

Farah Deba, Ph.D.

Assistant professor

*Department of Pharmaceutical Sciences and Health Outcomes
Ben and Maytee Fisch College of Pharmacy, University of Texas, at Tyler
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Research and Teaching Interest

- ❖ Molecular and Cell Biology
- ❖ Molecular Pharmacology
- ❖ Toxicology
- ❖ Pain Management
- ❖ Behavioral Pharmacology
- ❖ Neurological disorders
- ❖ Pharmaceutical Calculations
- ❖ Laboratory Techniques in Pharmaceutical Science Research

EDUCATION

- Ph.D.** Applied Molecular and Cellular Biology (Cell Biology)
Kagoshima University, Kagoshima. Okinawa, Japan, 2008.
- M.S.** Bioscience and Biotechnology (Biotechnology), University of the Ryukyus, Okinawa, Japan, 2005.
- M.Pharm.** Pharmaceutical Science (Pharmacy), University of Science & Technology Chittagong, Bangladesh, 1999. (Major: Pharmacology)
- B.Pharm.** Pharmaceutical Science (Pharmacy), University of Science & Technology Chittagong, Bangladesh, 1997. (Courses completed: Organic Chemistry, Pharmaceutics, Physiology, Physical Pharmacy, Pharmaceutical Technology, Medicinal Chemistry, and Pharmacology)

ACADEMIC & PROFESSIONAL CAREER

- Jan 2019 –present** **Assistant Professor**, Department of Pharmaceutical Sciences, *Department of Pharmaceutical Sciences, Ben and Maytee Fisch College of Pharmacy, University of Texas, at Tyler*
- 2018 – Jan 2019** **Senior Research Associate**, *Department of Pharmaceutical Sciences, Ben and Maytee Fisch College of Pharmacy, University of Texas, at Tyler*
- 2017 - May 2018** **Senior Research Associate**, *Department of Pharmaceutical Sciences, Irma L. Rangel College of Pharmacy, Texas A&M Health Science Center, Kingsville, TX.*
- 2011 - June 2017** **Post-Doctoral Research Associate**, *Department of Pharmaceutical Sciences, Irma L. Rangel College of Pharmacy, Texas A&M Health Science Center, Kingsville, TX.*
- 2009 - Dec 2009** **Foreign Visiting Researcher**, *Department of Bioscience and Biotechnology, University of the Ryukyus, Okinawa, Japan.*
- 2008 - 2009** **Postdoctoral Research Fellow**, *HiPep Laboratories, Okinawa, Japan.*
- 2008** **Ph.D.**, *Applied Molecular and Cellular Biology
Kagoshima University, Kagoshima. Under the University of the Ryukyus, Okinawa, Japan.*
- 2005 - 2008** **Graduate Researcher**, *Laboratory of Molecular and Cellular Biology, University of the Ryukyus, Okinawa, Japan.*
- 2003 - 2005** **M.S.**, *Department of Bioscience and Biotechnology, University of the Ryukyus, Okinawa, Japan.*

2000 - 2002 **Quality Control Officer (Method development)**, *Quality Control Department, Beximco Pharmaceuticals Ltd. Dhaka, Bangladesh.*

TEACHING EXPERIENCE

2019 – present **Course coordinator and Instructor**

PHAR 7201: Pharmaceutical Calculations

PHAR 7192: Non-Sterile Compounding

Department of Pharmaceutical Sciences, Fisch College of Pharmacy, UT Tyler.

Fall -2018 PHAR 7201: Pharmaceutical Calculations (Concentration and Dilution, Electrolyte Solutions)
Department of Pharmaceutical Sciences, Fisch College of Pharmacy, UT Tyler.

