



2020-2023

# B2BMED PROGRAM

Newsletter



**Grow.  
Inspire.  
Achieve.**

## *In this issue...*

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CONGRATULATIONS TO  
GRADUATING B2BMED COHORT 1  
SCHOLARS

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SCHOLAR SUCCESS: AWARDS,  
PRESENTATIONS, PUBLICATIONS

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INDUCTING NEW SCHOLARS INTO  
THE B2BMED PROGRAM

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RECOGNITION OF B2BMED TEAM  
AND ADVISORY COMMITTEE  
MEMBERS

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## Message from our UTRGV B2BMED Program Director

In the midst of the COVID-19 pandemic, in Summer of 2020, we received the great news that our **National Institute of Health (NIH) T34 Bridges to the Baccalaureate Research Training Program at The University of Texas Rio Grande Valley** was funded and thus, provided us the opportunity to establish the **Bridge to Biomedical Sciences (B2BMED) Program**, through a partnership between South Texas College (STC), Texas Southmost College (TSC) and the University of Texas Rio Grande Valley (UTRGV). A diverse biomedical science research workforce is vital to the nation in remaining globally competitive in scientific discovery and innovation. In an effort to fulfill the long-term goal of the Bridges to Baccalaureate program to increase diversity in the biomedical research workforce, we are committed to increase the number of underrepresented students who: 1) successfully complete their Associate degrees and transfer to the UTRGV BMED program, 2) complete the BMED program and 3) apply to graduate school and/or enter the biomedical science research workforce. With this funding, we aimed to implement innovative, well-integrated strategies encompassing outreach and recruitment with career and program advising, courses for advanced research skill development, mentored-research experiences complement with other opportunities to develop research efficacy and skills and curriculum/methods development with academic enrichment which includes multi-level mentoring and academic and professionalism workshops.

As we embarked on our fourth year in the B2BMED Program, we wanted to share with all of you the *accomplishment of the scholars and their research mentors* and *recognize all those who have contributed* to the development and success of this program in this 2020-2023 B2BMED Newsletter.

### **Sue Anne Chew, Ph.D.**

UTRGV B2BMED Program Director  
Department of Health & Biomedical Sciences  
University of Texas Rio Grande Valley

[sueanne.chew@utrgv.edu](mailto:sueanne.chew@utrgv.edu)

# Congratulations 2020-2023 Scholars

## B2BMED COHORT 1 GRADUATES!

Congratulations **B2BMED Cohort 1 Scholars** on reaching this incredible milestone in your academic journey! As you embark on the next chapter of your careers, whether it's in academia, industry or healthcare, we have no doubt that you will continue to make significant contributions to the field of research. Your passion for discovery, coupled with the skills and insights you have gained during your time in B2BMED, positions you as leaders and innovators in the ever-evolving world of healthcare and biomedical sciences.

*Remember that your journey doesn't end here;* as you step into the world, know that you carry with you the pride and support of your mentors, peers, and the entire B2BMED community. We can't wait to see the incredible impact you will continue to make in the years to come!



**Pictured left to right (scholar's institutions, research mentor(s)):**

**Natasha Garcia-Rodriguez** (STC & UTRGV, Dr. Jameela Banu and Dr. Sue Anne Chew)

**Megan Zamora** (STC & UTRGV, Dr. Murat Karabulut)

**Jose Elias Martinez** (STC & UTRGV, Dr. Andrew Tsin, Dr. Shima Chaudhary and Dr. Assraa Jassim)

**Viviana Villalobos** (STC & UTRGV, Dr. Sue Anne Chew and Dr. Mehrzad Mahmoudian-Geller)

**Karina Cantu** (STC & UTRGV, Dr. Andrew Tsin and Dr. Shima Chaudhary)



# THE FUTURE IS B R G H T



## CONGRATS FUTURE COHORT 1 GRAD!

Daniela A. Rodriguez (TSC & UTRGV, Dr. Mario Gil) from Cohort 1 will be graduating at the end of this semester, Fall 2023.

Daniela also served as a B2BMED Peer Mentor this past summer, playing a crucial role on getting our Cohort 4 scholars onboard and helping us prepare for the 2023 B2BMED Celebration and Induction Ceremony. She continues to conduct research with Dr. Gil and is supported by the UTRGV Engaged Scholar and Artist Awards (ESAA).

## GOOD LUCK ON YOUR NEXT CHAPTER COHORT 1!

Four of the Cohort 1 B2BMED scholars have continued into post-baccalaureate programs, graduate programs, or research careers:

- **Karina Cantu** – UT Health San Antonio Ph.D. in Integrated Biomedical Sciences Program
- **Natasha Garcia-Rodriguez** – UTRGV Ph.D. in Human Genetics Program
- **Jose Elias Martinez** – UT Health San Antonio Post-Baccalaureate Research Education Program (PREP)
- **Megan Zamora** – Research Assistant at Pinnacle Clinical Research in Austin, TX





# SCHOLAR AWARDS

## As part of our program...

Our scholar's dedication and unwavering commitment to research and their academics has not only earned them well-deserved recognitions but has also inspired the other scholars. We look forward to witnessing their continued growth and applaud their future accomplishments with the same enthusiasm.

