TEXAS TECH UNIVERSITY
HEALTH SCIENCES CENTER
EL PASO
Paul L. Foster School of Medicine

CEPC MEETING AGENDA

01:00 PM - 02:30 PM
03/10/2022

CHAIR:

Dr. Irene Alexandraki, MD, MPH, FACP

VOTING MEMBERS:

Colby Genrich, MD; Fatima Gutierrez, MD; Brad Fuhrman MD; Houriya Ayoubieh, MD; Jessica Chacon, PhD; Munmun Chattopadhyay, PhD; Niti Manglik, MD; Osvaldo Padilla, MD; Patricia Ortiz, MD

EX-OFFICIO:

Lisa Beinhoff PhD; Blake Busey, MS; Linda S. Ellis, MD; Maureen Francis, MD; Tanis Hogg, PhD; Julio Batiz

STUDENT REPRESENATIVES:

Rowan Sankar MS1 (Voting); Nick Malize MS1 (Ex Officio); Whitney Shaffer MS2 (Voting); Rohan Rereddy MS2 (Ex Officio); Miraal Dharamsi MS3 (Voting); Daniel Tran MS3 (Ex Officio); Karishma Palvadi MS4 (Voting); Runail Ratnani MS4 (Ex Officio)

INVITED/GUESTS:

Richard Brower, MD, FAAN; Christiane Herber-Valdez, PhD; Martin Charmaine, MD; Thwe Htay, MD; Ellen F. Dudrey, MD; Geoffrey D. Guttmann, PhD; Heather A. Balsiger, MS; Johnson Athulya; Melissa Huddleston

APPROVAL OF MINUTES

Minutes will be attached.

ANNOUNCEMENTS

TEXAS TECH UNIVERSITY
HEALTH SCIENCES CENTER
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Presenter(s): Dr. Alexandraki

- The new CEPC member welcome

ITEMS FROM STUDENT REPRESENTATIVES

Presenter(s): Students

ITEM I: PRE-CLERKSHIP PHASE REVIEW – MSK I&III TEAM II

Presenter(s):

- MSK I&III Review team presentation

ITEM II: CLERKSHIP UPDATES & YEAR 3 CLERKSHIP BLOCK AND COMPARABILITY REPORT

Presenter(s): Dr. Francis

- Updated clerkship directors' list
- Year 3 Clerkship Block and Comparability report

OPEN FORUM

ADJOURN

TEXAS TECH UNIVERSITY
HEALTH SCIENCES CENTER
EL PASO
Paul L. Foster School of Medicine

CEPC Monthly Meeting Minutes
01:00 PM - 02:30 PM
03/10/2022

MEMBERS IN ATTENDANCE:

Irene Alexandraki, Jessica Chacon, Houriya Ayoubieh, Munmun Chattopadhyay, Maureen Francis, Nick Malize, Niti Manglik, Tanis Hogg, Tran Daniel, Rowan Sankar, Lisa Beinhoff, Julio Batiz

MEMBERS NOT IN ATTENDANCE:

Blake Busey, Brad Fuhrman, Colby Genrich, Fatima Gutierrez, Linda S. Ellis, Osvaldo Padilla, Patricia Ortiz, Palvadi Karishma, Whitney Shaffer, Runail Ratnani, Miraal Dharamsi

PRESENTERS/GUESTS IN ATTENDANCE:

Richard Brower, Ellen F. Dudrey, Thwe Htay, Johnson Athulya, Melissa Huddleston, Maria Cotera, Priya Harindranathan

INVITED/GUESTS NOT IN ATTENDANCE:

Christiane Herber-Valdez, Martin Charmaine, Geoffrey D. Guttmann, Heather A. Balsiger

REVIEW AND APPROVAL OF MINUTES

A quorum was met for items below. Members voted asynchronously.

- Meeting minutes
- Pre-clerkship phase review - MSK I&III team review
- Updated clerkship directors' list
- Year 3 clerkship block comparability summary report

ANNOUNCEMENTS

Presenter: Dr. Alexandraki

- Welcomed the newest CEPC member, Dr. Chattopadhyay.
  *Curriculum Vitae is attached.

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ITEMS FROM STUDENT REPRESENTATIVES

Presenter(s): Students	
Rowan Sankar and Nick Malize (MS1)	○ No issues to report
Daniel Tran (MS3)	○ No issues to report.

ITEM I: PRE-CLERKSHIP PHASE REVIEW – MSK I&III TEAM II

Presenter(s): Dr. Dudrey

MSK I&III Review team: Dr. Dudrey; Dr. Guttmann, PhD; Balsiger; Students: Johnson Athulya and Melissa Huddleston

*Please see attached report.

- Addressed two main course strengths: an excellent approach on how to teach students to become physicians and prompt feedback from faculty.

An overview of selected LCME elements relevant to curriculum assessment:

Dr. Dudrey (6.1)

- **Program and Learning Objectives (6.1**) – MSK I&III met the program and learning objectives.

Student: Melissa Huddleston (6.3)

- **Self-Directed and Life-Long Learning (6.3)** – Pointed out that students liked the amount of time given towards scheduled versus self-directed time. She explained that quizzes associated with each medical skill session were administered and students had an opportunity to get feedback and ask questions. Also, CEREGO quiz sets were offered to students to conduct self quizzes. She suggested that better promotion of CEREGO quizzes would benefit many students who were not aware of them. She added that some degree of individualized feedback on the SOAP notes would also be beneficial for students.

Dr. Dudrey (6.7)&(7.1)

- **Academic Environments (6.7) –** Stated that there were three to four interprofessional healthcare educational sessions. These sessions involved interaction with students from School of Nursing (i.e., GGHSON), dental school (i.e., WLHSDM), UTEP Schools of Pharmacy and Physical Therapy, and they were very well received by the students.
- **Inclusion of Biomedical, Behavioral, Social Sciences (7.1)** – The only gap identified by the team was the lack of standardized patient (SP) encounters focused on this area of medical education. Team suggested that SP encounters with focus on this area could be increased.

Student: Athulya Johnson (7.2); (7.3)&(7.4)

- **Organ Systems/Life Cycle/Prevention/Symptoms/Signs/Differential Diagnosis, Treatment Planning (7.2)** – Student said that the following gaps were identified: course did not adequately address life

extremes such as geriatric, pediatric populations, pregnant, and newborns. The team recommended that more pediatric, geriatric, and pregnant SP cases could be added; they would be helpful especially for the transition from the pre-clerkship to clerkship phase. Differential Diagnoses were generally limited to the chief complaint of the week within the organ system (e.g., discussed during that week). The team recommended development of cases with multiple differential diagnoses covering multiple systems. Another suggestion was to add cases in the end-of-year or end-of-semester OSCE that cover multiple organ systems.

- **Scientific Method/Research (7.3)** – This topic was addressed in the Society, Community and the Individual course, and Scholarly Activity Research Project.
- **Critical Judgment/Problem-Solving Skills (7.4)** – The team identified a gap: problem-solving skills were limited to encounters within the organ system discussed during that week. They recommended that end-of-year or end-of-semester OSCE cases that cover multiple organ systems could be added to enhance student critical judgement and problem-solving skills.

Dr. Dudrey (7.5); (7.6); (7.7); (7.8); (8.2); (9.4); (9.5); (9.7)

- **Societal Problems (7.5)** – Element was covered in the course. Only one recommendation: to consider whether or not a patient could afford the ordered tests or medications that were given. It should be included in the plan of treatment.
- **Cultural Competence and Health Care Disparities (7.6);** there was no opportunity to learn how to use interpreters or to practice an encounter in Spanish or some other language. Dr. Dudrey commented that this would be valuable in third year. SP cases could be added to cover these content areas.
- **Medical Ethics (7.7) -** She suggested that a session where the patient refuses the intended therapy, so students could learn how to adjust plans or refer elsewhere, should be included.
- **Communication Skills (7.8)** – N/A
- **Use of PGOs (8.2)** – No comments.
- **Assessment System (9.4)** – The assessment system was clearly described as was the process for remediation.
- **Narrative Assessment (9.5)** – No comments.
- **Formative Assessment and Feedback (9.7)**-The review team recommended consistent provision of feedback to each individual student for each physical exam skill that is assessed so that students can be told what they missed or did well.
- Discussion held regarding the review:

After the conclusion of the course review report, Dr. Htay, Director of the Medical Skills I & III Course commented that she is aware of the need for more pediatric and geriatric cases. Explained that the curriculum is packed with activities, and finding an available time to add these cases is has been difficult. Also, there is a challenge in finding pediatric standardized patients. She noted that virtual simulations for pediatric and geriatric cases could be a substitute. . In addition, per students' requests, she is looking to include more preventive care issues in the weekly cases. Additionally, faculty will work on providing more feedback to students within the current resources. As far as more comprehensive cases, she stated that there might be some time at the end of second year for this to be offered to students. She concluded that she will share this valuable feedback with the medical skills group so they could create a plan for improvement.

Dr. Brower commented that Dr. Crawford's team at TECHS has growing ability to develop virtual reality-based simulations/encounters.

Dr. Htay stated that the virtual reality simulation project is indeed planned for the summer 2022. She explained that many cases are complex, and she is planning to modify them to meet the level of the first and second year students.

ITEM II: CLERKSHIP UPDATES & YEAR 3 CLERKSHIP BLOCK AND COMPARABILITY REPORT

Presenter(s): Dr. Francis

Updated clerkship directors' list

- New position of assistant clerkship director for Emergency Medicine: Kelley Stanko, MD will start in this new role. Dr. Francis shared her Biosketch with the committee.
  *Curriculum Vitae is attached.
- Dr. Francis explained that emergency medicine will be moving to the third year as part of the longitudinal integrated clerkship model in next academic (i.e., AY 2022- 2023)..
- OB/GYN assistant clerkship director: Dr. Stephanie Mishaw will replace Naima Khamsi. Dr. Francis shared her Biosketch with the committee.
  *Curriculum Vitae is attached.

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Year 3 Clerkship Block and Comparability report

*Please see attached AY 2021-2022 Block 1 Comparability Summary Report

- Comparability report addressed the following LCME elements (6.2; 8.4; 8.5; 8.6; 8.7; 8.8; 9.5; 9.6; 9.7; 9.8).
- Review was conducted at the end of each block and at the end of academic year in aggregate.
    - Data was collected on the following items: Op log entries –The average number of patients was above the required number (from 40 to 70 patients for each clerkship). Compared with pre-pandemic numbers, these encounters were much higher. 100% of students met their op log requirements by seeing students or through alternative activities.

    Top 10 diagnoses – There were no significant site specific differences in patient encounters.
    - Duty hours – Dr. Francis explained that this was the first real implementation of the LIC model in block 1. There were no duty hours violations found in the review of the schedules.
    - Mid-clerkship completion for Year 3 Clerkships - 100% compliance across all clerkships.
    - NBME scores – Average score was 74, and average nationally was 74.9.
    - Final grade completion for required MS3 courses 100% done in timely manner for the past 2 years based on PLFSOM policy. You may found out more at https://elpaso.ttuhsc.edu/som/ome/CEPC/_documents/Timely_Grade_Release.pdf
    - Student satisfaction data – overall numbers are close to 5 or above on a scale from 1 to 6.
    - Narrative feedback review - overall meets expectations in all third year clerkships.
    - Clerkships will continue to work on framing expectations for honors and pass, and on for each competency within their specialty, department, faculty and residents.

ADJOURN

Meeting adjourned at 2:30pm.

Munmun Chattopadhyay, Ph.D.
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Center of Emphasis in Diabetes and Metabolism
Paul L. Foster School of Medicine
Texas Tech University Health Sciences Center
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https://elpaso.ttuhsc.edu/research/MTM/coe/diabetes-and-metabolism/faculty.aspx

Education and Training

Sept.1988-Aug.1991	B.Sc. (Zoology Hons.) University of Calcutta Calcutta, India
Sept.1991- Aug.1993	M.Sc. (Zoology) Jiwaji University Gwalior, India
Sept.1993- Aug.1995	Junior Research Fellow University Grants Commission
Sept.1995- Mar.1998	Senior Research Fellow University Grants Commission
May 1998	Ph.D. (Neurosciences) Jiwaji University Gwalior, India

Academic Appointments

Apr.1998- Nov.1999	Post-doctoral Research Fellow Molecular Genetics National Institute of Immunology Delhi, India
Dec.1999-Jun. 2004	Post-doctoral Research Fellow Department of Neurology University of Pittsburgh Pittsburgh, Pennsylvania
Jul. 2004 – Aug. 2010	Research Investigator Department of Neurology University of Michigan Ann Arbor, Michigan
Sept. 2010 – Mar. 2014	Research Assistant Professor Department of Neurology University of Michigan Ann Arbor, Michigan

Apr. 2014 – Aug.2021	Assistant Professor Center of Emphasis in Diabetes and Metabolism Paul L. Foster School of Medicine Texas Tech University Health Sciences Center El Paso, El Paso, Texas.
Sept. 2014 – Current	Assistant Professor (Member) Graduate School of Biomedical Sciences Texas Tech University Health Sciences Center El Paso, El Paso, Texas
Sept. 2017 – Current	Assistant Professor (Adjunct) Graduate School, Biomedical Engineering The University of Texas at El Paso (UTEP) El Paso, Texas
Sept. 2020 – Current	Chair Institutional Animal Care and Use Committee Texas Tech University Health Sciences Center El Paso, El Paso, Texas
Sept. 2021 – Current	Associate Professor Center of Emphasis in Diabetes and Metabolism Paul L. Foster School of Medicine Texas Tech University Health Sciences Center El Paso, El Paso, Texas.

Research Interests

1. Diabetic complications: Nephropathy, neuropathy, GI disorders, cardiomyopathy.
2. Nerve injury, Pain, inflammation.
3. Epigenetic mechanisms, Biomedical Sciences.
4. Tissue engineered disease models, space biology and health.

Teaching Interests

1. Neurobiology
2. Cell Biology
3. Biochemistry
4. Immunology
5. Medical physiology, Space health
6. Epigenetics, nutrition and human diseases

Current Research Support

1. **TTUHSC El Paso / UTEP Joint Seed Grant, PI: Chattopadhyay/Joddar** 06/01/21-05/31/22
   Application of a tissue-engineered gastric patch for regeneration of interstitial cells of Cajal (ICC) in a gastroparetic mouse model.

2. **NSF/CASIS, PI: Chattopadhyay** *09/01/19-08/31/23*
   Collaborative Proposal: ISS: Studying the Effects of Microgravity on 3D Cardiac Organoid Cultures; 15% effort.

3. **TTUHSC El Paso Seed Scholarly Activity Research Project (SARP) Grant; PI: Chattopadhyay** *06/01/18-07/31/21*
Role of histone modifications in hyperglycemic dorsal root ganglia neurons and NRK52E kidney cells.

4. **TTUHSC El Paso Seed SARP Grant; PI: Chattopadhyay** *06/01/19-07/31/22*
CXCR4 Receptor Signaling and Histone Modifications in Hyperglycemic Cardiomyocyte and Sensory Neuronal Cell Lines.

5. **TTUHSC El Paso Seed SARP Grant; PI: Chattopadhyay** 06/01/20-07/31/23
Hyperglycemia mediated changes in cardiomyocyte function.

Completed Research Support

1. **Edward N. and Margaret G. Marsh Foundation; PI: Chattopadhyay 12/01/19-11/30/21**
Gastroparesis, a Mysterious Stomach Disorder and its Prevalence in Women*;* 15% effort.

2. **TTUHSC El Paso Seed SARP Grant; PI: Chattopadhyay 06/01/17-07/31/20**
Role of histone deacetylases in the brain in diabetic painful neuropathy.

3. **TTUHSC El Paso Seed SARP Grant; PI: Chattopadhyay 6/01/16-07/31/19**
Role of Inflammatory Mediators in Diabetic complications.

4. **Lizanell and Colbert Coldwell Foundation Grant; PI: Chattopadhyay 3/01/17-07/31/18**
Epigenetic changes in the gut of diabetic gastroparesis patients; 10% effort;

Our current research is focused on determining the effect of inflammation and changes in histone deacetylases in diabetic patients with gastroparesis and will focus on the identification of the specific HDAC isoforms in the development of DG and its manipulation by using specific HDAC inhibitor(s) as a therapeutic strategy.

5. **TTUHSC El Paso Seed Grant, PI: Chattopadhyay 9/01/17-08/31/18**
Role of histone deacetylases in nerve injury and pain: Grant # 183329-533312-20
The studies proposed in this application are to understand the epigenetic regulation of class I histone deacetylases in neuronal proliferation in nerve injury model to identify better therapies for this debilitating conditions.

