uddin MN**, Nabi, A.H.M. Nurun, T. Nakagawa, A. Ichihara, T. Inagami and F. Suzuki (2005). "Functional study of human prorenin in receptor mediated nonproteolytic activation system; "Receptor-Associated Prorenin System" (RAPS)."Accepted for presentation In the 4<sup>th</sup> **General Meeting of the International Proteolysis Society associated with the International Conference on Protease Inhibitors.** Quebec City, Canada, October 15-19, 2005.
117. A.H.M.N. Nabi, **Uddin MN**, T. Nakagawa, A. Ichihara, T. Inagami and F. Suzuki (2005). "The role of handle region of the prosegment part of prorenin in the Receptor- Associated Prorenin System (RAPS)." Presentation in the **15<sup>th</sup>European Meeting on Hypertension.** 17-21 June, 2005. Milan, Italy.
118. Fumiaki Suzuki, M. Hayakawa, T. Nakagawa, **Uddin MN**, A.H.M. Nurun Nabi, A. Iwasawa, and Y. Nakamura (2004). "Human prorenin has "gate and handle" regions critical for its non-proteolytic activation by protein-protein interaction." Presented as poster in the **1<sup>st</sup> Pacific-Rim International Conference on Protein Science.** 14-18 April, 2004. Pacifico Yokohama, Japan.
119. AHM N. Nabi, **Uddin MN**, T. Nakagawa, T. Orihashi, A. Ebihara, A. Iwasawa, Y. Nakamura (2004). Roles of His9 (P2) and His13 (P3') in angiotensinogen for renin catalytic reaction. Presented as poster in the **1<sup>st</sup> Pacific-Rim International Conference on Protein Science.** 14-18 April, 2004. Pacifico Yokohama, Japan.
120. **Uddin MN** (2003) "Laughter therapy: Scientific and historical background in South-East Asia, Prorenin is a marker of laughing therapy in Diabetic patients?" **Oral presentation** in the **3<sup>rd</sup> conference on "Heart and Gene"**, 1<sup>st</sup> September, 2004. Tsukuba, Japan. Published as proceedings pp 44 -51.
121. **Uddin MN**, T .Nakagawa, T. Orihashi, A. Ebihara, Y. Nakamura and F.Suzuki (2003). "Role of histidine-9 (P2) and histidine-13 (P3') of ovine angiotensinogen on the pH dependence of renin-angiotensinogen reaction." Presented as an abstract (P16-2) in the **3<sup>rd</sup> general meeting of the International proteolysis society.** November 2003, Nagoya, Japan.
122. F.Suzuki, M .Hayakawa, T .Nakagawa, **Uddin MN**, A. Ebihara, A. Iwasawa, Y. Ishida, Y. Nakamura and K. Murakami (2003) "Prorenin has "gate and handle" regions for its non-

- proteolytic activation at neutral pH." Presented as an abstract (P16-1) in the **3<sup>rd</sup> general meeting of the International proteolysis society**. November 2003, Nagoya, Japan.
- 123.** F.Suzuki, M .Hayakawa, T .Nakagawa, **Uddin MN**, A. Ebihara, A. Iwasawa, Y. Ishida, Y. Nakamura and K. Murakami (2003) " Structure and function of human prorenin:"gate and handle" regions critical for its non-proteolytic activation at physiological pH." Presented as an abstract (O-4) in the **International conference on aspartic proteases and inhibitors**. November 2003 (ICAPI 03), Kyoto, Japan.
- 124.** F. Suzuki, I. Tosaki, T. Nakagawa, **Uddin MN** and Y. Nakamura (1996). "Role of R10 and K43 in inactivation of rat prorenin." Presented as an abstract (P3-30) in the **12th International symposium of Federation of Asian and Oceanian Biochemists and Molecular Biologists: Gene Regulation of Biological Functions**. July 1996, Tokushima, Japan.
- 125.** **Uddin MN** and B. Gomes (1991). "Serum Cholesterol and Lipoproteins pattern in cardiac, metabolic and hepatic diseases in Bangladesh: a comparative study." **Oral Presentation in the 8th International symposium of FAOB: Health and diseases**. January 1991, Dhaka, Bangladesh.