2011 - 2017 Teaching Laboratory: Patch Clamp, Two-Electrode voltage Clamp electrophysiological technique and delivered lecture to the undergraduate, graduate, and Pharm.D students on primary cell culture and other allied Cell based assays.
Department of Pharmaceutical Sciences, Irma L. Rangel College of Pharmacy, TAMHSC, Kingsville, TX

2005 - 2008 Teaching Assistant: Delivered lecture to the undergraduate students on the application of medicinal and pharmaceutical compounds to bacterial and other eukaryotic cells.
Bioscience and Biotechnology, University of the Ryukyus, Okinawa, Japan

PUBLICATIONS

Emelyn Salazar, Alexis Rodriguez-Acosta , Sara Lucena , Roschman Gonzalez, Morgan C. McLarty , Oscar Sanchez, Montamas Suntravat , Estefanie Garcia , Hector J. Finol , Maria E. Giron , Irma Fernandez , [Farah Deba](#) , Bret F. Bessac , Elda E. S´anchez. (2020). Biological activities of a new crotamine-like peptide from *Crotalus oreganus helleri* on C2C12 and CHO cell lines, and ultrastructural changes on motor endplate and striated muscle. *Toxicon*, 188: 95–107.

[Farah Deba](#), K. Ramos, M. Vannoy, K. Munoz, L. Akinola, M. I. Damaj , A. Hamouda. (2020) Examining the Effects of (α 4) β 2 Nicotinic Acetylcholine Receptor-Selective Positive Allosteric Modulator on Acute Thermal Nociception in Rats. *Molecules* 20:2923.

Wilkerson J. L., [Farah Deba](#), Crowley M.L., Hamouda A.K., McMahon L.R. (2020) Advances in the In vitro and In vivo pharmacology of Alpha4beta2 nicotinic receptor positive allosteric modulators. *Neuropharm.* 12; 168:108008.

[Farah Deba](#), Steven Peterson, Ayman K. Hamouda. (2019). An Animal Model to Test Reversal of Cognitive Decline Associated with Beta Amyloid Pathologies. *Methods in Molecular Biology. Psychiatric Disorders* pp 393-412.

[Farah Deba](#), H. I. Ali, A. Tairu, K. Ramos, J. H. Ali, A. Hamouda. (2018). LY2087101 and dFBr share transmembrane binding sites in the (α 4) β 2 Nicotinic Acetylcholine Receptor. *Scientific Reports – Nature* 19: 8(1):1249

Z. J. Wang, [Farah Deba*](#), T. S. Mohamed1, D. C. Chiara, K. Ramos, A. Hamouda. (2017). Unraveling amino acid residues critical for allosteric potentiation of (α 4) β 2-type nicotinic acetylcholine receptor responses. *J Biol Chem.* 292(24); 9988-10001.

***[FD](#) and [ZW](#) made equal contribution to this work.**

This article was Recommended in F1000Prime: <https://f1000.com/prime/727558690>

Ranked in the top 5% of all research outputs scored by The Altmetric Attention Score and in the 99th percentile compared to outputs of same age and source <https://asbmb.altmetric.com/details/19828251>.

A. K. Hamouda, [Farah Deba](#), Z. J. Wang, J. B. Cohen. (2016). Photolabeling a Nicotinic Acetylcholine Receptor (nAChR) with an $(\alpha 4)\beta 2$ nAChR-selective Positive Allosteric Modulator. *Mol Pharmacol.* 89(5):575-84.

[Farah Deba](#) and B. Bessac. (2015). Anoctamin-1 Cl(-) channels in nociception: activation by an N-aroylaminothiazole and capsaicin and inhibition by T16A[inh]-A01. *Mol Pain.* 12; 11(1):55; 2-15.

T.D. Khanh, L.C. Cong, T.D. Xuan, Y. Uezato, [Farah Deba](#), T. Toyama and S. Tawata (2009). Allelopathic plants: 20. Hairy Beggarticks (*Bidens pilosa* L.). *Allelopathy Journal*; 24, 243-254.