6. **TTUHSC El Paso Mini Seed Grant PI: Chattopadhyay 3/01/17-08/31/17**
A mesenchymal stem cell based tissue engineered patch to restore normal gastric histology;
This study is proposed to develop a hydrogel based scaffold (tissue engineered; TE patch) for cultivating mouse mesenchymal stem cells in vitro. We will graft the TE patch onto the diabetic gastroparetic mouse stomach tissue explants in order to check the survival, adhesion, proliferation rates of stem cells and restoration of enteric neurons and interstitial cells of Cajal (ICC) in the grafted TE patch with respect to host tissue in vitro.

Paper published from the grant:

a. Joddar B.*, Tasnim N., Thakur V., Kumar A., Mccallum R., **Chattopadhyay M**.* (2018) Delivery of mesenchymal stem cells from gelatin-alginate hydrogels to stomach lumen for treatment of gastroparesis. *Bioengineering*: 2018; 5(1). *(Impact factor 2.7)*

7. **Periphagen Inc; (PI: Chattopadhyay) 12.1.14-8.31.17**
Direct injection of HSV vector in DRG of neuroma animals. Grant PGN-14-1880; 10% effort.

The current study will explore a new way to deliver the HSV vector in to the DRG or sciatic nerve of rats by 3 different ways to increase the efficiency of the transgene expression and explore the best effective way to deliver HSV vector which will mimic the delivery to patients.

8. American Diabetes Association: Basic Science Award. (PI: Chattopadhyay) *7.1.12* –6.30.16
The role of neuroinflammation in the pathogenesis of pain in diabetic neuropathy.
Grant #7-12-BS-021; 20% effort.

This grant is proposed to define the role of inflammatory cytokines in the development of pain in Type and 2 model of diabetes and whether HSV vector-mediated expression of anti-inflammatory cytokines would be capable of treating pain or prevent the development of pain in diabetes. These studies will provide a novel treatment strategy for what is now a relatively treatment resistant condition.

Papers published from the grant:

a. Ortmann K.M. and Chattopadhyay M., (2014). Decrease in neuroimmune activation by HSV-mediated gene transfer of TNFα soluble receptor alleviates pain in rats with diabetic neuropathy. *Brain, Behavior and Immunity*, 41:144-51.
b. Yoon H, Thakur V, Isham D, Fayad, M and Chattopadhyay M (2015). Moderate exercise training attenuates inflammatory mediators in DRG of Type 1 diabetic rats. *Experimental Neurology,* 267: 107- 114.
c. Thakur V, Gonzalez M, Pennington K, Chattopadhyay M. (2016). Viral vector mediated continuous expression of interleukin-10 in DRG alleviates pain in type 1 diabetic animals. *Mol Cell Neurosci.*72:46-53.
d. Thakur V, Gonzalez M, Pennington K, Nargis S, Chattopadhyay M. (2016). Effect of exercise on neurogenic inflammation in spinal cord of Type 1 diabetic rats. *Brain Res*. 1642:87-94.

9. TTUHSC El Paso Seed Grant PI: Chattopadhyay 5/01/15-04/30/16
Identification of inflammatory markers in kidney of diabetic rats;

Diabetic nephropathy is a common debilitating complication of diabetes that leads to severe morbidity, physical disability and poor quality of life of the patients. In this study we will determine whether interruption of inflammation process would ameliorate the progression of nephropathy which would lead to a novel therapy for this difficult-to-treat complication of diabetes.

Paper published from the grant: Thakur V., Nargis S. Gonzalez M., Pradhan S., and Chattopadhyay M. (2017) Role of Glycyrrhizin in the reduction of inflammation in diabetic kidney disease. *Nephron. 2017; 137(2):137-147. doi: 10.1159/000477820.*

10. Michigan Diabetes Research and Training Center PI: Chattopadhyay (12/1/09-/28/11)
Role of neuroinflammation in painful neuropathy in Type 2 diabetes. Grant # R000617

This pilot feasibility grant is proposed to define the role of inflammatory cytokines in the development of pain in Type 2 model of diabetes and whether HSV vector-mediated expression of anti- inflammatory cytokines would be capable of treating pain or prevent the development of pain in Type 2 model of diabetes. These studies will provide a novel treatment strategy for what is now a relatively treatment resistant condition.

Paper published from the grant: 1. Yoon H., Thakur V and **Chattopadhyay M.** (2015). Role of neuroinflammation in the pathogenesis of painful neuropathy in Type 2 diabetes. *J J Aller Immuno.* 2(1): 12.

11. Diabetes Action Research and Education Foundation (PI: Chattopadhyay) (1/1/06 – 12/31/08)
Erythropoietin Gene Transfer for Diabetic Neuropathy; Grant # 05-4921

This grant proposed to test whether HSV-mediated transfer of the erythropoietin (EPO) transgene

to the DRG would prevent the progression of, or reverse diabetic neuropathy and to understand the molecular mechanisms of the EPO in the hyperglycemic sensory neurons.

Paper published from the grant: **Chattopadhyay M**, Walter C, Mata M, and Fink DJ (2009). Neuroprotective effect of herpes simplex virus-mediated gene transfer of erythropoietin in hyperglycemic dorsal root ganglion neurons. ***Brain*** 2009; 132(4):879-888. (Corresponding Author).

Honors and Awards

Best Student Organizer; National Conference on Gerontology and Symposium on Molecular Markers of Aging, Jiwaji University, Gwalior, India, April 7-9, 1997.

Best Graduate Student Presenter, Symposium on Frontiers of Neuroscience, Jiwaji University, Gwalior, India, Dec. 8, 1997.

Junior Research Fellowship, University Grants Commission, India; 09/1993-08/1995

Senior Research Fellowship, University Grants Commission, India; 09/1995-04/1998

Peripheral Nerve Society Fellow for the year 2007.

Peripheral Nerve Society Fellow for the year 2009.

Peripheral Nerve Society Fellow for the year 2011.

Faculty Service Award, Student Government Association, TTUHSC El Paso for the year 2020.

Memberships in Professional Societies

American Society for Gene Therapy (2001-2012)

American Diabetes Association (Since 2010)

Society for Neuroscience (Since 2000)

European Society for Gene Therapy (2003)

Gerontology Society of India (Life member since 1994)

Peripheral Nerve Society (Since 2005)

Neuropathy Association (Since 2005)

Endocrine Society (Since 2014)

Editorial Board Member

Editorial Board Member: World Journal of Diabetes, Baishideng Publishing Group Inc. 2012 – 2019.

Academic Editor: Journal of Diabetes Research, Hindawi Publishing Corporation; 2015 – Present.

Assistant Editor: International Journal of Diabetes Sciences, Prime Publications, 2019 – Present.

Topics Board Editor: Bioengineering, MDPI (Basel, Switzerland) 2020 – Present.

Review Editor: Frontiers in Pain Research, March 2021- Present.

Peer-review Service

Ad Hoc reviewer: Journal of Pain 2008

Ad Hoc reviewer: Functional and Integrative Genomics 2008

Ad Hoc reviewer: Neurotoxicity Research: Since 2008

Ad Hoc reviewer: Expert Opinion on Biological Therapy 2009

Ad Hoc reviewer: Current Diabetes Reviews 2010

Ad Hoc reviewer: Neural Regeneration Research, Virus Adaptation and Treatment 2011

Ad Hoc reviewer: Neurological Research 2010

Ad Hoc reviewer: Journal of Neurochemistry 2012
Ad Hoc reviewer: Cytokine 2012
Ad Hoc reviewer: Brain, Behavior, and Immunity 2012
Ad Hoc reviewer: Experimental Neurology 2013
Ad Hoc reviewer: European Journal of Pain 2014
Ad Hoc reviewer: Austin Journal of Pharmacology and Therapeutics 2014
Ad Hoc reviewer: Journal of Physiology and Biochemistry 2014
Ad Hoc reviewer: Clinical Journal of Allergy and Immunology 2014
Ad Hoc reviewer: PLOS ONE 2015
Ad Hoc reviewer: Expert Opinion on Drug Metabolism and Toxicology 2015
Ad Hoc reviewer: Annals of Clinical and Translational Neurology 2015
Ad Hoc reviewer: NeuroReport 2015
Ad Hoc reviewer: E-Biomedicine: 2015
Ad Hoc reviewer: Neuroscience Letters 2015
Ad Hoc reviewer: Diabetologia 2015
Ad Hoc reviewer: E-Biomedicine 2016
Ad Hoc reviewer: Canadian Journal of Diabetes 2016
Ad Hoc reviewer: Gene Therapy 2016
Ad Hoc reviewer: Reproductive Biology 2016
Ad Hoc reviewer: Current Proteomics 2016
Ad Hoc reviewer: Clinical Immunology, Endocrine & Metabolic Drugs; 2017
Ad Hoc reviewer: Journal of Diabetes Research; 2017
Ad Hoc reviewer: BMC Neurology; 2017
Ad Hoc reviewer: Brain Research Bulletin; 2018
Ad Hoc reviewer: Frontiers in Neuroscience; 2018
Ad Hoc reviewer: Diabetes/Metabolism Research and Reviews; 2019
Ad Hoc reviewer: Proceedings of the National Academy of Sciences, India Section B: Biological Sciences; 2020
Ad Hoc reviewer: Journal of Investigative Medicine; 2020
Ad Hoc reviewer: Biology Open; 2020

Media Coverage

1. Abstract selected for press release for public awareness. 39th Annual Meeting of Society for Neuroscience, Chicago, USA, 2009; Control Number: 14538. "Vector-mediated knockdown of NaV in DRG reduces pain-related behaviors in painful diabetic neuropathy".
2. Web release of Diabetes Research Grants – 2006; Diabetes Action Research and Education Foundation, Bethesda, MD. https://diabetesaction.org/research-2006
3. Web release of PLFSOM TechView: Dr. Munmun Chattopadhyay is First Faculty Researcher in COE in Diabetes and Obesity. May 29, 2014. http://eptechview.ttuhsc.edu/uncategorized/dr-munmun- chattopadhyay-is-first-faculty-researcher-in-coe-in-diabetes-and-obesity/
4. Web release of American Diabetes Association: The Role of Neuroinflammation in the Pathogenesis of Pain in Diabetic Neuropathy;

   http://professional.diabetes.org/ResearchDB_Detail.aspx?rdbid=211&returnTo=ResearchDB_Al phabeticalSearch.aspx?SelectedText=All&pageIndex=0

5. Web release of PLFSOM TechView: Adventure for Your Future Event A Success; Feb. 13th 2015. http://eptechview.ttuhsc.edu/uncategorized/adventures-for-your-future-event/

6. Press release discussing my work on pain in the official magazine of ADA, Diabetes Forecast:

   Treating Nerve Pain; Issue: Jan 2017: http://www.diabetesforecast.org/2017/jan-feb/treating-nerve-pain.html

7. Press release discussing my expertise on pain research in Science News Magazine: Vol. 191 No. 2, February 4, 2017, p. 6; https://www.sciencenews.org/article/pain-promoter-also-acts-pain-reliever.
   https://www.sciencenewsdigital.org/sciencenews/february_4__2017?search_term=chattopadhyay&doc_id=-1&search_term=chattopadhyay&pg=8#pg8

8. PLFSOM Medical Student got selected for national symposium presentation.
   http://eptechview.ttuhsc.edu/ttuhsc-el-paso/2019-sarp-symposium-winners-announced/

9. Announcement for a $100,429 grant award from the Edward N. and Margaret G. Marsh Foundation for my research project, "Gastroparesis, a Mysterious Stomach Disorder and its Prevalence in Women." http://eptechview.ttuhsc.edu/ttuhsc-el-paso/ttuhsc-el-paso-professor-receives-award-for-research-on-diabetes-related-digestive-disorder/

10. Being one of the four faculty members in the Paul L. Foster School of Medicine to be awarded a total of $29,000 in institutional funds to jump-start innovative research ideas during the 2017-18 academic year. http://eptechview.ttuhsc.edu/ttuhsc-el-paso/ttuhsc-el-paso-faculty-awarded-seed-grants/

11. Being recognized as a national expert in neuropathy and pain management. Following a recent publication of a paper in the field, I was contacted by Science News to comment on the significance of the research findings. http://eptechview.ttuhsc.edu/ttuhsc-el-paso/diabetes-research-recognized-nationally/

12. The fourth annual interactive conference which introduced El Paso area sixth and seventh grade students a hands on training to health sciences career.
    http://eptechview.ttuhsc.edu/uncategorized/adventures-for-your-future-event/

13. Three TTUHSC PLFSOM students and one research technician from my lab walked away at Faces of Diabetes Conference with cash awards for their research on diabetes.
    http://eptechview.ttuhsc.edu/ttuhsc-el-paso/ttuhsc-el-paso-students-research-tech-receive-awards-for-diabetes-research/

14. The three-year project, funded by the National Science Foundation (NSF) and the space station's U.S. National Laboratory, to TTUHSC El Paso faculty scientist Munmun Chattopadhyay, Ph.D., and UTEP biomedical engineer Binata Joddar, Ph.D. is to create tiny (less than 1 millimeter thick) heart-tissue structures, known as cardiac organoids, using human stem cells and 3D bioprinting technology to study microgravity effect in the international space station. A number of international media covered this work including Mexico, Canada, Germany, India and Italy. The links for the publications are given below.

    http://eptechview.ttuhsc.edu/ttuhsc-el-paso/ttuhsc-el-paso-and-utep-team-up-for-international-space-station-research/;

    http://www.elpasoinc.com/news/business_announcements/texas-tech-professor-receives-grant/article_e0ef7ada-179f-11ea-993d-6307b49a2bdf.html

    https://www.eldiariodechihuahua.mx/el-paso/texas-tech-y-utep-hacen-equipo-20200122-1618148.html

    https://www.montrealtimes.news/el-paso-scientists-to-deliver-3d-bioprinted-miniature-hearts-to-

the-iss-3d-printing-industry/

https://3druck.com/forschung/forscher-aus-el-paso-schicken-3d-gedrucktes-mini-herz-zur-iss-2387892/

https://www.3dprintingmedia.network/el-paso-researchers-bioprinted-mini-hearts-iss/

https://timesofindia.indiatimes.com/city/kolkata/duos-mini-hearts-in-space-to-test-zero-gravity-effect/articleshow/74532231.cms

Teaching

Previous teaching experience: From September 1994-April 1998 to senior year Graduate students at School of Studies in Zoology, Jiwaji University, Gwalior, India. I taught introductory cellular biology, comparative vertebrate anatomy and introductory neurobiology for three semesters every year. Since joining the Department of Neurology at the University of Michigan in the research track in July 2004, my teaching responsibilities involved training undergraduate and graduate students to perform research independently. I spend 12-15 hours every week to teach and train students to perform research.

Current Teaching Responsibilities at GSBS, TTUHSC El Paso (Aug 2014 – present)

Course number: GSBS 5224, Course Name: Cellular and Molecular Neuroscience (Pain and Degeneration-regeneration).

Course number: GBSE 5301, Course Name: Biochemistry (Lipid structure & function and Lipid Biosynthesis)

Course number: GBSE 5302, Course Name: Cell Biology (Biomembrane Structure & Function and Integrating Cells into Tissue/Extracellular Matrix).

Course number: GSBS 5223, Course Name: Nutrition, Epigenetics and Human diseases **(Course Director).**

Course number: GSBS 5201, Course Name: Lab methods in Biosciences (Epigenetic methodologies).

Course number: GSBS 5222, Course Name: Advanced Human Genetics (Genetics of Diabetes).

Course number: GSBS 5104, Course Name: Seminars in Biomedical Sciences (Diabetic neuropathy).

Course number: GSBS 5225, Course Name: Immunology (Inflammatory diseases and allergies).

Course number: GSBS 5227, Course Name: Medical Physiology (Metabolism).

Undergraduate and Graduate student research training (2004-present)

I have trained 33 undergraduate students (2004-2020) and graduate student for lab rotations from graduate program, University of Michigan (U of M) (2006 - 2009), TTUHSC GSBS (2014-2020) as well as medical students TTUHSC PLFSOM (2015-2020). Under my guidance, these students learnt how to compile results, analyze and present data. I have trained them to perform animal behavior experiments. All the students were also trained in tissue culture techniques and procedures.