### Research Interests

Preeclampsia (preE) is a systemic and hypertensive pregnancy disorder, which occurs in 3 to 10% of all gestations—accounting for approximately 60,000 maternal deaths per year worldwide. PreE is characterized by the de novo onset of hypertension and proteinuria in pregnancy. The triggers of this condition remain elusive, and pathogenic mechanisms remain ambiguous, resulting in a failure to develop specific screening, preventive, and treatment strategies.

Dr. Uddin's lab focuses on translational research in maternal fetal medicine especially hypertension during pregnancy. The long-term goal of his lab is to determine the pathogenesis and molecular signaling in hypertension during pregnancy (preE). The potential significance of his research is that successful completion may identify molecular therapeutic targets may be identified to effectively treat preE. He is using animal models (rodents and small monkey species), several human cell lines, and patients for his research.

### Research Topics

**Studies on the (pro) renin and its Receptor Associated Novel Renin-Angiotensin System and Placental Perfusion in Preeclampsia:** preE affects the placenta which releases substances into the circulation that affect the mother's kidney, liver, and brain. It often results in premature delivery of the baby. Dr. Uddin is looking at the reninangiotensin system (RAS) in preE, specifically, (pro)renin and its receptor, in the dysregulation of circulation through the uterine-placental circulation during the preE process. In evaluating the function of RAS, (pro)renin, and (pro)renin receptor in a rat model of preE, Dr. Uddin found that the utero-placental RAS was activated and the maternal circulatory RAS was suppressed. However, both the utero-placental receptor and circulatory levels of (pro)renin are increased in these rats. He proposes the hypothesis that (pro)renin receptor-mediated activation of RAS leads to an alteration placental circulation reducing the exchange of oxygen and nutrients in the placenta. **His overall goal** is to understand the involvement of (pro)renin and its receptor in the cause of the altered extent and timing for regulation of perfusion (the passage of fluids) through the maternal-fetal unit in the pathogenesis of preE. These studies are intended to provide new evidence that (pro)renin and its receptor play key roles in dysregulation of perfusion and point to promising new therapeutic targets.

**Preeclampsia in the Owl Monkey Model to Understand the Pathogenesis:** A class of endogenous cardiotoxic hormones that can trigger preE in rodents and is increased in patients with preE. In order to test the safety of agents that may block the effects of these agents without harming mother or developing fetus, a species with more similarity to humans than rats must be tested first. One type of monkey species, the owl monkey, a small neotropical monkey from South America, is sensitive to agents and mechanisms that produce increased blood pressure. There are good breeding populations of the monkey in research facilities in central Texas. Previous work by Dr. Uddin and others supports the novel hypothesis that cardiotoxic hormones might also produce preE in nonhuman primates using a specific molecular pathway that can be blocked in cultured cells by inhibitors. These studies will examine whether these agents and this mechanism for preE pathogenesis can be demonstrated for the first time in a primate species and whether such treatments are safe to use in pregnancy.

**Evaluate potential linkage between the risk of developing preeclampsia and the presence of diabetes in pregnant patients or the development of gestational diabetes:** The concept is that poor glucose regulator control may stimulate one of more mechanisms of cells involved in the vascular remodeling during implantation and placental development, so that pathways leading to vascular compromise are stimulated. The focus of the studies used to develop these risk factor assessments was pooling results from a meta-analysis of many studies of patients with and without preE symptoms. Based on some preliminary work in our lab, we suspect that elevated glucose levels in pregnancy may stimulate a cascade of vascular development that will predispose to development of placental vascular compromise. Under such conditions, vascular responses can trigger preE pathways. Therefore, we propose to obtain epidemiologic information from a large patient population with subsets of patients who become pregnant who also have pre-existing diabetes and patients who develop gestational diabetes in ethnic groups with high frequencies of both diabetes and preE in pregnancy.