C. Ao, [Farah Deba](#), M. Tako, and S. Tawata (2009). Biological activity and composition of extract from aerial root of *Ficus microcarpa*. *International Journal of Food Science and Technology*; 44, 349-358.

S. Tawata, M. Fukuta, T. D. Xuan and [Farah Deba](#) (2008). Total Utilization of Tropical Plants *Leucaena leucocephala* and *Alpinia zerumbet*. *Journal of Pesticide Sciences*; 33, 40-43.

[Farah Deba](#), T.D. Xuan, M.Yasuda, and S.Tawata (2008). Chemical composition and antioxidant, antibacterial and antifungal activities of the essential oils from *Bidens pilosa* Linn. var. *Radiata*. *Food Control.* 19, 346-352.

M. Fukuta, T. D. Xuan, [Farah Deba](#), S. Tawata, T. D. Khanh and I. M. Chung (2007). Comparative efficacies in of antibacterial, fungicidal, antioxidant, and herbicidal activities of momilactones A and B. *Journal of Plant Interactions*; 2, 245-251.

[Farah Deba](#), T.D. Xuan, M.Yasuda, and S.Tawata (2007). Herbicidal and fungicidal activities and identification of potential phytotoxins from *Bidens pilosa* L. var. *radiata* Scherff. *Weed Biology and Management*; 7, 77-83.

T.D. Xuan, A.A. Elzaawely, [Farah Deba](#), M. Fukuta, and S. Tawata (2006). Mimosine in *Leucaena* as a potent bio-herbicide. *Agronomy for Sustainable Development*; 26, 89-97.

[Farah Deba](#), Md. H. Kawsar, (1997). Quality of Marketed Hematinic Preparation (Iron Syrup) in Bangladesh – A Case Study. *Tablet Caplet*; Vol. 2.

COMMUNICATIONS

[Farah Deba](#), Gustav Akk, and Ayman K Hamouda (2020) Assessing the CMPI potentiation of $(\alpha 4)\beta 2$ nicotinic acetylcholine receptor using the Monod-Wyman-Changeux allosteric model. *The FASEB Journal.* Vol. 34, Issue 1.

Anna Sheraz, Eloisa Peredia, Ayman K. Hamouda, [Farah Deba](#) (2019). The Use of Concatemer Subunit Constructs to Study the Pharmacology of $\alpha 4$ Neuronal Nicotinic Acetylcholine Receptor. Presented poster in the 1st East Texas Research Conference at UT at Tyler.

Nada Qazait, Delight A. Onyejegbu, [Farah Deba](#), Ayman K. Hamouda (2019). Cholinergic Cognitive Enhancers with Disease Modifying Properties. Presented poster in the 1st East Texas Research Conference at UT at Tyler.

Nada Qazait, Delight A. Onyejegbu, [Farah Deba](#), and Ayman K. Hamouda (2019) Cholinergic Cognitive Enhancers with Disease-Modifying Properties. Presented poster in the 4th annual Research Lyceum at UT at Tyler.

[Farah Deba](#), Kemburli Munoz, Steven L Peterson, and Ayman K Hamouda (2019) Assessing the cognitive enhancing effect of desformylflustrabromine in rat model of A β -induced cognitive impairment. *The FASEB Journal.* Vol. 33, Issue 1. Presented poster in the ASPET, Orlando, Florida.

Eloisa Peredia, Anna Sheraz, Ayman K. Hamouda, and [Farah Deba](#) (2019) The Use of Chimeric Subunit Constructs to Study the Pharmacology of $\alpha 6$ Neuronal Nicotinic Acetylcholine Receptor. Presented poster in the 4th annual Research Lyceum at UT at Tyler.

Kemburli Munoz, [Farah Deba](#), Abisola Tairu, and Ayman K. Hamouda. Agonist-Specific Pharmacological Effects of CMPI and NS9283 at (Alpha4)3(Beta2)2 Neuronal Nicotinic Acetylcholine Receptors. (2018). The 62nd annual meeting of the Biophysical Society, San Francisco, California. Feb. 17- 21, published in *Biophysical Journal*; 2018.