See a list of scholar awards [here: B2BMED Scholar Awards](#)



**Natasha Garcia-Rodriguez (Cohort 1)**  
*2022 Marion B. Sewer Distinguished Scholarship for Undergraduates*



**Karina Cantu (Cohort 1)**  
*2022 Purdue University National Data Mine Network Funding*



**Viviana Villalobos (Cohort 1)**  
*2022 Society for Advancement of Chicanos/Hispanics & Native Americans in Science (SACNAS) Travel Award*



**Daniela Rodriguez (Cohort 1)**  
*2023 Engaged Scholar and Artist Awards (ESAA)*



**Rama Shaath (Cohort 2)**  
*2023 Engaged Scholar and Artist Awards (ESAA)*



**Rama Shaath (Cohort 2)**  
*2023 Rising Scholars Presentation Award – Engaged Scholar Symposium (ES<sup>2</sup>)*



**Megan Zamora (Cohort 1)**  
*2021 Engaged Scholar and Artist Awards (ESAA)*



**Viviana Villalobos (Cohort 1)**  
*2021 Engaged Scholar and Artist Awards (ESAA)*



**Natasha Garcia-Rodriguez (Cohort 1)**  
*2021 Great Minds in STEM (GMiS) Annual Conference*



**Natasha Garcia-Rodriguez (Cohort 1)**  
*2021 Engaged Scholar and Artist Awards (ESAA)*



**Viviana Villalobos (Cohort 1)**  
*2022 UT MD Anderson Summer Undergraduate Research Program Symposium Poster Competition 1<sup>st</sup> Place Award*



**Natasha Garcia-Rodriguez (Cohort 1)**  
*2022 Society for Advancement of Chicanos/Hispanics & Native Americans in Science (SACNAS) Travel Award*



**Megan Zamora (Cohort 1)**  
*2023 Distinguished Scholars Presentation Award – Engaged Scholar Symposium (ES<sup>2</sup>)*



**Rama Shaath (Cohort 2)**  
*2023 Distinguished Sustainability Scholars Presentation Award – Engaged Scholar Symposium (ES<sup>2</sup>)*



**Fernando Dominguez (Cohort 2)**  
*2023 Engaged Scholar and Artist Awards (ESAA)*

# SCHOLAR RESEARCH PRESENTATIONS



## *As part of our program...*

With the support of funding from the grant and their research mentors, scholars are given a unique and invaluable opportunity to showcase their groundbreaking research in local, state, regional and national platforms which provides them opportunities to gain feedback on their projects and network with peers and faculty.

See a list of scholar presentations *here*: [B2BMED Scholar Presentations](#)

## 2021 PRESENTATIONS



Juan A. Amieva Jr., **Angela C. Jimenez**, Marco A. Arriaga, Sue Anne Chew. *The Application of Electrosprayed Minocycline-Loaded PLGA MPs For the Treatment Of Glioblastoma*, Engaged Scholar Symposium (ES<sup>2</sup>), April 2021.



Juan Amieva, **Angela Jimenez**, Marco Arriaga, Jaqueline Quintanilla, Silverio Lopez, Karen Martirosyan and Sue Anne Chew. *The Application of Electrosprayed Minocycline-Loaded PLGA Microparticles for the Treatment of Glioblastoma*, Texas Society for Advancement of Health Professions Annual Meeting, September 2021.



**Natasha Garcia-Rodriguez**, Tabitha Aguilera, Jose Vega, Daisy Mendez, Jameela Banu. *Menopause - Effects on Metabolic Syndrome, Skin Health, and Immune System*, Texas Society of Allied Health Professions (TSAHP) Annual Conference, September 2021.



**Natasha Garcia-Rodriguez**, Mahathi Nangavaram, Jameela Banu. *Effects of Salvia Hispanica on Bone Metabolic Pathways in Mouse Osteoblastic Cells – a miRNA Analysis*, Great Minds in STEM (GMiS) Annual Conference, October 2021.



**Daniela A. Rodriguez**, Esperanza Zacarias Alaniz, Mario Gil. *Immunohistochemical Localization of Oxytocin in the Monodelphis Domestica Brain and Characterization of Anxiety-Like Behaviors in Males and Females*, Society for Social Neuroscience (S4SN), December 2021.

# 2022 PRESENTATIONS



**Megan Zamora**, Marco Arriaga, Jorge Bejar, Sue Anne Chew and [Murat Karabulut](#). *Cortisol, Heart Rate, and Perceived Exertion Responses to Different Resistance Training Protocols with and without Blood Flow Restriction*, Texas Chapter of the American College of Sports Medicine Annual Meeting (TACSM), February 2022.



**Natasha Garcia-Rodriguez**, [Jameela Banu](#). *The Effects of Salvia Hispanica on Metabolic Syndrome and Bone in Mouse Osteoblastic Cells – a miRNA Analysis*, American Society for Biochemistry and Molecular Biology (ASBMB) Annual Meeting, April 2022.



Nuvia Cortez, **Rama Shaath**, [Kelsey Baker](#). *Use of Rehabilitation to Improve White Matter Survival after Stroke*, Engaged Scholar Symposium (ES<sup>2</sup>), April 2022.



Esperanza Alaniz, **Fernando Dominguez**, [Mario Gil](#). *Sex Differences in Anxiety-Like Behavior and Stress Reactivity in the Gray Short-Tailed Opossum*, The Society for Behavioral Neuroendocrinology (SBN), June 2022.



Maya Learmonth, Alexa Corker, Miguel Troncoso, Philip Broughton, **Megan Zamora**, Caitlin F. Baicu, Ph.D., Amy D. Bradshaw, Ph.D., Michael R. Zile, M.D., and Kristine Y. DeLeon-Pennell, Ph.D. *Regulation of Post-Myocardial Infarction Cardiac Fibrosis Using CD8 T-Cells*, Summer Undergraduate Research Program (SURP) Symposium, August 2022.



**Viviana Villalobos**, Hannah Obregon, Emily Jordan, Arkene Levy, [Sue Anne Chew](#). *The Dual Delivery of Metformin and Y15 in a PLGA Scaffold for the Treatment of Platinum Resistant Ovarian Cancer*, Advancing Chicanos/Hispanics & Native Americans in Science (SACNAS) Annual Meeting, October 2022.



Nuvia Cortez, **Rama Shaath**, [Kelsey Baker](#). *Use of Rehabilitation to Improve White Matter Survival after Stroke*, The College of Health Professions Empowerment Research Symposium, March 2022.