Dr. Uddin's translational research group consists of basic and physician scientists including medical students, residents, fellows and research associates.

### **Invited Speaker**

1. Invited Speaker at 10th International Symposium on Recent Advances in Environmental Health Research on September 15-18, 2013, Jackson, MS.
2. Babies and Mothers Research Centre, Hunter Medical Research Institute, University of Newcastle, Australia, October 4, 2012
3. Research Center for Minority Institute (RCMI) Jackson State University, Jackson MS, March 26, 2012.
4. Cardiovascular Research Institute, Texas A&M HSC, October, 2011.
5. Invited Speaker at 9th International Symposium on Recent Advances in Environmental Health Research on September 16-19, 2012, Jackson, MS.
6. Invited Speaker at Texas Bioscience Institute, Temple, TX on April 16, 2012.
7. Department of physiology, Tulane University School of Medicine
8. Invited Speaker at 11<sup>th</sup> International Symposium on Recent Advances in Environmental Health Research on September 14-18, 2014, Jackson, MS.
9. Distinguished Alumni presentation at the Gifu University International Student Day 2014, Gifu, Japan, November 4, 2015.
10. Invited Speaker at Gifu University Graduate School, Gifu, Japan, November 6, 2015.

11. Invited symposium lecture in International Symposium on Drug Discovery and Development, on October 3-6, 2015 in Dhaka, Bangladesh.
12. Keynote Speaker, School of Health and Life Sciences, North South University, Dhaka, Bangladesh on October 11, 2015.
13. Invited Speaker at 12<sup>th</sup> International Symposium on Recent Advances in Environmental Health Research on 2015, Jackson, MS.
14. Invited Speaker at 13<sup>th</sup> International Symposium on Recent Advances in Environmental Health Research on 2016, Jackson, MS.
15. Invited Speaker at 14<sup>th</sup> International Symposium on Recent Advances in Environmental Health Research on 2017, Jackson, MS.
16. Invited speaker at the Symposium of Gifu University Graduate School on October 2018, Gifu, Japan,
17. Invited Speaker, School of Health and Life Sciences, North South University, Dhaka, Bangladesh on January 03, 2018.
18. Invited Speaker at 15<sup>th</sup> International Symposium on Recent Advances in Environmental Health Research on February 17- 20, 2019, Jackson, MS.

### **AWARDS, AND HONORS**

2020	US-Japan JSPS Bridge Fellowship
2019	Outstanding Non-Resident Bangladeshi Scientist Award 2019 by the Global Network of Bangladeshi Biotechnologists
2015	Fellow of American Heart Association (FAHA).
2012	Faculty Development Award, Texas A& M Health Science Center College of Medicine
2007-2010	Travel Award, American Federation of Medical Research
2010	Travel Award, American Federation of Medical Research
2007- 2013	Travel Award, Central Society for Clinical Research
2003-2005	Japan Society for Promotion of Science Postdoctoral Fellowship
2000-2003	Research Grant from Ministry of Science and Technology, Peoples Republic of Bangladesh
1996-2000	Japan Government Scholarship for Doctoral Degree
1992-1994	Research Grant from Biotechnology Research Center and Advanced of Biological Science, University of Dhaka, Bangladesh
1988-1990	University of Dhaka Merit Scholarship for Graduate study



1984-1988

University of Dhaka Merit Scholarship for Undergraduate study

**RESEARCH SUPPORT:**

**Baker Research Award**  
**Preclinical Evaluation of B7-33 on RUPP Preeclampsia Rat Model** Uddin (PI) 2017-2019  
Role: PI (20,000/Year)

**Baker Research Award**  
**Preclinical Evaluation of Anti-MBG Antibody on DOCA Preeclampsia Rat Model** Uddin (PI) 2017-2019  
Role: PI (20,000/Year)