[Farah Deba](#), Vannoy M.K., Peterson S. L., and Hamouda A. K. (2017). The Antinociceptive Effects of Desformylflustrabromine in Rat Model of Acute Pain. *Neuroscience*, 465.13.

Jackson A., [Farah Deba](#), Bagdas D., Vannoy M. K., Peterson S. L., Damaj M. I., and Hamouda A. K. (2017). Animal Studies with Desformylflustrabromine, a naturally occurring Nicotinic Acetylcholine Receptor Positive Allosteric Modulator. *American Society for Pharmacology and Experimental Therapeutics (ASPET) - Academic Drug Discovery Colloquium*.

Ang G., [Farah Deba](#), Pandhare A., Blanton M., Cohen J.B., and Hamouda A. K. (2017). Photoaffinity Labeling of A4B2 Nicotinic Acetylcholine Receptor using [3H]-Labeled Positive Allosteric Modulators. *Biophysical Journal* 112, 320a. (*Oral presentation*)

Ze-Jun Wang, [Farah Deba](#), Tiffany R. Trevino, Kara Ramos, and Ayman K. Hamouda. (2016). Interaction of the Positive Allosteric Modulator LY2087101 with $\alpha 4\beta 2$ Nicotinic Acetylcholine Receptor. 60th Biophysical Society meeting in Los Angeles, California, Feb. 27-Mar. 02, published in *Biophysical Journal*; 2016-110-3supplement1 604a-605a.

[Farah Deba](#) and Bret Bessac (2015). Anoctamin-1 Cl⁻ channel in nociception: inhibition by T16[inh]-A01 and activation by an N-aroylaminothiazole and capsaicin. *Society for Neuroscience Texas A & M University Chapter*. 3rd December, 2015.

[Farah Deba](#), Abisola Tairu, Jihad Ahmed, Tiffany R. Trevino, Ayman K. Hamouda (2015). Interaction of the Positive Allosteric Modulator LY2087101 with $\alpha 4\beta 2$ Nicotinic Acetylcholine Receptor. *Society for Neuroscience Texas A & M University Chapter*. 3rd December, 2015.

Ze-Jun Wang, Tasnim S. Mohamed, [Farah Deba](#), Kara Ramos, Ayman K. Hamouda (2015). 3-(2-chlorophenyl) 5-(5-methyl-1-(piperidin-4-yl)-1H-pyrazol-4-yl)isoxazole(CMPI) is a stoichiometry-selective Nicotinic Acetylcholine Receptor Positive Allosteric Modulator. *Society for Neuroscience Texas A & M University Chapter*. 3rd December, 2015.

[Farah Deba](#) and B. Bessac (2015). Anoctamin 1 (ANO1/TMEM16A) activation induces nociception and inhibition attenuates TRPV1-mediated nociception. *TEXAS A&M INSTITUTE FOR NEUROSCIENCE 7TH ANNUAL SYMPOSIUM*. March 27th, 2015.

[Farah Deba](#) and B. Bessac (2014). "Pharmaceutical Manipulation of ANO1 Ca²⁺-gated Cl⁻ Channel Activates and Modulates Nociceptive Neurons and Behaviors". the sixty-eighth annual meeting of the society of general physiologists: Sensory Transduction; 68th annual meeting and symposium marine biological laboratory, Woodshole, Massachusetts, Sep. 2-6, published in *J Gen Physiol*; 144:204. July 28, 2014.

Shanks, J., To, S. C. Krueger, P.T. Nicola, B.F. Bessac & [Farah Deba](#) (2013). "Ca²⁺-internal stores and voltage gated Ca²⁺ channels role in TRPV1 and TRPA1 induced intracellular Ca²⁺ increase in sensory neurons". *Texas A&M HSC Rangel College of Pharmacy 2nd Research Colloquium*. Kingsville, Texas, USA, June 2013.