**Viviana Villalobos**, Hannah Obregon, Emily Jordan, Arkene Levy, [Sue Anne Chew](#). *The Dual Delivery of Metformin and Y15 in a PLGA Scaffold for the Treatment of Platinum Resistant Ovarian Cancer*, American Association for Cancer Research (AACR) Annual Meeting, April 2022.



Laura Valdez, **Jose Elias Martinez**, **Karina Cantu**, Martin Garcia, [Andrew Tsui](#), Fredrico Gonzalez-Fernandez. *IRBP In Diabetic Retinopathy-Cell Culture & Ophthalmic Pathology Studies*, Association of Research in Vision and Ophthalmology (ARVO) Annual Meeting, May 2022.



**Viviana Villalobos**, Emma Rodriguez, Prema Robinson. *Substance P Receptor Antagonism Enhances Chemotherapeutic Response in Triple Negative Breast Cancer*, University of Texas MD Anderson Summer Undergraduate Research Program (SURP) Symposium, August 2022.



**Fernando Dominguez**, Esperanza Alaniz, [Mario Gil](#). *Characterization of the Female Reproductive Cycle in the Syrian Hamster*, The University of Texas Rio Grande Valley School of Medicine Annual Research Symposium, September 2022.



**Viviana Villalobos**, Hannah Obregon, Emily Jordan, Arkene Levy, [Sue Anne Chew](#). *The Dual Delivery of Metformin and Y15 in a PLGA Scaffold for the Treatment of Platinum Resistant Ovarian Cancer*, Symposium for Undergraduate Research Exploration (SURE) in Natural Sciences + GeoFORCE Alumni Recruiting Forum at the University of Texas Annual Meeting, November 2022.



**Celeste Martinez**, Daniela M. Cruz, Daniella Hernandez, Lopez Saul De Leon Paloma, Manoj Liya, Thalia Hernandez, [Alejandro Lopez-Juarez](#). *Motor Skill Learning Curves are Regulated by Mature Myelin in Neurofibromatosis Type 1 Mice*, Society for Neuroscience (SFN), November 2022.

# 2023 PRESENTATIONS



**Megan Zamora**, Marco Arriaga, Jorge Bejar, Sue Anne Chew, and Murat Karabulut. *Acute Salivary Hormonal Responses to Resistance Training Exercises with and without Blood Flow Restriction*, National Conference for Undergraduate Researchers (NCUR), April 2023.



Viviana Villalobos, Hannah Obregon, **Manuel Duarte**, Emily Jordan, Marco A. Arriaga, Arkene Levy, Sue Anne Chew. *The Dual Delivery of Y15 and Metformin in a PLGA Scaffold for the Treatment of Platinum Resistant Ovarian Cancer*, American Association of Cancer Research (AACR) Annual Meeting, April 2023.



**Larissa Barroso**, **Angelica Reyes**, **Stella Rios**, and Megan Keniry. *Investigating the Ability of FOXO Factors to Regulate the TCF7 Pathway*, University of Texas Rio Grande Valley School of Medicine (SOM) Annual Research Symposium, September 2023.



**Fernando Dominguez**, Mario Gil. *Investigating the Effects of Microinjecting Hormones in the Brain of the Syrian Hamster (*Mesocricetus auratus*)*, University of Texas Rio Grande Valley School of Medicine (SOM) Annual Research Symposium, September 2023.



Alexis Lopez, **Megan Zamora**, Jorge Bejar, Antonio Vargas, Murat Karabulut. *The Effects of Low Volume HIIT vs. MIIT + BFR on Body Composition, Hormone Concentration, and Arterial Elasticity in Overweight or Obese Male Adults*, College of Health Professions Symposium (CoHP), April 2023.



**Rama Shaath**, Marylu Cabello, Daniel Salinas, Kelsey Baker. *Influence of Constraint Induced Movement Therapy on Corticospinal Tract and White Matter Integrity in Subjects with Stroke*, Engaged Scholar Symposium (ES<sup>2</sup>), April 2023.



**Megan Zamora**, Marco Arriaga, Jorge Bejar, Sue Anne Chew, and Murat Karabulut. *Acute Salivary Hormonal Responses to Resistance Training Exercises with and without Blood Flow Restriction*, American College of Sports Medicine National Annual Meeting (ACSM), May 2023.



**Manuel Duarte**, Emily Jordan, Hannah Obregon, Viviana Villalobos, Marco A. Arriaga, Arkene Levy, and Sue Anne Chew. *The Dual Delivery of Y15 and Metformin in a PLGA Scaffold for the Treatment of Platinum Resistant Ovarian Cancer*, University of Texas Rio Grande Valley School of Medicine (SOM) Annual Research Symposium, September 2023.



## SCHOLAR PUBLICATIONS

SHARING THEIR AMAZING WORK WITH THE WORLD

With the guidance and support of their research mentors, scholars have the opportunity to publish their research in reputable and renowned scientific journals, allowing them to share their findings and knowledge on a global platform. Not only does this contribute to the scientific advancements, but also supports learning and innovation.

See our scholar publications [here](#):

[B2BMED Scholar Publications](#)



**Mateo Joya-Ayala** (Cohort 3)

Blanca I. Restrepo, Julia M. Scordo, Génesis P. Aguillón-Durán, Doris Ayala, Ana Paulina Quirino-Cerrillo, Raúl Loera-Salazar, America Cruz-González, Jose A. Caso, **Mateo Joya-Ayala**, Esperanza M. García-Oropesa, Alejandra B. Salinas, Leonardo Martinez, Larry S. Schlesinger, Jordi B. Torrelles and Joanne Turner, "Differential Role of Type 2 Diabetes as a Risk Factor for Tuberculosis in the Elderly versus Younger Adults", *Pathogens*, 2022.