**1R43HD079238-01**  
**Baylor Scott & White Academic Operation Research Mentor Award** Uddin (PI) 2015-2019  
Pregestational diabetes induces stress and inflammatory signaling that leads to preeclampsia-like phenotype (40,000)  
Role: PI

**Children Miracle Network Fund**

Comparison of Pregnancy outcome between preeclampsia and normal pregnancy Uddin (PI) 2013-2019  
Role: PI (50,000/Year)

**The Discovery Foundation Grant**

Pre-clinical evaluation of cinobufotalin as a potential anti-ovarian cancer agent Uddin (PI) 2016–2019  
Role: PI (184,000 for 3 year)

**Grimes Foundation Endowment Award** Uddin (PI) 2014-2019  
Cinobufotalin as a potential therapeutics for ovarian cancer (80,000/Year)  
Role: PI

**Siemens New Platform protocols:** i) The new platform TNI Ultra External verification protocol. ii) The new platform IM Module External Verification protocol for PM assays iii) The new platform PCT External Verification Protocol iv) The new Platform External Verification Protocol v) The new Platform IM Module External Verification Protocol for the High Sensitivity Troponin I (TNIH) Assay. (PI: Amin Mohammad, PhD, Baylor Scott & White Health; \$328,3230; July 2016 – June 2017). **Role: CO-I (\$5000).**

**Role: Co-I**  
**NIH-SBIR\_Phase I** 7/1/18-6/30/19 30% \$275, 000  
**NIH Small Business Innovation Research (SBIR). Phase I** Yu (PI)

**Novel GPCR-targeted therapy for preeclampsia**

**Role: Co-I:**To support this project, I will provide materials and advice on the in vitro experiments. The animal studies will be performed in my laboratory. I can also help to guide future preclinical studies toward successful evaluation of this novel therapeutic in clinical trials.

**Pending Support:**

**Role: PI**  
**NIH-R01** **10/1/19-9/30/24** **50%** **\$3149, 222.27**  
**NIH R01** **Uddin (PI)**

**Preclinical Evaluation of Monoclonal Antibody for Preeclampsia**

**Role:PI:**The overall goal of this project is to develop and characterize B7-33 as an innovative treatment for preE..

**Role: PI**  
**NIH-R01** **10/1/19-9/30/24** **50%** **\$345, 0000**  
**NIH R01** **Uddin (PI)**

**Developing a novel peptide therapeutic for preeclampsia**

**Role:PI:**I will be assessing the utility of MBG and other angiogenic markers as biomarkers for preE, and the potential therapeutic role for anti-MBG antibodies, this project lays the background for the development of innovative treatment and preventive strategies for preE..

**Role: Co-I**  
**NIH-SBIR\_Phase I** **1/1/19-12/31/19 30%** **\$275, 000**  
**NIH Small Business Innovation Research (SBIR). Phase I** **Yu (PI)**

**Aptamer-based assay for endogenous cardiotoxic steroids**

**Role: Co-I:**I will be available as needed to advise and consult on the development of the assay and will contribute my experience with the first-generation MBG immunoassay. Going forward into Phase 2, we have great interest in applying the CTS panel to preeclampsia patients and will provide assistance in achieving the rapid translation from lab to clinic.

**Role: Co-I**  
**NIH-SBIR\_Phase I** **1/1/19-12/31/19 30%** **\$275, 000**  
**NIH Small Business Innovation Research (SBIR). Phase I** **Yu (PI)**

**Anti-fibrotic therapy for diabetic nephropathy**

**Role: Co-I:**I will provide advice on the design of the animal model and interpretation of the results, including the renal pathological changes and response to therapeutic intervention. I can also help to guide the preclinical studies toward successful evaluation of your novel therapeutic in clinical trials.