	Name	Years in the lab	Current Position
1.	Calandra Jones	(09/20-Present)	Graduate Student, TTUHSC, El Paso, TX
2.	Rupsikha Bora	(09/20-Present)	Graduate Student, TTUHSC, El Paso, TX
3.	Jesus Gurora	(08/20-05/21)	Research Associate, TTUHSC, El Paso, TX
4.	Nmesoma Nwokoye	(03/20-05/21)	Graduate Student, TTUHSC, El Paso, TX
5.	Narah Alcoreza	(09/18-05/20)	Research Associate, TTUHSC, El Paso, TX.
6.	Diana Sandoval	(08/19-05/20)	Research Associate, Dallas, TX.
7.	Deborah Aldrete	(11/19-05/20)	Graduate Student, TTUHSC, El Paso, TX.
8.	Natalie Satterfield	(03/19- 11/19)	Medical Student, TTUHSC, El Paso, TX.
9.	Hiral Waghela	(03/19- 11/19)	Medical Student, TTUHSC, El Paso, TX.
10.	Robert Martinez	(05/18- 05/19)	Graduate Student, TTUHSC, El Paso, TX.
11.	Jasmine Cazares	(08/18- 05/19)	Graduate Student, TTUHSC, El Paso, TX.
12.	Bryan Koppa	(03/18- 11/18)	Medical Student, TTUHSC, El Paso, TX.
13.	Carly Levin	(03/18- 11/18)	Medical Student, TTUHSC, El Paso, TX.
14.	Mona Heydarian	(03/17- 05/18)	Academic Tutor, EPCC, El Paso, Texas.
15.	Elizabeth McCain	(03/17- 11/17)	Medical Student, TTUHSC, El Paso, TX.
16.	Huma Butta	(03/17- 11/17)	Medical Student, TTUHSC, El Paso, TX.
17.	Josue Enriquez	(03/16 – 05/17)	Ph.D. Student, TTUHSC, Lubbock, TX.
18.	Pompeyo Quesada	(03/16 – 11/19)	Medical Student, TTUHSC, El Paso, TX.
19.	Roberto Solis	(03/16 – 11/17)	PGY-1, Otolaryngology, UC Davis, CA.
20.	Mona Heydarian	(06/16 - 08/16)	Academic Tutor, EPCC, El Paso, Texas.
21.	Swetak Pradhan	(06/15- 12/15)	Medical Student, Baylor College of Medicine, TX.
22.	Amanda Yanez	(08/14 – 05/15)	Technical staff, VA Hospital, El Paso, TX.
23.	Aviance Ramsey	(06/14-08/14)	Graduate Student, UTEP, Texas.
24.	HaeJee Yoon	(08/12- 03/14)	Research Assistant, U of M, Michigan.
25.	Danielle Isham	(08/12- 03/14)	Research Scholar, Michigan Nanotechnology Institute U of M, Michigan.
26.	Rayen Patnaik	(08/12- 12/13)	Business Associate, Michigan.
27.	Mona Fayad	(03/11-03/14)	PGY1, Medicine, Icahn School of Medicine, NY.
28.	Christina Galloway	(04/10- 08/12)	Nurse, U of M, Michigan.
29.	Deborah Blumenthal	(05/08- 08/10)	Business Analyst, Washington.
30.	Blair Sutton	(08/08- 05/09)	Field Medical Affairs Manager, Depomed, Inc.
31.	Priyanka Jain	(08/08- 06/09)	Internist, Mercy Health Physicians, Toledo, OH.
32.	Kathryn Maier	(04/07-04/10)	Pediatric Ophthalmologist, UT, Houston.
33.	Micheal Mooney	(04/07- 05/09)	Neurosurgeon, Barrow Neurological Institute, AZ.
34.	Jasprit Maraher	(08/07- 05/08)	ICU RN, Rush University Medical Center, Chicago.
35.	Yurika Gunawan	(01/06- 05/07)	Attending Physician, Medical School, Singapore.
36.	Jeffery Collins	(08/05- 08/07)	Asst. Professor, Emory University, Atlanta.
37.	Claire Walter	(09/04- 05/08)	Clinical Pharmacy Specialist in Cardiology, Allegheny General Hospital, Pittsburgh, PA.

Most Important Teaching Contributions

I have published my work with my student as a first and second author in peer-reviewed journals. I have presented a number of abstracts at scientific meetings and conferences with my students

as first or second contributors. My student received Best Poster Award in Undergraduate Research Opportunity Program Symposium at University of Michigan, Ann Arbor.

Paper(s) published with students (in bolds)

1. **Yoon H**, Thakur V, **Isham D, Fayad, M** and Chattopadhyay M (2015). Moderate exercise training attenuates inflammatory mediators in DRG of Type 1 diabetic rats. ***Experimental Neurology***, 267: 107-114.

2. **Ortmann K.M.** and Chattopadhyay M., (2014). Decrease in neuroimmune activation by HSV-mediated gene transfer of TNFα soluble receptor alleviates pain in rats with diabetic neuropathy. ***Brain, Behavior and Immunity,*** 41:144-51.

3. Chattopadhyay M*, **Walter C,** Mata M, and Fink DJ. Neuroprotective effect of herpes simplex virus-mediated gene transfer of erythropoietin in hyperglycemic dorsal root ganglion neurons. ***Brain***, 2009 132(4):879-888. **Editorial Comments in: Brain**, 132(4):825-826.

Abstract(s) with students (in bolds)

1. Waghela, H., Thakur, V. and **Chattopadhyay, M**. Effects of Hyperglycemia-Induced Stress in a Human Cardiomyocyte Cell Line. 81st Scientific Sessions; Annual Meeting of American Diabetes Association, Virtual, June 25-29, 2021. Diabetes 70 (Supplement 1).
2. Satterfield, N., Thakur, V. and **Chattopadhyay, M**. Histone Modifications and CXCR4 Chemokine Receptor Signaling in Hyperglycemic DRG Neurons. 81st Scientific Sessions; Annual Meeting of American Diabetes Association, Virtual, June 25-29, 2021. Diabetes 70 (Supplement 1).
3. Matthew Alonzo, Shweta Anil Kumar, **Munmun Chattopadhyay**, Yoshihiro Ito, Stephanie Willerth, Laura Suggs, Binata Joddar. A next generation 3D bioprinted cardiac patch with human cardiomyocytes and fibroblasts. Materials Science & Technology; Sept 29-Oct 03, 2019; Portland, OR, USA.
4. Binata Joddar, Shweta Anil Kumar, Matthew Alonzo, Vikram Thakur, **Munmun Chattopadhyay**. A 3D bioprinted human cardiac cell platform to model the pathophysiology of diabetes. Basic Cardiovascular Sciences Scientific Sessions: Emerging Opportunities in Cardiovascular Diseases. July 27–30, 2020; Virtual Event, American Heart Association.
5. Vikram Thakur, **Narah Alcoreza, Bryan Koppa** and Munmun Chattopadhyay. Epigenetic changes in DRG neuronal cells under hyperglycemia. 13th Annual TTUHSC Research Colloquium; Paul L. Foster School of Medicine, TTUHSC, El Paso, TX. April 17-19, 2019.
6. **P. R. Quesada, R.N. Solis,** V. Thakur, M. A. Gonzalez, **J. Enriquez,** M. Chattopadhyay. The Role of Histone Deacetylases in the Development of Diabetic Complications: Faces of Diabetes Conference, El Paso, TX; Oct 21st 2016. ***2nd Place Poster Award.***
7. **J. Enriquez,** V. Thakur, M. A. Gonzalez, M. Chattopadhyay. Role of HMGB1 Inhibitor Glycyrrhizin in Diabetic Nephropathy: Faces of Diabetes Conference, El Paso, TX; Oct 21st 2016. ***3rd Place Poster Award.***
8. V. Thakur, M. Gonzalez, **J. Enriquez** and M. Chattopadhyay. The Role of Histone Deacetylases in the Development of Diabetic Complications: 11th Annual TTUHSC Research Colloquium; Paul L. Foster School of Medicine, TTUHSC, El Paso, TX; April 20th 2017.
9. V. Thakur, **J. Enriquez,** M. Gonzalez, and M. Chattopadhyay. Epigenetic Modifications in Diabetic Nephropathy. 77th Annual Meeting of American Diabetes Association, San Diego, CA, USA, June 9-13, 2017.

10. **Amanda Yanez** and Munmun Chattopadhyay. Role of Neuropeptides in the Gastrointestinal Tract Disorder of Diabetic Rats. Research Colloquium, Graduate School of Biomedical Sciences (GSBS); TTUHSC Lubbock, TX. March 12, 2015.

11. **Aviance Ramsey** and Munmun Chattopadhyay. Exercise training attenuates inflammatory mediators in DRG and spinal cord of Type 1 diabetic rats. Summer Accelerated Biomedical Research (SABR) Program, Graduate School of Biomedical Sciences (GSBS); TTUHSC El Paso, TX. June –August 2014.

12. **Isham D.** and Chattopadhyay, M. Anti-inflammatory effects of exercise in rats with painful diabetic neuropathy. Undergraduate Research Opportunity Program, University of Michigan, Ann Arbor, MI USA, April 2013. ***Best Poster Award.***

13. **Pattnaik R.** and Chattopadhyay, M. Behavioral effects of exercise in rats with painful diabetic neuropathy. Undergraduate Research Opportunity Program, University of Michigan, Ann Arbor, MI USA, Dec 2012.

14. Meyers, J., **Galloway, C.** and Chattopadhyay, M. Role of exercise in the reduction of inflammatory mediators in painful diabetic neuropathy. 42nd Annual Meeting of Society for Neuroscience, New Orleans, LA, USA, Oct 13-17, 2012.

15. Chattopadhyay M., **Galloway C., Maier K.,** Mata M., and Fink D.J. Decrease in neuroimmune activation by HSV-mediated gene transfer of TNFsR alleviates pain in rats with diabetic neuropathy. Program in Biomedical Sciences Recruit, Ann Arbor, MI, USA, Feb 4th, 2012.

16. **Galloway C.,** Chattopadhyay M. Inflammatory mediators in the pathogenesis of pain in Type 2 diabetic neuropathy. Neuroscience Graduate Program Recruit, Ann Arbor, MI, USA, Jan 14, 2012.

17. Chattopadhyay, M. and **Fayad, M.** Role of Exercise in the Reduction of Inflammatory Mediators in Painful Diabetic Neuropathy. Spring Forum, Undergraduate Research Opportunity Program, University of Michigan, Ann Arbor, MI USA, April 2012.

18. **Galloway C.,** Chattopadhyay M. Role of inflammatory mediators in development of pain in Type 2 diabetic neuropathy. Peripheral Nerve Society Biennial meeting. Potomac, MD, USA, Jun 24-29, 2011.

19. **Galloway C.,** Chattopadhyay M. Role of inflammatory mediators in development of pain in Type 2 diabetic neuropathy. Winter Symposium 2011; Michigan Diabetes Research Training Center, Ann Arbor, USA, March 12, 2011.

20. Chattopadhyay M., **Maier K.,** Mata M., Fink D.J. Decrease in neuroimmune activation by HSV- mediated gene transfer of TNFsR alleviates pain in rats with diabetic neuropathy. Winter Symposium 2011; Michigan Diabetes Research Training Center, Ann Arbor, USA, March 12, 2011.

21. Chattopadhyay M., **Maier K.,** Mata M., Fink D.J. Regulation of Nav1.7 in painful diabetic neuropathy by GPCR activation. Peripheral Nerve Society Biennial meeting, Wurzburg, Germany, July 4-8, 2009.

22. Chattopadhyay M, **Walter C,** Mata M, and Fink DJ. Continuous delta opioid receptor activation reduces neuronal voltage gated sodium channel (Nav1.7) levels through activation of protein kinase c and p38 in painful diabetic neuropathy. 12th World Congress on Pain; International Association for the Study of Pain, August 17-22, 2008, Glasgow, Scotland.

23. Chattopadhyay M., **Walter C.,** Mata M., Fink D.J. Continuous Production of Enkephalin by HSV- mediated Gene Transfer Blocks Phosphorylation of p38 MAPK and PKC in Painful Diabetic Neuropathy. 37th Annual Meeting of Society for Neuroscience, San Diego, CA, USA, Nov 3- 7, 2007.

24. Chattopadhyay M., **Walter C.,** Glorioso J., Mata M., Fink D.J. HSV-mediated gene transfer of erythropoietin to prevent degeneration in diabetic neuropathy, Peripheral Nerve Society Biennial meeting, Snowbird, UT, USA, July 14-18, 2007.

25. Chattopadhyay M., **Walter C.,** Mata M., Fink D.J. HSV-mediated transfer of TNFα soluble receptor to DRG reduces pain-related behaviors in diabetic neuropathy, 36th Annual Meeting of Society for Neuroscience, Atlanta, GA, USA, Oct. 14-18, 2006.

Mentorship

Thesis Co-advisor: Shweta Anil Kumar, Doctoral candidate in Materials Science and Biomedical Engineering, UTEP El Paso, TX.
Title: Bio-fabrication of a functional cardiac tissue-on-a-chip.

Thesis Co-advisor: Matthew Alonzo, Doctoral candidate in Materials Science and Biomedical Engineering, UTEP El Paso, TX.
Title: Engineering cardiac tissues with three-dimensional bio-printing for biomedical applications.

Thesis Co-advisor: Monica Delgado, Doctoral candidate in Materials Science and Biomedical Engineering, UTEP El Paso, TX.
Title: Characterize a 3D bioprinted model of hyperglycemic myocardium (heart wall) to determine the role of SDF-1 and CXCR4 pathway in diabetics.

International, National and Regional Lectures

1. ***Neuroprotective effect of HSV mediated neurotrophin gene transfer in cisplatin neuropathy.*** 32nd Annual Meeting, Society for Neuroscience, Orlando, FL, USA (Nov. 2-7, 2002).
2. ***Neuroprotective effect of HSV-mediated neurotrophin gene transfer in drug-induced neuropathy.*** 11th Annual Congress of the European Society for Gene Therapy, Edinburgh, UK, Nov. 15, 2003.
3. ***Neuroprotective Effect of HSV Mediated Gene Transfer in Peripheral Neuropathy;*** Department of Neurology, University of Pittsburgh, Pittsburgh, PA, February 13, 2004.
4. ***Extinguishing the fire of painful diabetic neuropathy: Continuous expression of enkephalin modifies voltage-gated sodium channel levels in DRG neurons;*** Department of Neurology, University of Michigan, MI, USA January 25, 2008.
5. ***NaV1.7 in painful diabetic neuropathy;*** Department of Neurology, University of Michigan, MI, USA January 28, 2011.
6. ***Novel Strategies for Alleviating Pain in Diabetic Neuropathy.*** Department of Pharmacology and Toxicology, University of Kansas, KS; Oct 30, 2012.
7. ***Novel Strategies for Alleviating Pain in Diabetic Neuropathy.*** Paul L Foster School of Medicine, Texas Tech University Health Sciences Center, El Paso, TX; August 27, 2013.
8. ***Novel Approaches to Ameliorate Pain in Diabetic Neuropathy.*** Department of Physiology, Wayne State University, Detroit, MI; November 21, 2013.
9. ***Diabetes and Neuroinflammation: Can we avoid the complications?*** Women in Medicine and Science, Paul L Foster School of Medicine, TTUHSC, El Paso, TX; August 27, 2014.
10. ***Here's to Your Health.*** 4th Annual Adventure for Future Workshop; The Greater El Paso Chamber of Commerce and TTUHSC, El Paso, TX; January 31, 2015.
11. ***Diabetes and inflammation.*** Seminar on Neuroscience (invited talk). School of Studies in

Neuroscience; Jiwaji University; Gwalior, India. July 15, 2016.

12. ***Diabetic complications: dealing with it every day.*** Invited talk. Rotary Club of West El Paso; El Paso, TX. August 15, 2016.
13. ***The Role of Histone Deacetylases in the Development of Diabetic Complications:*** 11th Annual TTUHSC Research Colloquium; Paul L. Foster School of Medicine, TTUHSC, El Paso, TX; April 20, 2017.
14. ***Neuroinflammation and Diabetic Neuropathy.*** Translational Neuroscience and Pharmacology Seminar Series: Distinguished Speaker. TTUHSC, Lubbock, TX; August 15th 2017.
15. ***Diabetes research at TTUHSC El Paso.*** Obesity Research Cluster, TTUHSC Lubbock. May 9, 2018.
16. ***Diabetes and Nutrition.*** Guest Lecture in Graduate School seminar series. Ravenshaw University, Orissa, India. Sept. 16th, 2020. ***(International)***
17. ***Can we out a brake in diabetic complications?*** Guest Lecture in undergraduate biology seminar series at Northern New Mexico College, Española, New Mexico. Sept. 17th, 2020.
18. ***Alterations in Histone Acetylation and Neuroinflammation in Diabetic Painful Neuropathy.*** Invited Speaker; GCC Texas Pain Research Highlights 2021 Conference, April 7-8, 2021.
19. ***Differential expression of genes in gastric antral smooth muscle of gastroparetic patients with or without diabetes.*** Invited Guest Speaker; 14th Semi Annual Research Day, Department of Surgery, TTUHSC El Paso, May 20, 2021.