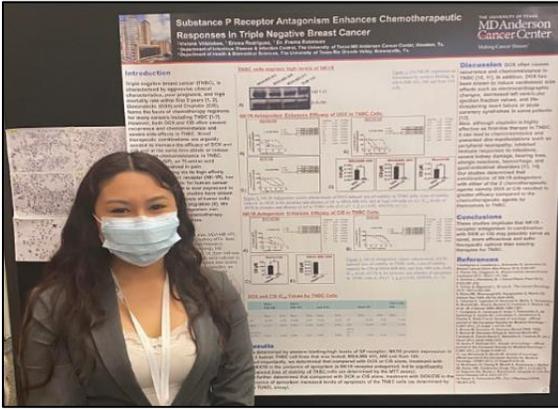
**Check it out!** [Read Mateo's Publication in Pathogens](#)



**Angela Jimenez** (Cohort 1)

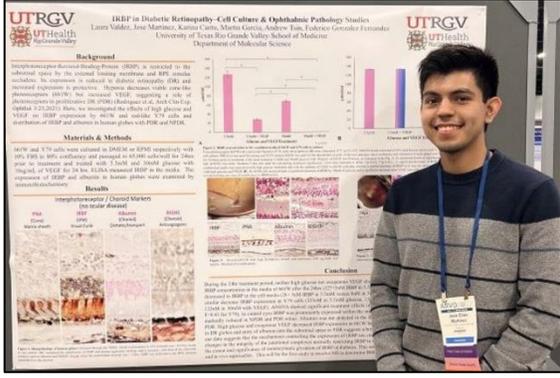
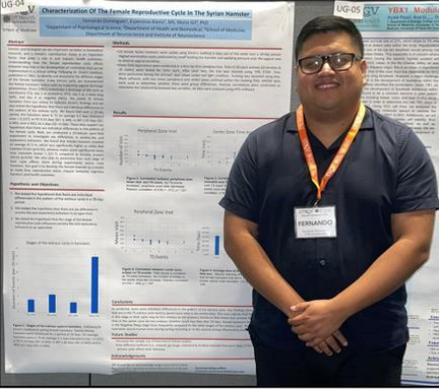
Marco A. Arriaga, Juan A. Amieva Jr., Jaqueline Quintanilla, **Angela Jimenez**, Julio Ledezma, Silverio Lopez, Karen S. Martirosyan and Sue Anne Chew, "The application of electrosprayed minocycline-loaded PLGA microparticles for the treatment of glioblastoma", *Biotechnology and Bioengineering*, 2023.

**Check it out!** [Read Angela's Publication in Biotechnology & Bioengineering](#)



**Viviana Villalobos**, Society for Advancement of Chicanos/Hispanics & Native Americans in Science (SACNAS) Annual Meeting, October 2022.

**Fernando Dominguez**, UTRGV School of Medicine Annual Research Symposium, September 2022.

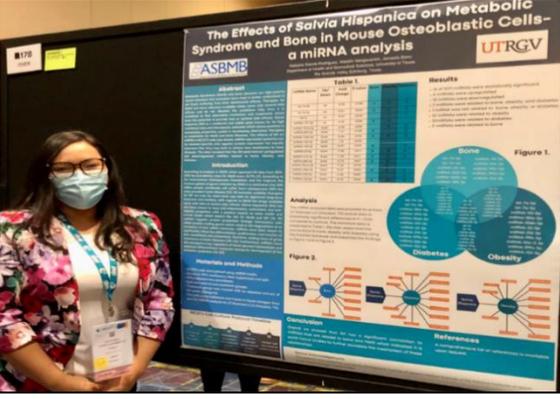
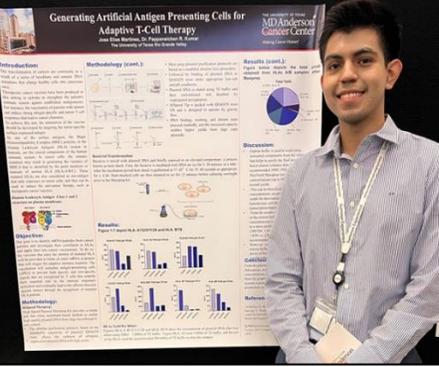


**Jose Elias Martinez**, Association of Research in Vision and Ophthalmology (ARVO), May 2022.

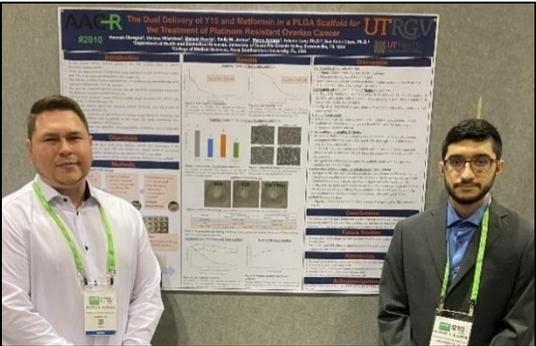


**Fernando Dominguez** and his research mentor **Dr. Mario Gil**, Society for Behavioral Neuroendocrinology (SBN) Conference, June 2022.

**Jose Elias Martinez**, MD Anderson Summer Undergraduate Research Program, August 2022.

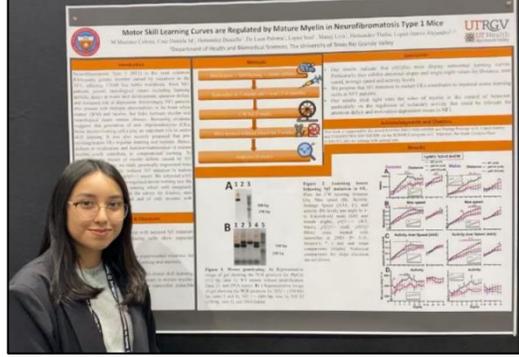
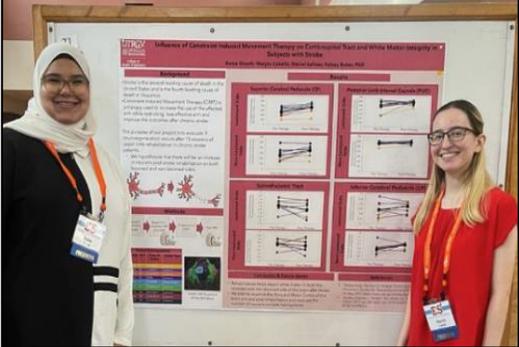