**Pending Grants (Uddin: PI):**

- NIH-SBIR DecoyPep-PE** **Novel therapy for preeclampsia**
- NIH-SBIR DecoyPep-DN** **Novel therapy for diabetic nephropathy**
- NIH-SBIR B7-33-HF (HSA)** **Anti-fibrotic therapy for acute heart failure**

**NIH-SBIR B7-33-IPF (PEG) Anti-fibrotic therapy for idiopathic pulmonary fibrosis**

**NIH-SBIR TMQ-OC Novel ovarian cancer therapeutic**

**DoD pre-application to CDMRP Lung Cancer Idea Development RFA: will be submitted before 7-10-18**

**"Microtubule-directed therapeutic for non-small-cell lung cancer"**

**DoD pre-application to CDMRP Prostate Cancer Idea Development RFA: 7-18**

**"RXFP1 antagonists as molecular probes and inhibitors of prostate cancer"**

**NIH R01 submitted 6-2018**

**"Preclinical Evaluation of Monoclonal Antibody for Preeclampsia"**

**NIH R21 submitted 6-2018**

**"Marinobufagenin and Preeclampsia in the Squirrel Monkey"**

**NCI R21 submitted 6-2018**

**"Novel tubulin inhibitor for ovarian cancer"**

**Completed Research Support**

**Scott, Sherwood and Brindley Foundation**

**Uddin (PI) 2011-2014**

Marinobufagenin in pathogenesis of preeclampsia

Role: PI

**NIH Small Business Innovation Research (SBIR). Phase I  
2014-2016**

**Larrick (PI)**

*Point-of-care immunoassay panel for cardiotonic steroids*

Role: Co-I/Consultant

**Role: Collaborator**

**NIH Pilot Project Program-Tier 3:**

**RCMI. (PI: Md. Alamgir Hossain, Jackson State University, Molecular Recognition of Environmentally Relevant Anions with Synthetic Clefs, January 2016-December 2016).**

**MEMBERSHIPS**

1. American Society of Biochemistry and Molecular Biology (ASBMB)
2. American Federation of Medical Research (AFMR)
3. American Heart Association (AHA)
4. Microcirculatory Society (MCS)
5. Central Society for Clinical and Translational Research (CSCTR)
6. President, Dhaka University Biochemistry Alumni North America (DUBANA) (2013-2017)

**INVITED REVIEWERS:**

1. Editorial Board member, Medical Journal of Obstetrics and Gynecology
2. Invited reviewer, American Association of Heart Grant
3. American Journal of hypertension
4. Journal of Reproductive sciences
5. Reproductive Biology and Endocrinology
6. Journal of Clinical Toxicology
7. Diseases — Open Access Journal
8. Journal of Genomics
9. Special Editor, Pregnancy Outcome and Complications, Medical Journal of Obstetrics and Gynecology
10. Editorial Board member, Journal of Women's Health and Gynecology
11. Reviewer, American Hypertension Association Grant Review committee, Basic Science Hypertension Section
12. Assistant Editor of the Department of Ob/Gyn Resident Research Compilation entitled, "BUNKLEY DAY PROCEEDINGS", prepared annually to document the T.F. Bunkley Lectureship, Annual Resident Research Day, and DP Baker Society Meeting. Direct the resident research portion of program, 2011-present

**GLOBAL HEALTH COLLABORATION:**

1. Gifu University, Japan
2. University of Texas Medical Branch, Galveston, TX
3. Yale University School of Medicine, New Haven, CT, USA
4. Jackson State University, Jackson, Mississippi
5. National Institute on Aging (NIA), Baltimore, Maryland.
6. Dhaka University, Bangladesh
7. North South University, Dhaka, Bangladesh
8. Bangladesh University of Health Sciences, Dhaka, Bangladesh
9. Chulalongkorn University, Bangkok, Thailand
10. Gazi University, Ankara, Turkey

**PROFESSIONAL ACHIEVEMENT:**

Fellow of American Heart Association (FAHA)

President, Dhaka University Biochemistry Alumni North America (DUBANA) (2014-2017)

Council Member, Central Society for Clinical and Translational Research (CSCTR) (2017-2020)