CME lectures

1. ***Importance of recognition by institution and peers.*** Office of Faculty Development. TTUHSC El Paso. Institutional Faculty Development Course (IFDC) XV. How to recruit and retain good faculty conference. May 12, 2017. *CME credit* 0.5.
2. ***Enhancing Basic Science Faculty Success.*** Office of Faculty Development. TTUHSC El Paso. Institutional Faculty Development Course (IFDC) XVI. Tips for Faculty Success. May 11, 2018. *CME credit* 0.5.
3. ***Global diabetes: impact of race, gender and culture.*** Office of Diversity, Inclusion and Global Health, TTUHSC El Paso. Nov. 15, 2018. *CME credit* 1.
4. ***Writing a balanced discussion section: Writing Interest Group Course.*** Office of Faculty Development. TTUHSC El Paso. Institutional Faculty Development Program XIX. Continuing online course; 2021. CME credit 0.5.

Committee, Organizational and Volunteer Service

Institutional Animal Care and Use Committee (IACUC), Veteran Affairs Ann Arbor Health System, Ann Arbor, MI. Committee service: Scientific member. 07/2005 - March 2014.

Advisory Committee on Primary Research Appointments, Promotions, and Titles (APRAPT) Medical School, University of Michigan; Ann Arbor, MI. Member; 2011- March 2014.

Ad-hoc Scientific Reviewer, IACUC, Emory University, Atlanta, GA; 2012- current; Committee service: Scientific member (Ad-hoc).

Undergraduate Research Opportunity Program (UROP), University of Michigan, Ann Arbor, MI. Mentor: 2005-2014. Poster judge: 2009- March 2014.

Career Panel Advisor: Undergraduate Research Opportunity Program (UROP), University of Michigan; Ann Arbor, MI. 2012-March 2014.

Faculty Judge: Annual Research Colloquium; **Paul L. Foster School of Medicine,** Texas Tech

University Health Sciences Center, El Paso, TX. May 2014 – Present.

Library Council Member: Texas Tech University Health Sciences Center, El Paso, TX. Member: May 2014– Present.

Medical School Admissions Committee: Paul L. Foster School of Medicine, Texas Tech University Health Sciences Center, El Paso, TX. Member: June 2015 – June 2019.

Graduate School of Biomedical Sciences Admissions Committee: Paul L. Foster School of Medicine, Texas Tech University Health Sciences Center, El Paso, TX. Member: June 2014 – Present.

PLFSOM Women in Medicine and Science Research Collaborations Committee (WIMS): Paul L. Foster School of Medicine, Texas Tech University Health Sciences Center, El Paso, TX. Member: August 2014- Present.

Institutional Animal Care and Use Committee (IACUC), TTUHSC. Committee service: Scientific member. September 2014 –Present.

Faculty Judge: Scholarly Activity and Research Program (SARP) Symposium; **Paul L. Foster School of Medicine**, Texas Tech University Health Sciences Center, El Paso, TX. November 2014-present.

Director of COE in Diabetes and Metabolism Search Committee: Paul L. Foster School of Medicine, Texas Tech University Health Sciences Center, El Paso, TX. Member: January 2015 – July 2016.

Veterinarian Search Committee: Paul L. Foster School of Medicine, Texas Tech University Health Sciences Center, El Paso, TX. Member: November 2014 – March 2016.

Ad hoc Reviewer: National Institute of Health, SCS study section. **NIH**, 2015-2016.

Ad hoc Reviewer: National Institute of Health, Brain Disorders and Clinical Neuroscience IRG, **NIH**, 2015 - 2016.

Medical School Admissions Committee: Paul L. Foster School of Medicine, Texas Tech University Health Sciences Center, El Paso, TX. Member: June 2015 – Present.

Research Symposium Moderator: 9th Annual TTUHSC Research Colloquium; Paul L. Foster School of Medicine, TTUHSC, El Paso, TX; May 2015.

ADA Research Grant Review Committee: American Diabetes Association, Alexandria, VA. Member: Jan 01, 2016- December 31, 2018.

Chair Elect: WIMS Research Collaborations Committee, TTUHSC, El Paso, TX. November 2015- October 2016.

Chair: WIMS Research Collaborations Committee, TTUHSC, El Paso, TX. November 2016- October 2017.

Graduate: FDCXIII Career Scholarship Development. TTUHSC, El Paso, TX. Nov 2014- July 2015.

Thesis Committee member: Nishat Tasnim, Doctoral candidate in Materials Science and Biomedical Engineering, UTEP El Paso, TX. September 2017.

Research Grant Reviewer (external): Indiana Diabetes Research Center (IDRC), Indiana University, IN. May 2016- May 2017.

Graduate Council Member: Graduate School of Biomedical Sciences, Texas Tech University Health Sciences Center, El Paso, TX. Member: Jan 2017 – Present.

Senator: Faculty Senate; Texas Tech University Health Sciences Center, El Paso, TX. Member: Jan 2017 – 2021.

Excellence in Education Subcommittee; 2020-2025 Strategic Plan –TTUHSC EP, El Paso, TX. Sept 2019- Aug 2020. ***Member,*** Appointed.

Institutional Animal Care and Use Committee (IACUC), TTUHSC. Chair. September 2020 – Present.

Grant Reviewer: Peer Reviewed Medical Research Program, Department of Defense. September 2020; May 2021.

Executive Steering Committee Member at Gulf Coast Consortia Texas Pain Research, 2020- Present.

Grant Reviewer: National Institute of Health, ad hoc reviewer for ZRG1 Digestive, Kidney and Urological Systems IRG, 2021.

Grant Reviewer: National Institute for Health Research, UK as ad hoc reviewer for Central Commissioning Facility, Birmingham Region BRC in Inflammation: Women's Metabolic Health; December 2021.

Nucleotide sequence submission

GenBank: AF156978.1
Chattopadhyay, M., Gangadharan, S. and Ali, S. (1999) cDNA of testis beta actin sequence from Bubalus bubalis derived from PCR amplification using heterologous primers derived from mouse.

Book Chapter

1. Nishat Tasnim, **Munmun Chattopadhyay**, Binata Joddar (2019) Scaffolds for tissue engineering of stomach. *Handbook of Tissue Engineering Scaffolds Volume 2, Part 11: Scaffolds for Digestive System. https://doi.org/10.1016/B978-0-08-102561-1.00025-7.* Woodhead Publishing Series in Biomaterials; 2019, Pages 633-646.Copyright © 2019 Elsevier Ltd.

2. Munmun Chattopadhyay (2022) Emerging Role of Satellite and Schwann Cells of Peripheral Neuroglial System in Nerve Repair. *The Biology of Glial Cells: Recent Advances*. Springer-Nature Publishing company. (*in press*)

Bibliography

Peer Reviewed Journals and Articles

1. R. El Khoury, N. Nagiah, J. Mudloff, V. Thakur, **M. Chattopadhyay,** B. Joddar (2021). 3D Bioprinted Spheroidal Droplets for Engineering the Heterocellular Coupling between Cardiomyocytes and Cardiac Fibroblasts. *Cyborg and Bionic Systems.* Vol 2021; 9864212. https://doi.org/10.34133/2021/9864212

2. V. Thakur, N. Alcoreza, J. Cazares and **M. Chattopadhyay*** (2021). Changes in Stress-Mediated Markers in a Human Cardiomyocyte Cell Line under Hyperglycemia. *Int J Mol Sci*, 2021 22(19):10802. doi: 10.3390/ijms221910802. *(Impact factor 5.9)*

3. P. Dubey, S. Reddy, S. Boyd, C. Bracamontes, S. Sanchez, **M. Chattopadhyay**, A. Dwivedi (2021). Effect of Nutritional Supplementation on Oxidative Stress and Hormonal and Lipid Profiles in PCOS-Affected Females. Nutrients 2021, 13(9), 2938; https://doi.org/10.3390/nu13092938. (*Impact factor 5.7*)

4. V. Thakur, N. Alcoreza, M. Delgado, B. Joddar, **M. Chattopadhyay*** (2021). Cardioprotective Effect of Glycyrrhizin on Myocardial Remodeling in Diabetic Rats. *Biomolecules* 11 (4), 569. Doi: https://doi.org/10.3390/biom11040569. (*Impact factor 4.9*)

5. M. Alonzo, M. Delgado, C. Cleetus, S. Anil Kumar, V. Thakur, **M. Chattopadhyay**, B. Joddar (2020). Methods for Histological Characterization of Cryo-Induced Myocardial Infarction in a Rat Model. *Acta Histochemica*; Oct. 2020; 122 (7). https://doi.org/10.1016/j.acthis.2020.151624. *(Impact factor 2.5)*

6. Dubey P., Thakur V. and **Chattopadhyay M.*** (2020). Role of Minerals and Trace Elements in Diabetes and Insulin Resistance. *Nutrients* 2020 Jun 23; 12(6). doi: 10.3390/nu12061864. *(Impact factor 5.7)*

7. Thakur V, Sadanandan J, **Chattopadhyay M.*** (2020) High-Mobility Group Box 1 Protein Signaling in Painful Diabetic Neuropathy. *Int J Mol Sci*. 2020 Jan 30; 21(3). doi: 10.3390/ijms21030881. *(Impact factor 5.9)*

8. Anil Kumar, S; Alonzo, M; Allen, S; Abelseth, L; Thakur, V; Akimoto, J; Ito, Y; Willerth, S; Suggs, L; **Chattopadhyay, M**; Joddar, B (2019). A visible light crosslinkable, fibrin-gelatin based bioprinted cardiac patch with human cardiomyocytes and fibroblasts. *ACS Biomaterials Science & Engineering 2019*, 5, 9, 4551-4563. doi: 10.1021/acsbiomaterials.9b00505. *(Impact factor 4.7)*

9. Anil Kumar S, Allen SC, Tasnim N, Akter T, Park S, Kumar A, **Chattopadhyay M**, Ito Y, Suggs LJ, Joddar B (2019). The applicability of furfuryl-gelatin as a novel bioink for tissue engineering applications. *J Biomed Mater Res B Appl Biomater*. 2019 Feb; 107(2):314-323. doi: 10.1002/jbm.b.34123. *(Impact factor 3.4)*

10. Tasnim N., Thakur V., **Chattopadhyay M***. Joddar B*. (2018). The efficacy of Graphene-foams towards the adhesion, proliferation, and expression of neuronal-phenotype by dopaminergic neurons differentiated from mesenchymal stem cells. *Stem Cell International*. 2018 Jun 3; 2018: 3410168. doi: 10.1155/2018/3410168. *(Impact factor 5.4)*

11. Thakur V, **Chattopadhyay M*** (2018). Early urinary markers for diabetic and other kidney diseases. *Current drug targets*. 19 (7), 825-831. *(Impact factor 3.5)*

12. Joddar B.*, Tasnim N., Thakur V., Kumar A., Mccallum R., **Chattopadhyay M**.* (2018) Delivery of mesenchymal stem cells from gelatin-alginate hydrogels to stomach lumen for treatment of gastroparesis. *Bioengineering*: 2018; 5(1). *(Impact factor 2.7)*

13. Thakur V., Nargis S., Gonzalez M., Pradhan S., and **Chattopadhyay M**.* (2017) Role of Glycyrrhizin in the reduction of inflammation in diabetic kidney disease. *Nephron*: 2017; 137 (2):137-147. doi: 10.1159/000477820. *(impact factor 2.55)*

14. Thakur V, Gonzalez M, Pennington K, Nargis S, **Chattopadhyay M.*** (2016). Effect of exercise on neurogenic inflammation in spinal cord of Type 1 diabetic rats. *Brain Research*: 2016; 1642:87-94. *(impact factor 3.25)*

15. Thakur V, Gonzalez M, Pennington K, **Chattopadhyay M.*** (2016). Viral vector mediated continuous expression of interleukin-10 in DRG alleviates pain in type 1 diabetic animals. *Mol Cell Neurosci.* 2016; 72:46-53. *(impact factor 3.84)*

16. Subramani R, Gangwani L, Nandy SB, Arumugam A, **Chattopadhyay M,** Lakshmanaswamy R. **(**2015). Emerging roles of microRNAs in pancreatic cancer diagnosis, therapy and prognosis (Review). *Int J Oncol. 2015 Aug 21. (impact factor 3.01)*

17. Yoon H, Thakur V, Isham D, Fayad M, and **Chattopadhyay M*** (2015). Moderate exercise training attenuates inflammatory mediators in DRG of Type 1 diabetic rats. *Experimental Neurology*, 2015; 267:107-114. *(impact factor 4.7)*

18. Yoon H, Thakur V and **Chattopadhyay M* (**2015). Role of neuroinflammation in the

pathogenesis of painful neuropathy in Type 2 diabetes. *Clinical Journal of Allergy and Immunology,* 1(2): 012.

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24. **Chattopadhyay M.***, Walter C., Mata M., Fink D.J. (2009). Neuroprotective effect of herpes simplex virus-mediated gene transfer of erythropoietin in hyperglycemic dorsal root ganglion neurons. *Brain,* 2009; 132(4):879-888. **(*Corresponding Author)**. **Editorial Comments in: *Brain,* 132(4):825-826. *(impact factor 13.5)***

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Conferences, Seminars and Workshops

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2. **Chattopadhyay, M**., Patro, N. And Patro, I.K. (1997). Flunarizine removes age-pigment and prevents neuron loss in spinal cord and spinal ganglia: a preliminary report. National Conference on gerontology and symposiumon molecular markers of aging, Jiwaji University, Gwalior, India (April 7-9, 1997).
3. **Chattopadhyay M.**, Azfer M.A. and Ali S. (1998). Isolation of satellite associated transcribing sequences from the bubaline Bubalus bubalis genome. 67th AGBM of Society of Biological Chemists (Dec. 19-21, 1998).
4. **Chattopadhyay M.**, Mata M., Goss J., Goins W., Glorioso J. and Fink D.J. (2001). A genomic HSV-1 Vector expressing Nerve Growth Factor prevents Pyridoxine-induced neuropathy in rat. Science 2001: A Research Odessey, University of Pittsburgh, Pittsburgh, USA (September 12- 14, 2001).
5. **Chattopadhyay M.**, Wolfe, D., Huang, S., Goss, J., Glorioso, J.C. Mata, M., Fink, D.J. (2001). In

vivo gene therapy of pyridoxine-induced neuropathy by HSV-mediated gene transfer of neurotrophin-3. Annual meeting of American Academy of Neurology, Chicago, IL. October, 2001.