**Natasha Garcia-Rodriguez**, American Society for Biochemistry and Molecular Biology (ASBMB), April 2022.

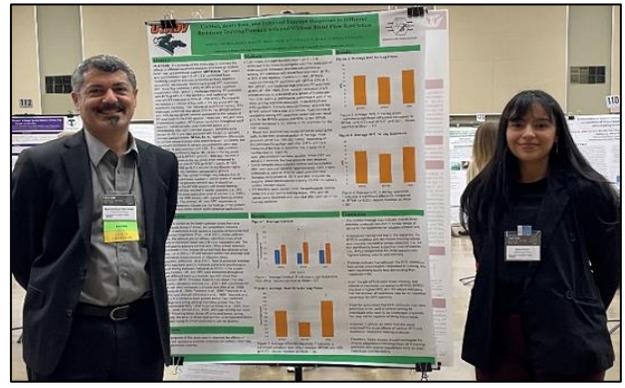


**Manuel Duarte** and his research associate, **Marco Arriaga**, American Association of Cancer Research (AACR) Annual Meeting, April 2023.

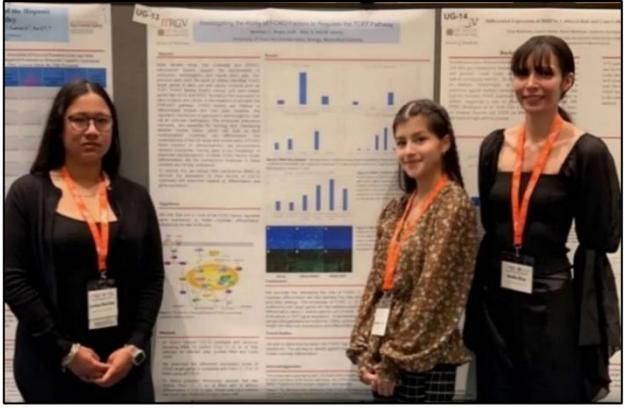
**Rama Shaath** and her research partner **Marylu Cabello**, UTRGV Engaged Scholar Symposium (ES<sup>2</sup>), April 2022.



**Celeste Martinez**, Society for Neuroscience (SFN), November 2022.



**Megan Zamora** and her research mentor **Dr. Murat Karabulut**, Texas Chapter of the American College of Sports Medicine (TACSM), February 2022.



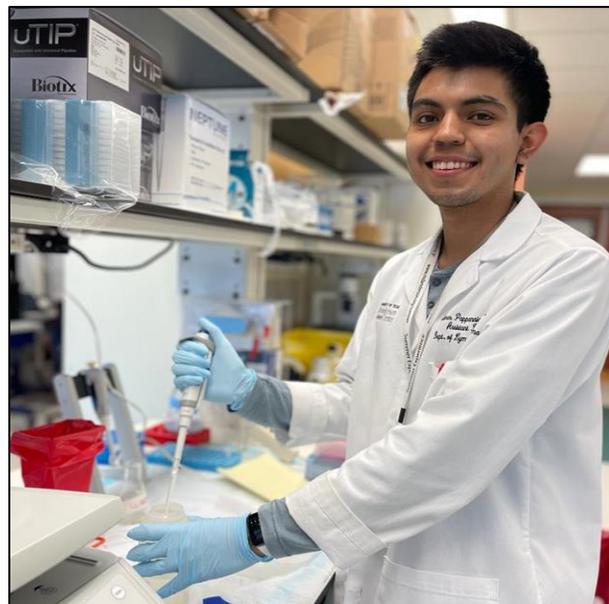
**Larissa Barroso**, **Angelica Reyes**, and **Stella Rios**, UTRGV School of Medicine Research Symposium, September 2023.



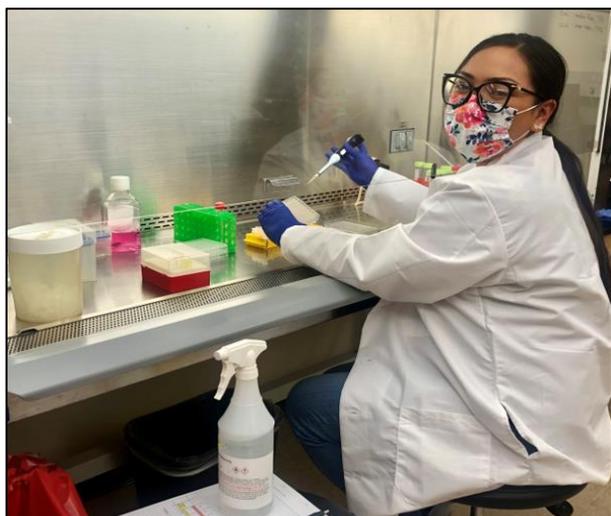
## HELLO SUMMER!

At the end of their second year in the B2BMED program, scholars embark on an exciting journey to summer research internships at different institutions around the nation that takes their research and academic experiences to new heights. This experience not only broadens their horizons but also enhances their research skills, allowing them to approach complex challenges with a more comprehensive and innovative mindset.