Salinas, S., [Farah Deba](#), B.F. Bessac, E. Massa & R. Böhm (2013). "K⁺ channel mutants as Drosophila models of

epilepsy and parosymal disorder”. *Texas A&M HSC Rangel College of Pharmacy 2nd Research Colloquium*;Kingsville, Texas, USA, June 2013.

N. Brinkley, N. Abraham, C. Smith-Baker, **Farah Deba**, M. Yakubu & B. Bessac (2013). “Lindane (gamma hexachlorocyclohexane) Exposure Impairs Ca²⁺-mediated Vascular Reactivity of the Endothelia and Smooth Muscle by Blocking Ano1 Ca²⁺-gated Cl⁻ channel”. *Texas A&M HSC Rangel College of Pharmacy 2nd Research Colloquium*; Kingsville, Texas, USA, June 2013.

Farah Deba, & B.F. Bessac (2013). “Ano1 Ca²⁺-gated Cl⁻ channel and intracellular Cl⁻ homeostasis in sensory neuron hypersensitivity/hyperalgesia”. *Texas A&M College of Pharmacy 2nd research colloquium*. Kingsville, TX.

Farah Deba, Trans Dang Xuan and Shinkichi Tawata (2006). Phytotoxic and fungitoxic activities of *Bidens pilosa* Linn. var. *Radiata*. *11th IUPAC International Congress of Pesticide Chemistry*. Kobe, Japan, p. 46.

Farah Deba, Trans Dang Xuan and Shinkichi Tawata. (2007). Allelopathic potential of *Bidens pilosa* L. *Pesticide Science Society of Japan*, p. 80.

Farah Deba, Shinkichi Tawata (2006). Herbicidal and Fungicidal activities of allelopathic compound mimosine. *Pesticide Science Society of Japan*, p.122.

BOOK CHAPTER

Farah Deba, Steven Peterson, Ayman K. Hamouda. (2019). An Animal Model to Test Reversal of Cognitive Decline Associated with Beta Amyloid Pathologies. *Methods in Molecular Biology. Psychiatric Disorders* pp 393-412.

TALK IN BIOPHYSICAL SOCIETY ON:

“Photoaffinity Labeling of $\alpha 4\beta 2$ Nicotinic Acetylcholine Receptor using [3H]-Labeled Positive Allosteric Modulators.”

Biophysical Journal 112, 320a. 61th Biophysical Society meeting in New Orleans, Louisiana, Feb. 11- 15, 2017.

ORAL RESEARCH PRESENTATION:

Interaction of LY2087101 with Nicotinic Acetylcholine Receptors. Sep. 28, 2016. Texas A&M RCOP seminar series presentations.

Stoichiometry-Dependent Effects of Nicotinic Acetylcholine Receptor Positive Allosteric Modulators, Feb. 03, 2016. Texas A&M RCOP seminar series presentations.

Anoctamin 1 Ca²⁺-gated Cl⁻ channel activates and modulates nociceptive neurons and behaviors. Research presented on Sep 12, 2014. Texas A&M RCOP seminar series presentations.

Ano1 Cl⁻ Channel role in inflammatory primary hyperalgesia. Research presented on Jan 22, 2014. Texas A&M RCOP seminar series presentations

AWARDS & FELLOWSHIPS

2003 - 2004: Japan Student Services Organization (JASSO) Honors Scholarship
(Around US\$ 800/month)

2004 - 2005: Japanese Government (Monbukagakusho) Scholarship

2005 - 2008: (Around US\$ 1,800/month after tuition fees exemption)
Japanese Government (Monbukagakusho) Scholarship
(Around US\$ 1,800/month after tuition fees exemption)

05/15/2015 - 06/30/2019: National Institute of Health-1R15 NS093e590-01
Role: Co-Investigator

CERTIFICATES

Foundations and Principles and Practices of TBL, Feb 2019.
Fundamentals principles of TBL, TBL Collaborative, March 2019.
TBL 101 and TBL Advanced modules, Sep. 2019.