6. Glorioso J., Wolfe D., Goins W., Goss J., Hao S., **Chattopadhyay M.**, Mata M., Fink D. (2001). Applications of HSV gene vectors to nervous system disease, 9th Annual meeting of ESGT, Antalya, Turkey (Nov. 2-4, 2001).
7. **Chattopadhyay M**., Mata M., Wolfe D., Huang S., Gloriosco J. and Fink D.J. (2001). HSV-mediated gene transfer of neurotrophin-3 prevents pyridoxine neuropathy in rats. 31st Annual Meeting Society for Neuroscience, San Diego, CA, USA (Nov. 10-15, 2001).
8. **Chattopadhyay M**., Mata M., Goins W., Wolfe D., Huang S., Glorioso J., Fink D.J. (2002). Neuroprotective effect of HSV mediated neurotrophin gene transfer in cisplatin neuropathy. 32nd Annual Meeting, Society for Neuroscience, Orlando, FL, USA (Nov. 2-7, 2002).
9. **Chattopadhyay M.**, Krisky D.M., Wolfe D.P., Goss J., Mata M., Glorioso J.C. and Fink D.J. (2003). HSV-mediated VEGF gene transfer can prevent experimental diabetic neuropathy in mice. 6th Annual Meeting of the American Society of Gene Therapy, Washington, DC, USA (June 4-8,2003), Molecular Therapy Vol. 7, No. 5, May 2003
10. Glorioso J.C., Krisky D., Wolfe D., Goins W., Goss J., Hao S., **Chattopadhyay M**., Mata M. and Fink D. (2003) Treatment of sensory neuron disease using HSV gene vectors. 2nd International Symposium on Molecular diagnostics and skin gene therapy, Dusseldorf, Germany (27-29 March 2003), J. Gene Med 5:S15; 2003.
11. **Chattopadhyay M.**, Krisky D.M., Wolfe D.P., Goss J., Glorioso J.C., Mata M., and Fink D.J. (2003). HSV-mediated VEGF gene transfer can prevent experimental diabetic neuropathy in mice. 33rd Annual Meeting, Society for Neuroscience, New Orleans, LA USA (Nov 7-12, 2003).
12. **Chattopadhyay M**., Mata M., Goins W., Wolfe D., Huang S., Glorioso J., Fink D.J. (2003) Neuroprotective effect of HSV-mediated neurotrophin gene transfer in drug-induced neuropathy. 11th Annual Congress of the European Society for Gene Therapy, Edinburgh, UK (Nov 14-17, 2003).
13. **Chattopadhyay M.**, Wolfe D.P., Goins W., Huang S., Glorioso J.C., Mata M. and Fink D.J. Prolonged bioactive transgene expression driven by the HSV Latency Active Promoter 2 (LAP2) in the peripheral nervous system. 7th Annual Meeting of the American Society of Gene Therapy, Minneapolis, MN, USA (June2-6, 2004).
14. **Chattopadhyay M.,** Goss J., Wolfe DP., Goins W., Huang S., Krisky D., Glorioso JC., Mata M., and Fink DJ. HSV-Medicated Prolonged Bioactice Transgene Expression in Diabetic Neuropathy. 34th Annual Meeting of Society for Neuroscience, San Diego, CA, USA (Oct 23- 27, 2004).
15. **Chattopadhyay M**., Mata M., Glorioso J.C., Fink D.J. Differential Pathophysiological Mechanisms in the Treatment of Painful Diabetic Neuropathy Using HSV-Mediated Proenkephalin and GAD-67-Expressing Vectors. 35th Annual Meeting of Society for Neuroscience, Washington, DC, USA, Nov. 12-16, 2005.
16. **Chattopadhyay M**., Walter C., Mata M., Fink D.J. HSV-mediated transfer of TNFα soluble receptor to DRG reduces pain-related behaviors in diabetic neuropathy, 36th Annual Meeting of Society for Neuroscience, Atlanta, GA, USA, Oct. 14-18, 2006.
17. NIDDK Workshop: Advances toward measuring diabetic retinopathy and neuropathy; National Institutes of Health, Bethesda, MD; April 4-5, 2007.
18. **Chattopadhyay M.**, Walter C., Glorioso J., Mata M., Fink D.J. HSV-mediated gene transfer of erythropoietin to prevent degeneration in diabetic neuropathy, Peripheral Nerve Society Biennial meeting, Snowbird, UT, USA, July 14-18, 2007.

19. **Chattopadhyay M**., Walter C., Mata M., Fink D.J. Continuous Production of Enkephalin by HSV-mediated Gene Transfer Blocks Phosphorylation of p38 MAPK and PKC in Painful Diabetic Neuropathy. 37th Annual Meeting of Society for Neuroscience, San Diego, CA, USA, Nov. 3- 7, 2007.

20. **Chattopadhyay M**., Walter C., Mata M., Fink D.J. Continuous delta opioid receptor activation reduces neuronal voltage gated sodium channel (Nav1.7) levels through activation of protein kinase c and p38 in painful diabetic neuropathy. 12th World Congress on Pain; International Association for the Study of Pain, Aug. 17-22, 2008; Glasgow, Scotland.

21. **Chattopadhyay M.**, Mata M., Fink D.J. GABAB receptor mediated changes in neuronal voltage gated sodium channel ($Na_v1.7$) levels in painful diabetic neuropathy. 38th Annual Meeting of Society for Neuroscience, Washington DC, USA, Nov. 15-19, 2008.

22. **Chattopadhyay M.**, Maier K., Mata M., Fink D.J. Regulation of $Na_v1.7$ in painful diabetic neuropathy by GPCR activation. Peripheral Nerve Society Biennial meeting, Wurzburg, Germany, July 4-8, 2009.

23. **Chattopadhyay M.**, Zhou Z., Mata M., Fink D.J. Vector-mediated knock down of Na_V in DRG reduces pain-related behaviors in rats with painful diabetic neuropathy. 39th Annual Meeting of Society for Neuroscience, Chicago, USA, Oct. 17-20, 2009.

24. **Chattopadhyay M.**, Maier K., Mata M., Fink D.J. Decrease in neuroimmune activation by HSV-mediated gene transfer of TNFsR alleviates pain in rats with diabetic neuropathy. 40th Annual Meeting of Society for Neuroscience, San Diego, USA, Nov. 12-16, 2010.

25. **Chattopadhyay M.**, Maier K., Mata M., Fink D.J. Decrease in neuroimmune activation by HSV-mediated gene transfer of TNFsR alleviates pain in rats with diabetic neuropathy. Winter Symposium 2011; Michigan Diabetes Research Training Center, Ann Arbor, USA, March 12, 2011.

26. Galloway C., **Chattopadhyay M.** Role of inflammatory mediators in development of pain in Type 2 diabetic neuropathy. Winter Symposium 2011; Michigan Diabetes Research Training Center, Ann Arbor, USA, March 12, 2011.

27. Chemotherapy-Induced Peripheral Neuropathy (CIPN) Workshop, National Cancer Institute; National Institutes of Health, Rockville, MD; June 24th 2011.

28. Galloway C., **Chattopadhyay M.** Role of inflammatory mediators in development of pain in Type 2 diabetic neuropathy. Peripheral Nerve Society Biennial meeting, Potomac, MD, USA, Jun 24-29, 2011.

29. Galloway C., **Chattopadhyay M.** Inflammatory mediators in the pathogenesis of pain in Type 2 diabetic neuropathy. Neuroscience Graduate Program Recruit, Ann Arbor, MI, USA, Jan 14, 2012.

30. **Chattopadhyay M.,** Galloway C., Maier K., Mata M., Fink D.J. Decrease in neuroimmune activation by HSV-mediated gene transfer of TNFsR alleviates pain in rats with diabetic neuropathy. Program in Biomedical Sciences Recruit, Ann Arbor, MI, USA, Feb 4th, 2012.

31. **Chattopadhyay, M.** and Fayad, M. Role of Exercise in the Reduction of Inflammatory Mediators in Painful Diabetic Neuropathy. Spring Forum, Undergraduate Research Opportunity Program, University of Michigan, Ann Arbor, MI USA, April 2012.

32. **Chattopadhyay M.**, Mata M., Fink D.J. Alteration of inflammatory mediators in Type 1 and 2 painful diabetic neuropathy.42nd Annual Meeting of Society for Neuroscience, New Orleans, USA, Oct. 13-17, 2012.

33. Meyers, J. Galloway, C. and **Chattopadhyay, M**. Role of exercise in the reduction of inflammatory mediators in painful diabetic neuropathy. 42nd Annual Meeting of Society for

Neuroscience, New Orleans, USA, Oct. 13-17, 2012.

34. Pattnaik R. and **Chattopadhyay, M.** Behavioral effects of exercise in rats with painful diabetic neuropathy. Undergraduate Research Opportunity Program, University of Michigan, Ann Arbor, MI USA, Dec 2012.

35. Isham D. and **Chattopadhyay, M.** Anti-inflammatory effects of exercise in rats with painful diabetic neuropathy. Undergraduate Research Opportunity Program, University of Michigan, Ann Arbor, MI USA, April 2013; ***Best poster presentation*** award.

36. Yoon H., Thakur V. and **Chattopadhyay M**. Changes in Inflammatory Mediators in DRG of Type 1 Diabetic Animals with Neuropathy. 74th Annual Meeting of American Diabetes Association, San Francisco, USA, June 13-17, 2014.

37. Gonzalez M, Thakur V. and **Chattopadhyay, M**. Effect of Moderate Exercise in Diabetic Neuropathy. 11th Annual Faces of Diabetes Symposium, El Paso, TX; Oct 24th 2014**.** ***3rd Prize winner for best poster.***

38. Participant in ***Thirteenth Faculty Development Course***; Faculty Affairs & Development, TTUHSC, El Paso, TX. November 2014-July 2015.

39. Participant in ***1st Annual WIMS Professional Development Program*** by Dr. Luanne E. Thorndyke; Organized by Women in Medicine and Science, TTUHSC, El Paso, TX. November 22, 2014.

40. Aviance Ramsey and **Munmun Chattopadhyay**. Exercise training attenuates inflammatory mediators in DRG and spinal cord of Type 1 diabetic rats. Summer Accelerated Biomedical Research (SABR) Program, Graduate School of Biomedical Sciences (GSBS); TTUHSC El Paso, TX. June –August 2014.

41. 13th Faculty Development Course: Paul L. Foster School of Medicine, Texas Tech University Health Sciences Center, El Paso, TX. Participant: Nov 05, 2014-July 22nd 2015.

42. 1st PLFSOM Women in Medicine and Science Research Professional Development Course: Doubletree Hotel, Paul L. Foster School of Medicine, Texas Tech University Health Sciences Center, El Paso, TX. Participant: Nov 22, 2014.

43. Thakur, V. and **Chattopadhyay, M.** Alterations of Inflammatory Mediators in DRG of Type 1 Diabetic Animals with Neuropathy. 97th Annual Meeting of Endocrine Society, San Diego, USA March 5-8, 2015.

44. Amanda Yanez and **Munmun Chattopadhyay**. Role of Neuropeptides in the Gastrointestinal Tract Disorder of Diabetic Rats. Research Colloquium, Graduate School of Biomedical Sciences (GSBS); TTUHSC Lubbock, TX. March 12, 2015.

45. Vikram Thakur, Mayra Gonzalez and **Munmun Chattopadhyay**. Role of TLR4 and HMGB1 in Changes in Pain in Type 1 and Type 2 Diabetic Animals. 75th Annual Meeting of American Diabetes Association, Boston, USA, June 5-9, 2015.

46. **2nd PLFSOM Women in Medicine and Science Research Professional Development Course.** Country Inn, Sunland Park. Paul L. Foster School of Medicine, Texas Tech University Health Sciences Center, El Paso, TX. Participant: Sept 25, 2015.

47. Kristen Pennington, Vikram Thakur and **Munmun Chattopadhyay**. Changes in Inflammatory Mediators in DRG of Type 1 Diabetic Animals with Neuropathy. 2nd BBRC Symposium, El Paso, TX, USA. Sept 27th -29th 2015.

48. Mayra Gonzalez, Vikram Thakur, Kristen Pennington, and **Munmun Chattopadhyay**. Role of Neuropeptides in the Gastrointestinal Tract Disorder of Diabetic Rats. 2nd BBRC Symposium, El Paso, TX, USA. Sept 27th -29th 2015.

49. Vikram Thakur, Syeda Nargis, Kristen Pennington, Mayra Gonzalez and **Munmun Chattopadhyay**. Role of HMGB1 inhibitor Glycyrrhizin in Diabetic complications. 45th Annual Meeting of Society for Neuroscience, Chicago, USA, Oct. 17-21, 2015.

50. Thakur V, Nargis S, Gonzalez M, Pennington K, **Chattopadhyay M.** Role of HMGB1 Inhibitor Glycyrrhizin in Diabetic Nephropathy. Elsevier Miami Winter Symposia: Inflammation Causes, Prevention and Cure. Miami, USA; Jan 24-27 2016.

51. V. Thakur, M. Gonzalez, S. Nargis and **M. Chattopadhyay**. Role of inflammatory Mediators in Diabetic Nephropathy. 76th Annual Meeting of American Diabetes Association, New Orleans, USA, June 10-14, 2016.

52. P. R. Quesada, R.N. Solis, V. Thakur, M. A. Gonzalez, J. Enriquez, **M**. **Chattopadhyay**. The Role of Histone Deacetylases in the Development of Diabetic Complications. Faces of Diabetes Conference, El Paso, TX; Oct 21st 2016. **2nd Place**.

53. J. Enriquez, V. Thakur, M. A. Gonzalez, **M**. **Chattopadhyay**. Role of HMGB1 Inhibitor Glycyrrhizin in Diabetic Nephropathy. Faces of Diabetes Conference, El Paso, TX; Oct 21st 2016. **3rd Place**.

54. The Role of Histone Deacetylases in the Development of Diabetic Complications: V. Thakur, M. Gonzalez, J. Enriquez and **M. Chattopadhyay**. 11th Annual TTUHSC Research Colloquium; Paul L. Foster School of Medicine, TTUHSC, El Paso, TX; April 20th 2017.

55. Inspiring Intersections: A Call to Collaborate, Challenge, and Change. A Summit Sponsored by GDI and GWIMS, AAMC. May 4th-7th 2017; Palm Springs, CA, USA.

56. V. Thakur, J. Enriquez, M. Gonzalez, and **M. Chattopadhyay**. Epigenetic Modifications in Diabetic Nephropathy. 77th Annual Meeting of American Diabetes Association, San Diego, CA, USA, June 9-13, 2017.

57. Learn Serve Lead: The AAMC Annual Meeting. November 3-7, 2017; Boston, MA, USA.

58. V. Thakur, J. Sadanandan, M. Gonzalez, R. Solis, P. Quesada and **M. Chattopadhyay**. Alterations in inflammatory mediators and histone acetylation in diabetic painful neuropathy. Epigenetics and Epigenomics: Implications for Diabetes and Obesity; American Diabetes Association Research Symposium, Nov 17-19, 2017. Boston, MA, USA.

59. V. Thakur, M. Gonzalez, J. Sadanandan, M. Gonzalez and **M. Chattopadhyay.** Role of inflammation and histone acetylation in diabetic painful neuropathy: 12th Annual TTUHSC Research Colloquium; Paul L. Foster School of Medicine, TTUHSC, El Paso, TX; April 18th 2018.

60. V. Thakur, and **M. Chattopadhyay**. Alterations in Histone Acetylation in Diabetic Painful Neuropathy. 78th Annual Meeting of American Diabetes Association, Orlando, FL, USA, June 22-26, 2018.

61. **M. Chattopadhyay**, C. Levin and V. Thakur. The role of epigenetic modifications in diabetic complications. 6th annual meeting of the international cytokine & interferon society. Boston, USA 27-30 Oct 2018.

62. V. Thakur, and **M. Chattopadhyay**. Epigenetic changes in DRG neurons under hyperglycemia. 48th Annual Meeting of Society for Neuroscience, San Diego, USA, Nov. 3-7, 2018.

63. Vikram Thakur, Irene Sarosiek, Richard W. McCallum, **Munmun Chattopadhyay**. Epigenetic Changes in Gastric Antral Smooth Muscle of Patients with Severe Gastroparesis of both Idiopathic and Diabetic Etiology. Digestive Disease Week, San Diego, CA, USA May 18–21, 2019.

64. Matthew Alonzo, Shweta Anil Kumar, **Munmun Chattopadhyay**, Yoshihiro Ito, Stephanie Willerth, Laura Suggs, Binata Joddar. A next generation 3D bioprinted cardiac patch with human cardiomyocytes and fibroblasts. Materials Science & Technology; Sept 29-Oct 03, 2019; Portland, OR, USA.

65. V. Thakur, and **M. Chattopadhyay**. Role of histone acetylation in diabetic painful neuropathy. 48th Annual Meeting of Society for Neuroscience, Chicago, IL, USA, Oct 19-23, 2019.

66. Binata Joddar, Shweta Anil Kumar, Matthew Alonzo[1], Vikram Thakur, **Munmun Chattopadhyay**. A 3D bioprinted human cardiac cell platform to model the pathophysiology of diabetes. Basic Cardiovascular Sciences Scientific Sessions: Emerging Opportunities in Cardiovascular Diseases. July 27–30, 2020; Virtual Event, American Heart Association.

67. V Thakur, I Sarosiek, B Davis, R McCallum, **M Chattopadhyay**. Epigenetic alterations of inflammatory markers in diabetic and idiopathic gastroparesis; 4th International Meeting of the Federation of Neurogastroenterology and Motility, 14-17 Apr 2021; Adelaide, Australia (Virtual) Neurogastroenterology and Motility 32.

68. V Thakur, BR Davis, I Sarosiek, RW McCallum, **M Chattopadhyay**. Alterations in Epigenetic Modifiers in Gastric Antral Smooth Muscle of Patients with Diabetic Gastroparesis Compared To Idiopathic Etiology. Digestive Disease Week 2020, Virtual, May 2-5 2020; Gastroenterology 158 (6), S-1052.