Check out our scholar testimonials about their summer research internships *here*: [B2BMED Scholar Summer Internships](#)



Jose Elias Martinez (Cohort 1)  
*UT MD Anderson Cancer Center, Summer 2022*  
Project Title: "Generating Artificial Antigen Presenting Cells for Adaptive T-Cell Therapy"



Natasha Garcia-Rodriguez (Cohort 1)  
*University of Texas Rio Grande Valley, Summer 2022*  
Project Title: "The Combination of Temozolomide and Minocycline for the Treatment of Glioblastoma"

Karina Cantu (Cohort 1)  
*UT Health San Antonio, Summer 2022*  
Project Title: "Understanding A-Synucleinopathies Using a Drosophila Model System"





**Megan Zamora** (Cohort 1)

*Medical University of South Carolina, Summer 2022*

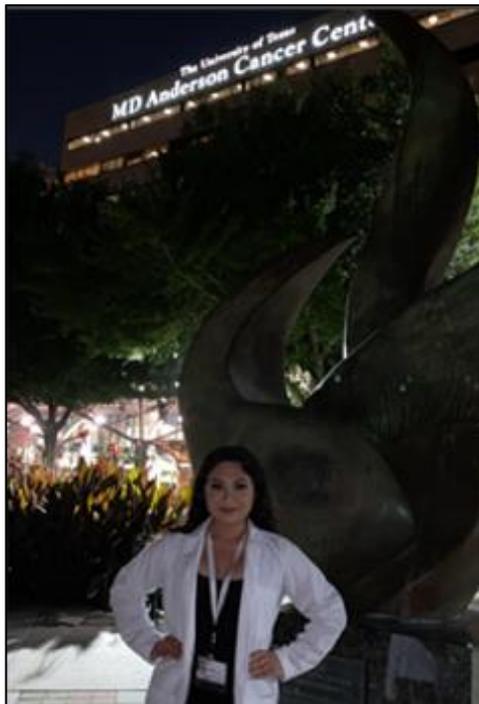
Project Title: "Adoptive Transfer Affects on Cardiac Fibrosis"



**Daniela A. Rodriguez** (Cohort 1)

*Wayne State University School of Medicine, Summer 2022*

Project Title: "Effects of Baclofen and CGP-35348 on Central GABA Pain Receptors and Characterization of Anxiety-Like Behaviors in Mouse Model of Multiple Sclerosis"



**Viviana Villalobos** (Cohort 1)

*MD Anderson Cancer Center, Summer 2022*

Project Title: "Substance P Receptor Antagonism Enhances Chemotherapeutic Responses in Triple Negative Breast Cancer"



**Celeste Martinez** (Cohort 2)

*Indiana University Bloomington, Summer 2023*

Project Title: "Sex Differences in Plasma Levels of Endocannabinoids and Related Lipids Before and After mTBI"

# CELEBRATION AND INDUCTION CEREMONIES

At the end of August each year, the B2BMED program hosts a Celebration and Induction Ceremony to celebrate the achievements of the scholars finishing up their second year and to induct the scholars starting the program. During the ceremony, we also recognize the research mentors and B2BMED staff that have contributed to the program in many different ways.

During their orientation and induction process, the new scholars and their families are introduced to the program's core values of excellence, collaboration, and exploration. The scholars are connected with their research mentors and fellow scholars, forging bonds that will fuel both their academic and research endeavors.

## 2022 B2BMED Celebration and Induction Ceremony

Our first B2BMED Celebration and Induction Ceremony was held on August 27<sup>th</sup>, 2022. Due to the COVID-19 pandemic, we unfortunately were unable to conduct a physical induction ceremony for Cohort 1 and 2. Therefore, during our first ceremony, we celebrated both Cohort 1 and 2 achievements and inducted Cohort 3 scholars.



**Dr. Michael Lehker**, Founding Dean of the College of Health Professions and keynote speaker, shared with mentors and scholars the best practices for success in teaching and learning.



**Dr. Saraswathy Nair**, UTRGV Chair of Department of Health and Biomedical Sciences and UTRGV B2BMED Co-Program Director, recognizing B2BMED Cohort 1 scholar, **Natasha Garcia-Rodriguez**.



**Dr. Mario Gil**, inducting his research mentee, B2BMED Cohort 3 scholar, **Nathaly Perdomo**, into the B2BMED program.



**Dr. Kelsey Baker**, recognizing her research mentee, B2BMED Cohort 2 scholar, **Rama Shaath**.

## 2023 B2BMED Celebration and Induction Ceremony

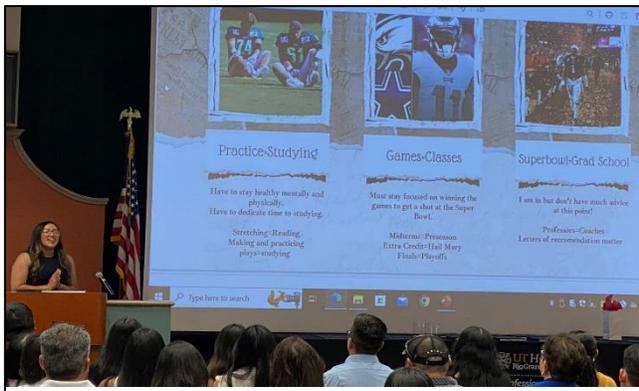
On August 19<sup>th</sup>, 2023, we celebrated our Cohort 2 scholars and inducted our Cohort 4 scholars. Although our Cohort 2 scholars completed their final year funded by the B2BMED program this past summer, they continue to be active in the research laboratories in their last year in the BS in Biomedical Sciences program through different funding sources. Our Cohort 4 scholars represents the latest generation of innovators who will push the boundaries of biomedical science, tackling some of the most pressing challenges in healthcare.



B2BMED research mentor and keynote speaker, **Dr. Megan Keniry**, expressing her passion for encouraging student success.



B2BMED research mentor and keynote speaker, **Dr. Mario Gil**, emphasizing the importance of mentorship and its many advantages.



Cohort 1 B2BMED Scholar and keynote speaker, **Natasha Garcia-Rodriguez**, offering an insightful perspective on how to be successful in academics and as a B2BMED scholar.



B2BMED research mentor and keynote speaker, **Dr. Alejandro Lopez-Juarez**, sharing his journey to success with the audience as a word of encouragement to the scholars.