UNIVERSITY COMMITTEE SERVICE

Member in **Faculty council** of Fisch College of pharmacy
Member in **Award Committee** of Fisch College of pharmacy
Member in **Professional and Academic Standards Committee (PASC)** of Fisch College of pharmacy
Member in **Faculty affairs Committee** at UT at Tyler
Member in **IACUC** at UT at Tyler

MENTORING GRADUATE AND PROFESSIONAL STUDENTS

At present, In my research lab, I am mentoring 5 Pharm D students (Stephanie Onyeje, Delight Onyejegbu, Anna Sheraz, Nada Qazait, Ryan Mattison) and 2 under graduate students (Eloisa Peredia, Omar Barakat). In my postdoctoral career, I was mentoring 7 ungraduated students (Tiffany Trevino, Kara Ramos, Jihad Ali, Paul Dunnand, Matthew Vannoy, Joshua Nuyttens, and Kemburli Munoz), 3 Graduate students (Morgan McLarty, Nina Brinkley, Sarai Salinas) and 2 PharmD students (Gordon Ang, Abisola Tairu, Gubeom Nam). In my mentoring activities, I have been able to complete several projects and many of the results from the projects resulted peer-reviewed publications in reputed journals. Many of the mentees (Pharm D) are doing residency in different area of USA.

RESEARCH EXPERIENCE

Present Research Projects:

Screening of Natural products as a drug target for pain management.

Pain management and Allosteric Modulator drug binding site in Nicotinic Receptor (3 years)

Texas A&M College of Pharmacy, Kingsville, Texas, USA.

Sensory Chemoreceptors in Pain & Inflammation (3.6 years)

Texas A&M College of Pharmacy, Kingsville, Texas, USA.

Isolation and purification of biological active compounds from Okinawan (7.0 years)

University the Ryukyus, Okinawa, Japan.

Development of analytical methods of new Raw Materials and Finished products (2.7 years)

Beximco Pharmaceuticals Ltd., Dhaka, Bangladesh.

Instrumental skills

Patch clamp, UV-spectroscopy, SDS-PAGE, ELISA, Fluorescence Microscope, fura-2 Ca²⁺ imaging; Primary neuron cell culture; transient transfections; quantitative RT-PCR.

High performance liquid chromatography (HPLC), Gas chromatography–Mass spectroscopy (GCMS), Liquid chromatography–Mass spectroscopy (LCMS), Infrared spectroscopy (IR), Nuclear magnetic resonance (NMR). Dissolution Apparatus, Aerosizer, Particle Size Analyzer, etc.

SOCIETIES, BOARDS & PROFESSIONAL ORGANIZATION MEMBERSHIPS

The American Society for Pharmacology and Experimental Therapeutics, USA, 2018-

American Association of College of Pharmacy (AACP), USA , 2019

Biophysical Society, USA, 2016-2018

American Association of Pharmaceutical Scientist (AAPS), 2014- 2018

The Society of General Physiologists, 2014-2016

Pesticide Society of Japan, 2005-2010

Pharmacy Graduate Association (PGA), 1997-Present

Bangladesh Pharmaceutical Society (BPS), 1997-Present

JUDGE

American Society for Pharmacology and Experimental Therapeutics - ASPET

2019- Served as a judge for the Neuropharmacology Pre-Doctoral Student Poster Competition

EDITORIAL BOARD MEMBER

JSM Clinical Pharmaceutics

NEWS ON ARTICLE

HOW ONE DRUG COULD AFFECT PAIN, MEMORY AND NICOTINE ADDICTION

<https://vitalrecord.tamhsc.edu/how-one-drug-could-affect-pain-memory-and-nicotine-addiction/>