69. Waghela, H., Thakur, V. and **Chattopadhyay, M**. Effects of Hyperglycemia-Induced Stress in a Human Cardiomyocyte Cell Line. 81st Scientific Sessions; Annual Meeting of American Diabetes Association, Virtual, June 25-29, 2021. Diabetes 70 (Supplement 1).

70. Satterfield, N., Thakur, V. and **Chattopadhyay, M**. Histone Modifications and CXCR4 Chemokine Receptor Signaling in Hyperglycemic DRG Neurons. 81st Scientific Sessions; Annual Meeting of American Diabetes Association, Virtual, June 25-29, 2021. Diabetes 70 (Supplement 1).

71. V. Thakur, B. Joddar and **M. Chattopadhyay**. Cardioprotective Effects of Glycyrrhizin On Hyperglycemic Cardiac Tissues. American Heart Association Scientific Sessions; November 13-15 2021, Boston, MA

Community Outreach and Volunteer Service

1. ***Organizer: Swajan of Great Lakes: Kid's Chapter (Oct 2009-March 2014)***

   Organize volunteer activities for kids to make blankets for cancer patients in the U of M hospital, make greeting cards for the senior center, bake cookies for the Ronald McDonald house patients' families.

2. ***Special Science session: Ann Arbor Public School (Jan 2012-Feb 2014)***

   Teaching kids about neuroscience.

3. ***Emphasis on nutrition: "The right choice" TTUHSC administration and employees (Sept 5th and Oct 31st 2014)***

   Provided personal experience and interests on nutrition and cooking related to nutrition and how to increase the health benefit from food that we eat regularly.

4. ***Career Emphasis counseling: Latinitas- Aim High Workshop (Nov 2014-Present)***

   The Aim High Conference was geared toward encouraging pre-teen and teen girls ages 9-17 to aim high and dream big by setting high goals for themselves, achieving in academic realms and exploring professional opportunities for their future success. As presenters, we place a strong emphasis on careers where women are underrepresented such as science, technology, engineering and math.

5. ***Workshop Presenter and Counselor: Adventure for Your Future Program (Jan 31, 2015)***

   This interactive conference was to introduce and build the interest of El Paso area sixth and seventh grade students to the field of health sciences careers. During the conference, students and parents had the opportunity to attend workshops presented by local health science professionals and

educators on a wide range of topics including heart health, nutrition, medical terminology, medical transport, the brain, and many more.

6. ***Demonstrator and guide: Nutrition & Diabetes Exploration Texas Tech-EPISD (July22-23 2015)***

   A number of high school teachers registered for this workshop. Dr. Chattopadhyay demonstrated the relation between nutrition and diabetes, while Dr. Janssen demonstrated the pathophysiology of diabetes in this workshop. The curriculum also offered some hands-on experience and small experiments that could be implemented in the high school classrooms. The teachers present in this workshop showed a great interest in learning about diabetes and nutrition.

7. ***Career Emphasis Guidance Talk: Double T collegiate students (Oct 2015-Present)***

   The Double T collegiate students are geared towards selecting medicine or related field as a career by setting high goals for themselves, achieving in academic realms and exploring professional opportunities for their future success. I presented my research work in this workshop.

8. ***Science Fair Judge: El Paso Country Day School (Dec 16, 2015)***

   Provided intellectual comments and judged scientific posters for 7^{th} and 8^{th} grade students.

9. ***Rotary Club of West El Paso***; El Paso, TX. August 15^{th} 2016. Monthly meeting.

   Diabetic complications: dealing with it every day: Provided awareness on diabetes and complications. Discussed on exercise, nutrition and lifestyle changes. Demonstrated on how to get health benefit from exercising regularly and eating nutritious food.

10. ***TTUHSC El Paso Summer Camp, El Paso, TX. (June - July 2017, June - July 2018, June-July 2019, July 2020, June-July 2021)***

    Presented Bio-wellness lecture in the first half with hands-on experiments. Second half of the lecture is on Diabetes and complications along with hands-on experiments. The curriculum consists of interactive presentations with health career professionals, field trips, a mock crime scene investigation, financial aid information, and a reality store exercise (simulation of life expenses).

Texas Tech University Health Sciences Center

Pre-Clerkship Phase Review Report AY 2020/21- Review Team II

Medical Skills I&III (MSK I&III – Fall AY2020/21)

Paul L. Foster School of Medicine

2-4-2022

- **Please provide a narrative that outlines the strengths of the course**.
  Strengths of the course would be (1) high levels of approval of the approach to teaching by the majority of students for all of the fall semester courses; (2) appreciation of the quality/teaching of the clinical faculty; (3) ability to receive prompt feedback from the SP's as well as from the faculty when the students perform a medical skill or write a progress note.

- **Please provide your recommendations on areas of improvement.**
  There are several complaints about scheduling of the sessions wherein students seem to want to have both sessions contiguous and they would like the sessions to end on time. They also complain about being notified of responsibilities relatively late before they are due.
  One recommendation would be an analysis of events to determine if there are several groups of inactive students and if so, can the scheduling be adjusted to limit this event? A small group of students apparently ended some of the sessions late and then debriefed and were unhappy about that occurrence; the evaluations do not allow analysis to determine if that was a frequent occurrence or if it only happened once and was reported several times.
  During COVID 19, there was a hybrid session (split between in person and on site) where in person and virtual student groups were split with 30 min allowed for them to commute in to the school and this accounts for the time differential.

- Please answer the following questions that relate to LCME standards and elements based on your review of the course (please see attached an outline of each LCME standard /element for your reference):

Element 6.1 Program and Learning Objectives

Are learning objectives provided for all activities? Yes_x__ No___

Are learning objectives appropriate for each learning activity? Yes__x_ No___

Each medical skills encounter is provided with objectives that are appropriate for each session and they are SMART in presentation.

Element 6.3 Self-Directed and Life-Long Learning

Does the course include scheduled time for self-directed learning? Yes__x_ No___

Is the amount of scheduled time appropriate? Yes_x__ No___

How is self-directed work monitored?

Although not clearly shown in Elentra, students who are not actively engaged in interactions with the SP or medical skills faculty would otherwise be 'free' to engate in self-directed learning. This amount of time appears to be around 3-4 hours each Thursday when medical skills is in session. Each medical skills session is 'monitored' by students completing a prequiz to ensure that they have done the necessary prework before their SP encounters; this quiz is a form of monitoring the performance of self-directed learning.

One suggestion might be to include work with the library staff so that students could be encouraged to identify significant journals in each of the fields they are studying (green journal in medicine or OB, etc). CEREGO sets of quizzes are provided for the CSS unit (MSKIII), another element of self-directed learning.

There is a fair amount of comment relating to the desire for additional evaluation of their SOAP notes, however, most of the evaluations are not specific about what they feel is needed and I'm not sure that additional time with a faculty member would suffice. There is review of SOAP notes by one faculty with a group of 3-4 students, called SPERSSA; the students who wrote these comments had not yet done the review.

Recommend: Consider extending SPERSSA so that after faculty is done, students could review all of the notes and give peer feedback so they could see other approaches to the notes. Consider allowing students to see the faculty note for their review. Add the character limits that they will see in MS3 year so that they can limit the size of their notes in the OSCE's; identify the criteria for notes (no bullet points because it takes up a whole line of text).

Do students receive feedback on their self-directed work? Yes__x_ No___

If YES, then please complete the question below:

How do they receive feedback?

Their feedback would be in the form of quiz grades. The quizzes are discussed with the students during the medical skills session and the faculty assesses their performance on the medical skills of the week.

CEREGO quizzes are asynchronous feedback for MSKIII (CSS unit) and there is immediate feedback for each question. Other units would also benefit from CEREGO quizzes, such as IMN.

Element 6.7 Academic Environments

Does the course include instruction and/or experiences to prepare students to function in interprofessional health care teams? Yes_x__ No___

There are 3-4 interprofessional healthcare educational sessions during the MSI year and these involve interaction with students from GGHSON, dental school, UTEP school of pharmacy and physical therapy and they are very well received by the students.

LCME Standard 7: Curricular Content

Element 7.1 Inclusion of Biomedical, Behavioral, Social Sciences

Does the course include Biomedical, Behavioral, and Social Sciences content? Yes__x_ No___

Were any content gaps identified? Yes_x__ No___

If YES, please explain. What recommendations would you have to address these gaps?

The behavioral and social sciences content would most likely be found in the early weeks of IHD unit where failure to thrive and conditions that are often found in children are presented; these are addressed in the scheme presentations and worked cases. The medical skills session has objectives relating to children with poor growth, dehydration, etc. and there are videos and descriptions of how to manage the examination in these settings.

I would recommend that there be consideration of geriatric patients who may present with similar issues and this may be one way to have an SP encounter (children are not SP's).

OSCE's during third year include child abuse and elderly abuse and these would be good to include; especially in parent and child encounters in MHD unit.

Element 7.2 Organ Systems/Life Cycle/Prevention/Symptoms/Signs/Differential Diagnosis, Treatment Planning

Does the course include Organ Systems/Life Cycle/Prevention/Symptoms/Signs/Differential Diagnosis, Treatment Planning? Yes __x_No___

Were any content gaps identified? Yes_x__ No___

If YES, please explain. What recommendations would you have to address these gaps?

Differential diagnosis aspect is generally limited to whatever the topic of the week might be; therefore, harder to develop a ddx in the third year because it limits the options and it might be good to develop cases with a differential that could be identified and then limited. Guidelines for prevention were not well presented during MSK because 'normal' people are not presented during an SP encounter, for example Pap smear criteria; geriatric patients and fall prevention and changing home environment to make it safer.

Element 7.3 Scientific Method/Clinical/Translational Research

Does the course include Scientific Method/Clinical/Translational Research? Yes___ No__x_

Were any content gaps identified? Yes ___No__x_

If YES, please explain. What recommendations would you have to address these gaps?

No recommendation as this topic is addressed in SCI (biostats and epidemiology) and SARP projects.

Element 7.4 Critical Judgment/Problem-Solving Skills

Does the course include Critical Judgment/Problem-Solving Skills? Yes __x_No___

Were any content gaps identified? Yes _x__No___

If YES, please explain. What recommendations would you have to address these gaps?

Consider adding cases where there is a differential diagnosis, maybe at the end of year OSCE, such as a cumulative inclusion of different units like GI and heme and MSK, etc. Maybe add problems that cover multiple units so that the differential diagnosis is larger.

Element 7.5 Societal Problems

Does the course include Societal Problems? Yes __x_No___

Were any content gaps identified? Yes__x_ No__

If YES, please explain. What recommendations would you have to address these gaps?

Considerations of whether or not a patient can afford the ordered tests or medications should be included in the plan for treatment.

Element 7.6 Cultural Competence and Health Care Disparities

Does the course include Cultural Competence and Health Care Disparities? Yes__x_No___

Were any content gaps identified? Yes____ No__x__

If YES, please explain. What recommendations would you have to address these gaps?

No opportunity to learn how to use interpreters or to practice an encounter in Spanish or some other language; this would be valuable in third year.

Element 7.7 Medical Ethics

Does the course include Medical Ethics? Yes _x__No___

Were any content gaps identified? Yes_x__ No___

If YES, please explain. What recommendations would you have to address these gaps?

Maybe include a session where the patient refuses intended therapy so students could learn how to adjust plans or refer elsewhere; how to withdraw care, comfort measures, and end of life care.

Element 7.8 Communication Skills

Does the course include Communication Skills? Yes _x__No___

Were any content gaps identified? Yes___ No_x__

If YES, please explain. What recommendations would you have to address these gaps?

Element 8.2 Use of Medical Educational Program Objectives

Do the learning objectives map accurately to the Educational Program Goals and Objectives?

Yes __x_No___

Element 9.4 Assessment System

Are the criteria for Passing the course clearly defined? Yes_x__ No___

If NO, please provide recommendations:

Is there a clearly defined process for remediation of students in the course? Yes_x__ No___

If NO, please provide recommendations:

Element 9.5 Narrative Assessment

Is a narrative description of performance included in the assessment of each student in the course? Yes__x_ No___

If No, please provide recommendations:

Element 9.7 Formative Assessment and Feedback

Is formative assessment provided to each student? Yes_x__ No___

Recommend consistent provision to each student for each skill that is assessed so that students can be told what they missed or didn't include. Same for the exam since that is the last time a student would demonstrate it for a faculty member.

- **Final remarks and recommendations**

This course receives high marks each year. Marks are slightly down from prior years due to much of the material being presented online and faculty are to be commended for providing an excellent learning opportunity during these difficult times.

Recommend checking to see why there were a large number of complaints of unprofessional behavior by TECHS staff and why there was one discriminatory complaint; this staff person is no longer with Texas Tech. Try to ensure that dress standards are consistently applied.

Reviewing the materials, it is difficult to determine if the extremes of life are represented, such as infants (no idea how this could be accomplished) and geriatrics. Medical skills IV presents these extremes of life.

Please use the link below to access the dashboard.

Elentra: AY20-21:

https://ttuhsc.analytics.healtheintent.com/reports/100049111?project_id=100009365

Glossary

LCME Standard 6: Competencies, Curricular Objectives, and Curricular Design

Element 6.1 Program and Learning Objectives

The faculty of a medical school define its medical education program ***objectives in outcome-based terms that allow the assessment*** *of medical students' progress in developing the competencies that the profession and the public expect of a physician. The medical school makes these medical education* ***program objectives known to all medical students and faculty.***

Element 6.3 Self-Directed and Life-Long Learning

The faculty of a medical school ensure that the medical curriculum includes self-directed learning experiences and unscheduled time to allow medical students to develop the skills of lifelong learning. Self-directed learning involves medical students' self-assessment of learning needs; ***independent identification, analysis, and synthesis of relevant information; appraisal of the credibility of information sources; and feedback on these skills.***

Element 6.7 Academic Environments

The faculty of a medical school ensure that medical students have opportunities to learn in academic environments that permit interaction with students enrolled ***in other health professions****, graduate and professional degree programs.*

LCME Standard 7: Curricular Content

Element 7.1 Biomedical, Behavioral, Social Sciences

The faculty of a medical school ensure that the medical curriculum includes content from the biomedical, behavioral, and socioeconomic sciences to support medical students' mastery of ***contemporary medical science knowledge and concepts and the methods fundamental to applying them to the health of individuals and populations.***

Element 7.2 Organ Systems/Life Cycle/Prevention/Symptoms/Signs/Differential Diagnosis, Treatment Planning

The faculty of a medical school ensure that the medical curriculum includes content and clinical experiences related to ***each organ system; each phase of the human life cycle; continuity of care; and preventive, acute, chronic, rehabilitative, and end-of-life care.***

Element 7.3 Scientific Method/Clinical/Translational Research

The faculty of a medical school ensure that the medical curriculum includes instruction in the scientific method and in the basic scientific and ethical principles of clinical and translational research, including the ways in which such research is conducted, evaluated, explained to patients, and applied to patient care.

Element 7.4 Critical Judgment/Problem-Solving Skills

The faculty of a medical school ensure that the medical curriculum incorporates the fundamental principles of medicine, provides opportunities for medical students to ***acquire skills of critical***

judgment based on evidence and experience, *and develops medical students' ability to use those principles and* ***skills effectively in solving problems of health and disease****.*

Element 7.5 Societal Problems

The faculty of a medical school ensure that the medical curriculum includes instruction in the ***diagnosis, prevention, appropriate reporting, and treatment of the medical consequences*** *of common societal problems.*

Element 7.6 Cultural Competence and Health Care Disparities

The faculty of a medical school ensure that the medical curriculum provides opportunities for medical students to learn to recognize and appropriately address biases in themselves, in others, and in the health care delivery process. The medical curriculum includes content regarding the following:

- *The diverse manner in which people perceive health and illness and respond to various symptoms, diseases, and treatments*
- *The basic principles of culturally competent health care*
- *Recognition of the impact of disparities in health care on all populations and potential methods to eliminate health care disparities*
- *The knowledge, skills, and core professional attributes needed to provide effective care in a multidimensional and diverse society*

Element 7.7 Medical Ethics

The faculty of a medical school ensure that the medical curriculum includes instruction for medical students in medical ethics and human values both prior to and during their participation in patient care activities and require medical students to behave ethically in caring for patients and in relating to patients' families and others involved in patient care.