**Dr. Sue Anne Chew**, UTRGV B2BMED Program Director with Cohort 2 B2BMED Scholars (from left to right) **Stella Rios, Celeste Martinez, Larissa Barroso, and Fernando Dominguez**.



Cohort 4 B2BMED Scholars (from left to right) **Jaylin Ivory, Elda Castillo, Victoria Herrera, Andrea Toledo, Katherine Boldado, and Gerardo Medelin**.

# Past Scholars

## COHORT 1 2020-2022

### Karina Cantu (2020-2022)

**Institutions:** STC & UTRGV

**Research Mentor:** *Dr. Andrew Tsin & Dr. Shima Chaudhary*

**Project Title:** *"Diabetic Retinopathy Induced Apoptotic Pathways in Human Retinal Pericytes and Retinal Endothelial Cells"*

**Support After B2BMED Funding:** National Data Mine Network Scholarship



### Natasha Garcia-Rodriguez (2020-2022)

**Institutions:** STC & UTRGV

**Research Mentor:** *Dr. Jameela Banu & Dr. Sue Anne Chew*

**Project Title:** *"Effects of Salvia Hispanica on Bone Metabolic Pathways in Mouse Osteoblastic Cells – A miRNA Analysis"*

**Support After B2BMED Funding:** Engaged Scholar and Artist Awards (ESAA) and B2BMED Peer Mentor



### Angela Jimenez (2020-2021)

**Institutions:** TSC & UTRGV

**Research Mentor:** *Dr. Sue Anne Chew*

**Project Title:** *"The Application of Electrosprayed Minocycline-Loaded PLGA Microparticles for the Treatment of Glioblastoma"*



### Jose Elias Martinez (2020-2022)

**Institutions:** STC & UTRGV

**Research Mentor:** *Dr. Andrew Tsin, Dr. Shima Chaudhary & Dr. Assraa Jassim*

**Project Title:** *"Reduced Expression of Interphotoreceptor-Retinoid Binding Protein (IRBP) In Diabetic Retinopathy - Cell and Postmortem Study"*

**Support After B2BMED Funding:** Work Study



### Daniela A. Rodriguez (2020-2022)

**Institutions:** TSC & UTRGV

**Research Mentor:** *Dr. Mario Gil*

**Project Title:** *"Immunohistochemical Localization of Oxytocin in the Monodelphis Brain and Characterization of Anxiety-Like Behaviors in Males and Females"*

**Support After B2BMED Funding:** B2BMED Peer Mentor and National Science Foundation (NSF) Scholarship



### Luis Torres (2021-2021)

**Institutions:** TSC & UTRGV

**Research Mentor:** *Dr. Nirakar Sahoo*



### Viviana Villalobos (2020-2022)

**Institutions:** STC & UTRGV

**Research Mentor:** *Dr. Sue Anne Chew & Dr. Mehrzad Mahmoudian-Geller*

**Project Title:** *"The Application of Bacteriophage Display and Biomaterials in the Diagnosis and Treatment of Ovarian Cancer"*

**Support After B2BMED Funding:** Engaged Scholar and Artist Awards (ESAA)



### Megan Zamora (2020-2022)

**Institutions:** STC & UTRGV

**Research Mentor:** *Dr. Murat Karabulut*

**Project Title:** *"Hormonal and Damage Marker Responses to Various Training Methods"*

**Support After B2BMED Funding:** Engaged Scholar and Artist Awards (ESAA) and CoHP Research Small Grant



# Past Scholars

## COHORT 2

2021-2023

### Larissa Barroso (2021-2023)

**Institutions:** STC & UTRGV

**Research Mentor:** *Dr. Megan Keniry*

**Project Title:** *“Examining the Role of FOXO4 In GBM”*

**Current Support:** Applied for Engaged Scholar and Artist Awards (ESAA)



### Fernando Dominguez (2021-2023)

**Institutions:** TSC & UTRGV

**Research Mentor:** *Dr. Mario Gil*

**Project Title:** *“Posttraumatic Stress Disorder (PTSD) Research Using Animal Models”*

**Current Support:** Student Experience Internship Program and Engaged Scholar and Artist Awards (ESAA)



### Emilio Garcia (2021-2022)

**Institutions:** TSC & UTRGV

**Research Mentor:** *Dr. Saraswathy Nair and Dr. Sue Anne Chew*



### Bernabe Lopez (2021-2022)

**Institutions:** STC & UTRGV

**Research Mentor:** *Dr. Jameela Banu*



### Celeste Martinez (2022-2023)

**Institutions:** TSC & UTRGV

**Research Mentor:** *Dr. Alejandro Lopez-Juarez*

**Project Title:** *“Does Metabolic Fatigue Cause Decreased Learning In Neurofibromatosis Type 1 (NF1) Mice?”*

**Current Support:** Mentor’s Grant Funds and B2BMED Peer Mentor



### Angelica Reyes (2021-2023)

**Institutions:** STC & UTRGV

**Research Mentor:** *Dr. Megan Keniry*

**Project Title:** *“Examining the Role of FOXO3 In GBM”*

**Current Support:** Applied for Engaged Scholar and Artist Awards (ESAA)



### Stella Rios (2021-2023)

**Institutions:** STC & UTRGV

**Research Mentor:** *Dr. Murali Yallapu & Dr. Megan Keniry*

**Project Title:** *“The Role of TRIP13 As a Potential Protein Biomarker For Pancreatic Cancer”*

**Current Support:** Applied for Engaged Scholar and Artist Awards (ESAA) and B2BMED Peer Mentor



### Rama Shaath (2021-2023)

**Institutions:** STC & UTRGV

**Research Mentor:** *Dr. Kelsey Baker*

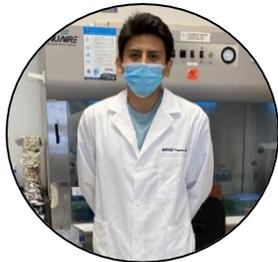
**Project Title:** *“Use of Rehabilitation to Improve White Matter Survival After Stroke”*