Element 7.8 Communication Skills

The faculty of a medical school ensure that the medical curriculum includes ***specific instruction*** *in communication skills as they relate to communication with patients and their families, colleagues, and other health professionals.*

Standard 8: Curricular Management, Evaluation, and Enhancement

Element 8.2 Use of Medical Educational Program Objectives

The faculty of a medical school, through the faculty committee responsible for the medical curriculum, ensure that the medical curriculum uses formally adopted medical education program objectives to guide the selection of curriculum content, and to review and revise the curriculum. The faculty leadership responsible for each required course and clerkship link the learning objectives of that course or clerkship to the medical education program objectives.

Standard 9: Teaching, Supervision, Assessment, and Student and Patient Safety

Element 9.4 Assessment System

A medical school ensures that, throughout its medical education program, there is a centralized system in place that employs a variety of measures (including direct observation) for the assessment of student achievement, including students' acquisition of the knowledge, core clinical skills (e.g., medical history-taking, physical examination), behaviors, and attitudes specified in medical education program objectives, and that ensures that all medical students achieve the same medical education program objectives.

Element 9.5 Narrative Assessment

A medical school ensures that a narrative description of a medical student's performance, including non-cognitive achievement, is included as a component of the assessment in each required course and clerkship of the medical education program whenever teacher-student interaction permits this form of assessment.

Element 9.7 Formative Assessment and Feedback

The medical school's curricular governance committee ensures that each medical student is assessed and provided with formal formative feedback early enough during each required course or clerkship to allow sufficient time for remediation. Formal feedback occurs at least at the midpoint of the course or clerkship. A course or clerkship less than four weeks in length provides alternate means by which medical students can measure their progress in learning.

Element 7.2 Organ Systems/Life Cycle/Prevention/Symptoms/Signs/Differential Diagnosis, Treatment Planning

- Medical Skills continues to adequately address Organ Systems, as encounters are based within chief complaints within organ systems. Several content gaps identified as below
- Addresses Life Cycle; however does not adequately address life extremes such as geriatrics, pediatrics population, and newborn
  - Only 1 Encounter in MSK-III-CSS with geriatric care, 1 Encounter in MHD-with pediatric patient over pre-clerkship curriculum
  - Recommendation: Add more pediatrics cases, Geriatric care management.
- **Differential Diagnoses:** Differentials are generally limited to the chief complaint of the week, within the Organ System. Limited multi-system interaction to develop differentials between systems.
  - Recommendation: Develop cases with multiple differentials between systems. Suggest adding End-of-Year or End-of-Semester OSCE with comprehensive systems
  - Hospital H&P serves as good practice. Consider adding 1 or 2 more cases like the Hospital H&P

7.2 Continued

- **Prevention** guidelines were not well presented in Medical Skills such as guidelines for colonoscopy, pap smears, mammogram, fall prevention, screening for hypertension, DM2, etc.
  - Consider including prevention guidelines in several routine SP encounters in order to reiterate guidelines and better knowledge of prevention

Element 7.3 Scientific Method/Clinical/Translational Research

- Medical Skills does not address research as this topic is addressed in the “Society, Community and the Individual” course, and Scholarly Activity Research Project.

Element 7.4 Critical Judgment/Problem-Solving Skills

- Included in course; Content gaps identified
- Problem solving skills limited to encounters within the organ system;
  - However, consider adding encounters with expanded differentials that cover multiple organ systems, increased life cycle spectrum, more preventative care strategies, multi-problem management.
- Recommendation: Suggest adding End-of-Year or End-of-Semester OSCE with comprehensive system-based learning.
  - Hospital H&P serves as good practice. Consider adding 1 or 2 more cases like the Hospital H&P
  - Consider adding fall and spring semester comprehensive cases or OSCE's to encourage retention, and broad differential diagnoses.

Year 3 Clerkship Block and Comparability Summary Report

Prepared by the Clerkship Central Administration
Maureen Francis, MD, MS-HPEd, FACP
Assistant Dean for Medical Education
Year 3 & 4 and CEPC Report
Block 1, AY 2021 – 2022

Related LCME Elements

- **6.2 Required Clinical Experiences**

The faculty of a medical school define the types of patients and clinical conditions that medical students are required to encounter, the skills to be performed by medical students, the appropriate clinical settings for these experiences, and the expected levels of medical student responsibility.

- **8.4 Evaluation of Educational Program Outcomes**

A medical school collects and uses a variety of outcome data, including national norms of accomplishment, to demonstrate the extent to which medical students are achieving medical education program objectives and to enhance the quality of the medical education program as a whole. These data are collected during program enrollment and after program completion.

- **8.5 Medical Student Feedback**

In evaluating medical education program quality, a medical school has formal processes in place to collect and consider medical student evaluations of their courses, clerkships, and teachers, and other relevant information.

- **8.6 Monitoring of Completion of Required Clinical Experiences**

A medical school has in place a system with central oversight that monitors and ensures completion by all medical students of required clinical experiences in the medical education program and remedies any identified gaps.

- **8.7 Comparability of Education/Assessment**

A medical school ensures that the medical curriculum includes comparable educational experiences and equivalent methods of assessment across all locations within a given course and clerkship to ensure that all medical students achieve the same medical education program objectives.

- **8.8 Monitoring Student Time**

The medical school faculty committee responsible for the medical curriculum and the program's administration and leadership ensure the development and implementation of effective policies and procedures regarding the amount of time medical students spend in required activities, including the total number of hours medical students are required to spend in clinical and educational activities during clerkships.

- **9.5 Narrative Assessment**

A medical school ensures that a narrative description of a medical student's performance, including non-cognitive achievement, is included as a component of the assessment in each required course and clerkship of the medical education program whenever teacher-student interaction permits this form of assessment.

- **9.6 Setting Standards of Achievement**

A medical school ensures that faculty members with appropriate knowledge and expertise set standards of achievement in each required learning experience in the medical education program.

- **9.7 Formative Assessment and Feedback**

The medical school's curricular governance committee ensures that each medical student is assessed and provided with formal formative feedback early enough during each required course or clerkship to allow sufficient time for remediation. Formal feedback occurs at least at the midpoint of the course or clerkship. A course or clerkship less than four weeks in length provides alternate means by which medical students can measure their progress in learning.

- **9.8 Fair and Timely Summative Assessment**

A medical school has in place a system of fair and timely summative assessment of medical student achievement in each course and clerkship of the medical education program. Final grades are available within six weeks of the end of a course or clerkship.

Structure and Process

- Data to be collected
  - Op log entries
  - Top 10 diagnoses
  - Duty hours
  - Mid-clerkship completion
  - NBME scores
  - Clerkship grade
  - Student satisfaction data
  - Narrative feedback review
- Review
  - End of each block
  - End of academic year in aggregate

Op Log Data

	IM	Surgery	Psychiatry	Pediatrics	OB/GYN	FM
Required # encounters	30	30	30	29	41	20 – 2 each
Average # logged	45 -55	73	51	71	61	69
Level of responsibility	A/M	A/M	A/M	A/M	A/M	A/M
Met requirements	100%	100%	100%	100%	100%	100%
Alternate activities	None	None	One DX	Multiple DX	Multiple Dx	Multiple DX
# sites	3	1 for Gen Surg	Same	Same	Same	Same

Psychiatry Alternate Assignments

- Alternate assignment used for 1 diagnosis
  - Conduct Disorder: 9 students; Given 2 cases to read and submit a written discussion

Pediatric Alternate Activities

- Colic, infantile; 25 students – Lecture
- Jaundice; 10 students – Aquifer Peds Cases 8 & 9
- Diabetes mellitus; 14 students – Aquifer Peds Case 16
- Failure to Thrive; 12 students – Aquifer Peds Cases 9, 18, & 26
- Obesity; 15 students – Aquifer Peds Case 4
- Otitis; 8 students – Aquifer Peds Case 14
- Respiratory distress; 12 students – Aquifer Peds Case 13 or 7
- Well baby exam, 2/6 months; 9 students – Aquifer Peds Case 2
- Anemia; 10 students – Aquifer Peds cases 3, 5, & 30
- Asthma; 4 students – Aquifer Peds case 13
- Diarrhea; 3 students – Aquifer Peds case 15
- Sore Throat; 2 students – SOAP for encounter and Ddx
- Well baby exam, 4 mos; 4 students – SOAP for encounter, video
- Well baby exam, 12 mos; 3 students – SOAP for encounter, video
- Well baby X 3; 3 students – Aquifer Peds Case 1
- Child Abuse/Neglect; 7 students – Aquifer Peds Case 25
- Abdominal Pain; 2 students – Aquifer Peds cases 16, 22, & 27
- Developmental delay or regression; 2 students – Aquifer Peds case 28
- Well Child, School Age; 1 student – Aquifer Peds case 4
- Well Child, Adolescent; 1 student – Aquifer Peds cases 5 & 6

OB/GYN Alternate Assignments

- Block 1
  - Wet Mount – ABGO Case 32, 3 students
  - Pelvic Floor Surgery – Paper, 3 students
  - Preterm Labor – ABGO Case 24, 1 student
  - Hysteroscopy – Paper, 6 students
  - Bleeding in Pregnancy – ABGO Case 23, 4 students
  - D&C – Paper, 8 students
  - Uterine Surgery – paper, 4 students
  - Vaginal Prolapse – paper, 1 student
  - PCOS – ABGO Case 55, 1 student
  - L&D Cesarean – ABGO Cases 41 & 32, 1 student
  - Diabetes – Paper, 1 student

FM Alternate Assignments

- Block 1
  - Allergic Rhinitis – Vanderbilt Case (Food Allergies, Hypersensitivity), 1 student
  - Pharyngitis – Aquifer Case FM23, 4 students
  - URI – Aquifer Case FM 13, 4 students
  - Asthma – Online Med Ed Pulmonolgy 2, Case Files Online Wheezing and Asthma, Vanderbilt Case (Asthma Wheezing), 1 student
  - COPD – Case Files Online Dyspnea, Online Med Ed Pulmonary 6, Vanderbilt Case (COPD), 2 students
  - Back Pain – Vanderbilt Case (Low back pain, neck pain, firbromyalgia), 1 student
  - Chest Pain – Online Med Ed Cardiology 1 – 4, Surgery 11, 3 students
  - Depression – Access Medical Case 13, 1 student
  - Painful Urination – Access Medical, Cases 2,14, 16, 17, 20, 38, and 45, 1 student

- Patient encounters
  - No significant site specific differences in patient encounters
- Mid-clerkship completion
  - 100% compliance across all clerkships

Duty Hour Review

Clerkship	Duty Hour range by site	Average Duty Hours	
IM Inpatient	42 - 44	43	
Psychiatry - inpatient	NA	33	
FM	*	*	100% ambulatory
Medicine and the Mind Ambulatory	NA	25	43% Psych 57% FM
Surgery	NA	50	
Pediatrics – Wards & Nursery	NA	31	
OB/GYN L&D and Gyn Surg	NA	32	
OPS Ambulatory	NA	25	44% Peds 34% OB

Internal Medicine Clerkship

- 6 weeks on inpatient service
  - All students spend 3 weeks at UMC
  - Additional 3 weeks can be at
    - UMC
    - THOP - Transmountain
    - WBAMC
    - San Angelo
- 2 weeks on a “selective”

- Comparability report focused on inpatient service by site and across 6 weeks

Comparison IM – AY 21/22
NBME Equated Percent Correct Score

		UMC	WBAMC	THOP-TM	San Angelo	Overall
NBME Equated Percent Correct Score	AY 21/22 Block 1	74	N/A	75	73	74 [74.9 (9.3)]*
	AY 20/21	74	77	76	76	75 [74.9 (9.3)]
	AY 19/20	73	71	75	76	73 [75.3 (9.0)]

* [Comparison group (SD)}

AY 2021-2022 IM Student Satisfaction Data Block 1 (scale 1 to 6)

	UMC (N=41)	San Angelo (N=11)	THOP –TM (N=19)	WBAMC (N=4)
Duty hour policies were adhered to strictly in this clerkship	4.85	5.82	4.79	5.00
I was empowered to actively participate in patient care	5.46	5.82	5.00	5.50
I was observed performing the physical/mental status exam	5.51	5.18	5.11	5.50
I was observed taking a patient history	5.46	5.18	5.16	5.50
The number of patient care experiences were sufficient to support my learning	5.39	5.82	4.95	5.50
The variety of patient care experiences were sufficient to support my learning	5.39	5.82	4.89	5.50

Surgery Clerkship

- 3 weeks of General Surgery
  - WBAMC (not active in Fall semester)
  - UMC
- 2 week selective
- Ambulatory - Outpatient Breast Clinic

- Comparability focused on 3 week general surgery rotation

Comparison Surgery – AY 2021/20 to AY 2019/20 NBME

		UMC	WBAMC	Overall
NBME Equated Percent Correct Score	**AY 21/22 Block 1**	68	N/A	68 [74.4 (8.6)]
	AY 20/21	73	77	74 [74.4 (8.6)]
	AY 19/20	73	76	74 [74.9 (8.4)]

AY 2021-2022 Surgery Student Satisfaction Data Block 1 (scale 1 to 6)

	UMC (N=44)	WBAMC
Duty hour policies were adhered to strictly in this clerkship	4.76	NA
I was empowered to actively participate in patient care	4.76	NA
I was observed performing the physical/mental status exam	4.52	NA
I was observed taking a patient history	4.52	NA
The number of patient care experiences were sufficient to support my learning	4.98	NA
The variety of patient care experiences were sufficient to support my learning	4.81	NA

Psychiatry Clerkship

- 3 weeks psychiatry
  - EPPC
  - CL Service
- Outpatient psychiatry during ambulatory blocks

Psychiatry – AY 2021/2022 Equated Percent Correct Score NBME

Average NBME Equated Percent Correct Score	
AY 2021/2022 Block 1	84 [84.5 (6.3)]*
AY 2020/2021	85 [84.5 (6.3)]
AY 2019/2020	82 [84.1 (6.2)]

*[Comparison group (SD)]

AY 2021-2022 Psychiatry Student Satisfaction Data Block 1 (scale 1 to 6)

	EPPC (N=43)
Duty hour policies were adhered to strictly in this clerkship	5.40
I was empowered to actively participate in patient care	4.88
I was observed performing the physical/mental status exam	5.14
I was observed taking a patient history	5.10
The number of patient care experiences were sufficient to support my learning	5.09
The variety of patient care experiences were sufficient to support my learning	4.93

Pediatric Clerkship

- All students rotate at same site for inpatient but ambulatory now includes TM and Community Preceptors

- General Calendar
  - 1 week Wards
  - Ambulatory weeks includes specialty clinics
  - 1 week Nursery
  - 1 week ILP (Individual learning plan)

Pediatrics – AY 2021/2022 Equated Percent Correct Score NBME

Average NBME Equated Percent Correct Score	
AY 21/22 Block 1	74 [78.5 (8.3)]*
AY 2020/2021	78 [78.5 (8.3)]
AY 2019/2020	76 [78.5 (8.0)]

*[comparison group (SD)]

AY 2021-2022 Pediatric Student Satisfaction Data - Block 1 (scale 1 to 6)

	EPCH	TTUHSC Alberta	TTUHSC TM	Community Preceptors
Duty hour policies were adhered to strictly in this clerkship	5.46	5.49	5.39	5.40
I was empowered to actively participate in patient care	5.46	5.35	5.28	5.36
I was observed performing the physical/mental status exam	5.28	5.37	4.78	5.12
I was observed taking a patient history	5.31	5.37	4.78	4.92
The number of patient care experiences were sufficient to support my learning	5.38	4.86	4.28	5.36
The variety of patient care experiences were sufficient to support my learning	5.36	4.60	4.50	5.24

OG/GYN Clerkship

- All students rotate in outpt and inpt settings
  - Students beginning to rotate at TM Faculty clinics

- General Schedule
  - 9 weeks ambulatory (shared with Peds)
    - MFM is part of ambulatory
  - 4 weeks inpatient
    - L&D
    - GYN Surgery

OB/GYN – AY 2021/2022 Equated Percent Correct Score NBME

Average NBME Equated Percent Correct Score	
AY 21/22 Block 1	74 [78.2 (7.8)]*
AY 2020/21	78 [78.2 (7.8)]
AY 2019/20	77 [78.6 (7.7)]

* [comparison score (SD)]

AY 2021-2022 OB/GYN Student Satisfaction Data - Block 1 (scale 1 to 6)

	EPCH	TTUHSC Alberta	TTUHSC TM	UMC
Duty hour policies were adhered to strictly in this clerkship	5.20	5.26	5.26	5.13
I was empowered to actively participate in patient care	5.13	5.30	5.22	5.11
I was observed performing the physical/mental status exam	5.25	5.12	4.86	5.11
I was observed taking a patient history	5.00	4.79	4.55	5.03
The number of patient care experiences were sufficient to support my learning	5.06	5.19	4.87	5.05
The variety of patient care experiences were sufficient to support my learning	5.00	5.00	4.74	5.11

Family Medicine Clerkship

- All students rotate at same sites

- General Schedule
  - 9 weeks ambulatory shared with Psychiatry in IM/FM/Psych Block
  - Longitudinal experience in OPS Block
    - Starting with 3 sessions

FM Equated Percent Correct Score NBME

Average NBME Equated Percent Correct Score [76.8 (7.3)]	
AY 21/22 Block 1	73 [75.8 (7.5)]*
AY 2020/2021	75 [75.8 (7.5)]
AY 2019/2020	75 [76.8 (7.3)]

*[comparison group (SD)]

AY 2021-2022 Family Medicine Student Satisfaction Data - Block 1 (scale 1 to 6)

	TTUHSC Kenworthy (N=44)	TTUHSC TM (N=20)	Alpine (N=1)	Sanchez (N=8)	San Angelo (N=8)	Community Preceptors (N=28)
Duty hour policies were adhered to strictly in this clerkship	5.45	5.45	6.0	5.88	5.75	5.36
I was empowered to actively participate in patient care	5.32	5.25	6.0	5.88	5.50	5.14
I was observed performing the physical/mental status exam	5.09	5.25	6.0	5.88	5.43	4.58
I was observed taking a patient history	5.05	5.25	6.0	5.88	5.43	4.62
The number of patient care experiences were sufficient to support my learning	4.80	5.10	6.0	5.88	5.38	5.11
The variety of patient care experiences were sufficient to support my learning	4.89	5.25	6.0	5.63	5.63	5.07

Final Grade Completion in TTAS
(# of days to submit final assessment after end of Block)

Clerkship	Block 1 EOB: 10/29/21	AY 2020/21	AY 2019/20
Family Medicine	19 - 21	3 - 28	7 – 28
Surgery	6 - 13	-4 – 28	7 - 21
Internal Medicine	21 - 26	4 - 28	6 – 20
Psychiatry	20 - 25	10 – 28	7 - 28
OB/GYN	25 - 27	26 – 28	13 – 38**
Pediatrics	13 - 26	22 – 28	-1 - 27

Review of Narrative comments on Final assessments Block 3 - AY 2018-2019

- All third year clerkships provide adequate narrative comments in each of the competencies and for the MSPE
- Dr Ellis provided a presentation to the Year 3 &4 Committee on CQI for MSPE comments

Conclusions

- No major comparability issues
- Clerkship requirements
  - All met by patient encounters or alternate assignments
  - Review patient encounter requirements as part of syllabus preparation for next academic year
- Areas that need attention and tracking
  - Continue to monitor student satisfaction given the implementation of changes in the curriculum in AY 2021/2022
  - Monitor outcomes, including NBME scores and final grades.
- Mid-clerkship completion for Year 3 Clerkships
  - excellent, all completed in timely manner
- Final grade completion – required courses MS3 year
  - 100% done in timely manner for the past 2 years based on PLFSOM policy (28 days).
  - 100% completed within 42 days (LCME standard). Last time > 42 days was in AY 2015-2016.
- Narrative comments
  - Overall meet expectations in all third year clerkships
    - Clerkships continue to work on framing expectations for honors, pass and needs improvement in each competency in their department with residents and faculty
    - Dr Ellis presented to the Year 3 & 4 Committee on improvements in MSPE comments and reducing implicit bias in comments

Suggestions/Questions?

Year 3 Clerkship	Name	Title	FTE
Internal Medicine	Suvarna Guvvala	Clerkship Director	0.5
	Charishma Boppana	Assistant Clerkship Director	0.1
Psychiatry	Patricia Ortiz	Clerkship Director	0.4
	Christopher Castaneda	Assistant Clerkship Director	0.2
Surgery	John Lawrence	Clerkship Director	0.5
	.Grace Ng	Assistant Clerkship Director	0.1
Family Medicine	Colby Genrich	Clerkship Director	0.4
	Chenai Nettey	Assistant Clerkship Director	0.2
Pediatrics	Lynn Hernan (Fuhrman)	Clerkship Director	0.5
	Joanna Wojciechowska (resigned and is pending replacement)	Assistant Clerkship Director	0.1
OB/GYN	Patricia Rojas Mendez	Clerkship Director	0.5
	Stephanie Mishaw (Replacing Naima Khamsi)	Assistant Clerkship Director	0.1

Year 4 Clerkship	Name	FTE
Surgery Sub I	Alonso Andrade	0.2
IM Sub I	Fatma Dihown	0.2
FM Sub I	Gerardo Vazquez	0.2
Pediatrics Sub I	Ittay Moreno	0.2
OB/GYN Sub I	Mary Ann Son	0.2
MICU	Harold Hughes	0.1
CVICU	Debabrata Mukherjee	0.1
PICU	Avi Kopstick	0.1
NICU	Ajay Singh	0.1
SICU	Susan McLean	0.1
Neuro ICU	Anantha Vellipuram	0.1
Emergency Medicine	Michael Parsa Kelley Stanko – Assistant Clerkship Director	0.5
Neurology	Sushma Yerram	0.5
Bootcamp Co-director	Neha Sehgal	0.25
Bootcamp Co-director	Charishma Boppana	0.25

Stephanie M. Mishaw, M.D., M.P.H

Texas Tech University Health Sciences Center El Paso
Assistant Professor
Obstetrics and Gynecology
stephanie.mishaw@ttuhsc.edu
713-449-0486

Faculty Appointments

08/01/2020- Present Assistant Professor

Texas Tech University Health Sciences Center Paul L. Foster School of Medicine, Department of Obstetrics and Gynecology.

Education

07/2019-06/2020 **Academic Chief Resident in Obstetrics and Gynecology**
Texas Tech University Health Science Center at El Paso
El Paso, Tx

07/2016-06/2020 **Resident Physician in Obstetrics and Gynecology**
Texas Tech University Health Science Center at El Paso
El Paso, Tx

07/2012- 05/2016 **Doctor of Medicine**
University of Texas Health School of Medicine at San Antonio
San Antonio, TX

01/2011-06/2012 **Master of Public Health: Health Services Organization Major**
University of Texas Health Science Center at Houston School of Public Health
Houston, TX

2006-2010 **Bachelor of Arts in Biochemistry & Molecular Biology and International Relations**
Agnes Scott College
Decatur, GA

Medical License/Board Certification

November 2021 **American Board of Obstetrics and Gynecology**
Active Member

May 2020 **Texas Medical License**
S6898

Posters/Published Works

Mishaw S, Wong M, Hohmann H, Reddy S, Lyn Stern H. A Spoonful of Sugar Helps the Medicine Goes Down: Strategies to Address Student Mistreatment in OB/GYN. *Discussion Den presented at the 2020 CREOG & APGO Annual Meeting Orlando, Florida.* February 2020.

Mishaw S, Galic, V, Montoya, I, Maldonado Pedro A. Prevalence and Severity of Symptomatic Pelvic Floor Disorders in Latina Survivors of Gynecologic Cancer. *Poster presented at AUGS/IUGA Joint Scientific Meeting Nashville, Tennessee.* September 2019.

Mishaw, S, Galic V. Case 81 BRCA Mutation. McGraw-Hill Case Files Collection, 2017.

Mishaw S, Healy J. Cost Analysis of Palliative Care Consults in the Geriatric vs. Non-Geriatric Population *Poster presented at: Passport 2014: Basic and Clinical Research, Quality Improvement & Patient Safety Day San Antonio, Texas* April 2014

Mishaw S, Healy J. Cost Analysis of Palliative Care Consults in the Geriatric vs. Non-Geriatric *Population Poster presented at: The American Geriatrics Society 2014 Annual Scientific Meeting. Orlando, Florida.* May 2014

Current Research

Mishaw S, Galic, V, Montoya, I, Maldonado Pedro A. Prevalence and Severity of Symptomatic Pelvic Floor Disorders in Latina vs non-Hispanic Survivors of Gynecologic Cancer. (Collecting Data.)

Committees

2020- present	**CCC Committee Member**
2019-present	**PEC Committee Member**

Professional Organizations

2021- present	**Member,** SASCOG
2015-present	**Member,** American Congress of Obstetricians and Gynecologists
2014-2016	**Medical Student Representative,** Bexar County Medical Society, Women in Medicine Committee

Awards/Honors

2020	**The Society for Academic Specialists in General Obstetrics and Gynecology Resident Award**

2020 **The Society of Gynecologic Oncology, Outstanding Resident in Gynecologic Oncology**

2016 **The Paul C. Weinberg Scholarship Award, Department of Obstetrics and Gynecology at UT Health Science Center at San Antonio**

Awarded in recognition of a strong social conscience, advocacy for women's rights and a respectful, caring and ethical approach to patients.

Lectures

Resident Lectures

Intern Bootcamp: Fetal Heart Rate Tracings, June 26th, 2020 (3hrs)

Basic OB Lecture Resident Didactics: Normal labor August 7th, 2020 (1hr)

OB M&M, Oct 2nd, 2020 (1hr)

Grand Rounds: Necrotizing Soft Tissue Infections November 13th, 2020 (1hr)

Basic GYN Lecture Resident Didactics: PCOS April 30th, 2021 (1hr)

Emergency Medicine Resident Didactics: Pregnancy Emergencies, April 15, 2021 (1hr)

Basic OB Lecture Resident Didactics: Induction of Labor, July 2, 2021 (1hr)

Basic OB Lecture Resident Didactics: Hypertension in Pregnancy, August 6, 2021 (1hr)

Basic OB Lecture Resident Didactics: Multifetal Gestations, December 3, 2021 (1hr)

Emergency Medicine Resident Didactics: Postpartum Hemorrhage January 13, 2022 (1hr)

Basic OB Lecture Resident Didactics: Early Pregnancy Loss, February 4, 2022 (1hr)

Basic OB lecture Resident Didactics: Placenta Accreta Spectrum, February 25, 2022 (1hr)

Medical Student Lectures

MS2 Medical Skills Station: Pelvic and Sonographic Correlation MS2, December 7, 2020 (8hrs)

MS3 Clerkship Didactics: Normal labor and Intrapartum Fetal Surveillance, June 11, 2021 (1hr)

MS2 Reproductive Medical Skills Course: Fetal heart rate tracing, November 22, 2021 (8hr)

MS3 Clerkship Didactics: Normal labor and Intrapartum Fetal Surveillance, December 3, 2021 (1hr)

Kelley A. Stanko

2021 Bluff Creed St. Apt 902 El Paso, TX 79911
PHONE 480-239-2425 • E-MAIL kstanko@ttuhsc.edu

EDUCATION

July 2014-July 2017
University of Toledo
- Emergency Medicine Residency

July 2010-May 2014
University of Arizona College of Medicine
- Doctor of Medicine, May 2014

August 2004-2008
University of Arizona, Tucson, AZ
- Bachelor of Science, Molecular and Cellular Biology, *cum laudei*

PROFESSIONAL EXPEREINCE

December 2021-Present
TTUHSC / UMC, El Paso Texas
Assistant professor, Associate Director of Ultrasound

July 2017-July 2021
Keesler AFB, Biloxi MS
Staff Physician – Emergency Department – Major USAF

July 2019-July 2021
Keesler AFB, Biloxi MS
Emergency Medical Service (EMS) Certified Medical Provider
- Functioned as not only the Medical Director for EMS for the entire military base but was also responsible for the training and maintenance of all EMTs and equipment. Had quarterly interdisciplinary meetings with Fire, Security Forces, Hospital and Base administrators to coordinate EMS response.

August 2019-February 2021
Merit Biloxi Hospital
PRN Emergency Physician

July 2014-July 2017
The University of Toledo
Emergency Medicine Resident

February 2011-Present
The United States Air Force Health Professions
Major
- Mentor to USAF HPSP applicants, participant in training, and community outreach

June 2011-July 2011
The United States Air Force Officer Training School
Flight Officer in Charge
- Leader of 15 trainees during USAF OTS training school; member of the Honor Squadron

Fall 2008-Spring 2010
Gilbert Public Schools
Substitute Teacher
- Grades K-12, all subjects

PRESENTATIONS

SimGHOSTS 2019
August 2019
Presentation Title:
Ocular Ultrasound Task Simulator: Journey from Invention to Patent

2nd Annual SDMPH Conference
August 2016
Presentation Title:
The University of Toledo Emergency Medicine Residency's Global Outreach

Shanghai University Hospital
October 14, 2016
Presentation Titles:
Basic Ultrasound techniques
RUSH exam
Ocular and DVT ultrasound

TEACHING EXPEREIENCE

December 2021-Present
TTUHSC El Paso, TX
Ultrasound instructor / Assistant professor of Emergency Medicine
- Provided ultrasound instruction during "Bootcamp" for 4th year medical students along with supervision of medical students and residents providing medical care in the UMC emergency department.

June 2019- July 2021
Keesler Air Force Base, Biloxi, MS
Ultrasound Instructor
- Provided lecture and hands on instruction to Internal Medicine Residents during their didactics

May 10-11 2017
Ohio ACEP
Ultrasound Instructor
- Provided hands on training to physicians attending a multi day CME course

October 2016
Shanghai University Hospital, Shanghai China
Visiting Lecturer
- Led hands on training in ultrasound, IO placement and interactive simulation

July 2014- July 2017
The University of Toledo
Emergency Medicine Teaching Track
- 1 of 2 residents in charge of PA, nursing and medical student simulation and procedure instruction on Emergency medicine situations and techniques

August 2015-2018
The University of Toledo Physicians Assistant Program
Ultrasound Instructor
- prepared and taught multiple 4 hour hands on session of basic ultrasound theory and technique to over 50 second year PA students

August 2012-2014
The University of Arizona
Certified American Heart Association CPR Instruction
- Taught AHA CPR to University hospital and medical staff as well as members of the public

August 2011-2014
The University of Arizona, REACT group
Continuous Chest Compression CPR instructor
- Taught CCC CPR to children, school teachers and general public of Tucson

Fall 2008-Spring 2010
Gilbert Public Schools
Substitute Teacher
- Grades K-12, all subjects

August 2007-2008
University of Arizona
Biology Tutor
- Tutored undergraduate students in Basic biology

RESEARCH

Evan S. Glazer, MD, PhD, Kelley Stanko, BS, Evan S. Ong, MD, MS, FACS, Marlon A. Guerrero, MD, FACS, *Obesity is associated with decreased inpatient mortality rates in patients with abdominal neuroendocrine tumors*

ACTIVITIES

CORD
Resident Representative, 2016-2018
- Elected as a PGY 2, first resident representative ever from the University of Toledo Emergency Medicine Program

CORD Medical Student Advisement Taskforce
Member, 2016-2018
- Selected from all Senior Emergency Medicine Resident CORD members to serve as a member of the taskforce whose purpose is to advise and teach medical students

College of Medicine Business Association
Founder and President, August 2011-2012
- The objective of this organization is to educate and inform University of Arizona College of Medicine students about the steps involved in maintaining a private practice and the legal, financial and logistical requirements of starting their own business or being a partner in a small business.

The University of Arizona College of Medicine Honor Code Committee
Vice-Chair, 2013-Present, Member, August 2010-2014
- Appointed by my class. Responsibilities include investigating claims, reviewing and analyzing cases of possible honor code violations and misconduct, voting on guilt or innocence and suggesting appropriate disciplinary actions to the Student Progress Committee.

The University of Arizona Student Advisory Committee
Member, May 2013-2014

- Appointed by the Dean of Student Affairs. Responsibilities included advising the Dean of Student Affairs on how better she can serve our medical student population.

CERTIFICATIONS

B.L.S. instructor June 2013-present

A.C.L.S. certified May 2013-present

P.A.L.S. certified May 2013-present

A.T.L.S. certified July 2014-present

A.W.L.S. certified May 2014-present

MEMBERSHIPS

Council of Emergency Medicine Residency Directors (CORD)	2016-2017
CORD Medical Student Advisory Taskforce	2016-2017
Society of Disaster Medicine and Public Healthy (SDMPH)	2015-present
Emergency Medicine Residents Association (EMRA)	2014-2017
The Society for Academic Emergency Medicine (SAEM)	2019-present