**Current Support:** Engaged Scholar and Artist Awards (ESAA)



# Current Scholars

## COHORT 3 2022-2024



### Mateo Joya Ayala (2022-Present)

**Institutions:** STC & UTRGV

**Research Mentor:** *Dr. Blanca I. Restrepo*

**Project Title:** *"Tuberculosis In Mexico"*



### Alayza R. Galvan (2022-Present)

**Institutions:** STC & UTRGV

**Research Mentor:** *Dr. Murali Yallapu and Dr. Nirakar Sahoo*

**Project Title:** *"Unlocking the Power Of Probiotics: Inducing Autophagy In Mammalian Cells"*



### Nathaly Perdomo-Cely (2022-Present)

**Institutions:** TSC & UTRGV

**Research Mentor:** *Dr. Mario Gil*

**Project Title:** *"Investigate The Connection Between Stimuli/Stressor And The Absence Of The Immediate Early Gene Egr3 In The Dorsal Striatum, Prefrontal Cortex And The Nucleus Accumbens"*

### Alexa Aleman (2022-Present)

**Institutions:** STC & UTRGV

**Research Mentor:** *Dr. Nirakar Sahoo*

**Project Title:** *"Unlocking The Power Of Probiotics: Inducing Autophagy In Mammalian Cells"*



### Manuel A. Duarte (2022-Present)

**Institutions:** TSC & UTRGV

**Research Mentor:** *Dr. Sue Anne Chew*

**Project Title:** *"The Dual Delivery Of Y15 And Metformin In A PLGA Scaffold For The Treatment Of Platinum Resistant Ovarian Cancer"*



### Lizette Garza (2022-Present)

**Institutions:** STC & UTRGV

**Research Mentor:** *Dr. Blanca I. Restrepo*

**Project Title:** *"TB In Old Age"*



### Dwain Spears (2022-2022)

**Institutions:** STC & UTRGV

**Research Mentor:** *Dr. Manish Tripathi*



# Current Scholars

## COHORT 4 2023-2025



**Andrea Toledo**  
(2023-Present)

Institutions: TSC & UTRGV  
Research Mentor: *Dr. Yu Lun Tai*



**Elda A. Castillo**  
(2023-Present)

Institutions: STC & UTRGV  
Research Mentor: *Dr. Shizue Mito*



**Gerardo Medellin**  
(2023-Present)

Institutions: STC & UTRGV  
Research Mentor: *Dr. Kelsey Baker*



**Jaylin S. Ivory**  
(2023-Present)

Institutions: STC & UTRGV  
Research Mentor: *Dr. Andrew Tsin*



**Katherine Bolado**  
(2023-Present)

Institutions: STC & UTRGV  
Research Mentor: *Dr. Kelsey Baker*



**Victoria Herrera**  
(2023-Present)

Institutions: STC & UTRGV  
Research Mentor: *Dr. Murali Yallapu*



**Ana Reyna Gonzalez**  
(2023-Present)

Institutions: TSC & UTRGV  
Research Mentor: *Dr. Ulku Karabulut*



**Martha Villanueva**  
(2023-Present)

Institutions: TSC & UTRGV  
Research Mentor: *TBD*



**Riley Button**  
(2023-Present)

Institutions: STC & UTRGV  
Research Mentor: *TBD*

# Past & Current Contributors

2020-2023

## OUR SINCEREST THANKS!

We would like to express our gratitude and admiration of the exceptional contribution and partnership of all the individuals who have played a vital role in the development and running of the B2BMED program. Their unwavering dedication, technical prowess, and collaborative spirit have been instrumental in shaping our program into what it is today. As we move forward, we will always remember and appreciate the outstanding contributions of our previous B2BMED team members and institutional administrators, and we look forward to building upon their legacy as we continue to build new partnership and grow and innovate.

*Thank you for your invaluable contributions. Your influences have reached far beyond any classroom.*



**Dr. Ali Esmaeili**

*STC Dean of Math, Science, IT, & BA Programs*



**Dr. Murad Abusalim**

*Previous TSC Dean of STEM and CTE Programs*



**Dr. Michael Lehker**

*Dean of UTRGV College of Health Professions*



**Dr. Christopher Alves**

*TSC Interim Dean of Arts and Sciences*



**Dr. Deborah Overath**

*Previous TSC Chair of Mathematics and Sciences and TSC B2BMED Program Director*



**Dr. Maria Cervantes**

*STC Chair of Biology*



**Mrs. Martha Casquette**

*TSC Chair of Arts and Science*



**Dr. Saraswathy Nair**

*UTRGV Chair of Department of Health and Biomedical Sciences and UTRGV B2BMED Co-Program Director*



**Dr. Shima Chaudhary**

*Previous STC B2BMED Program Director*



**Mr. Ruben Reyes**

*Previous TSC B2BMED Program Director*



**Dr. Mehrzad Mahmoudian-Geller**

*STC B2BMED Program Director*



**Dr. Griselda Galvez**

*TSC B2BMED Program Director*



**Mr. Marco Arriaga**

*Previous UTRGV B2BMED Research Associate*



**Ms. Jaque Quintanilla**

*Current B2BMED Part-Time Assistant*



2020-2023

## OUR SINCEREST THANKS!

We recognize the great contribution of all the peer mentors who have dedicated their time and expertise to support and guide the B2BMED scholars. They have been instrumental in leading workshops and providing tutoring, help with navigating the STC, TSC and UTRGV system and mentoring and guidance on how to succeed in the different institutions. Their own experience and success in the BS in Biomedical Sciences (BMED) and B2BMED program (for those who are also B2BMED alumni) have been vital as they become role models for the scholars and encourage and motivate the scholars to succeed as well in their own journeys in these programs.



**Jaqueline Quintanilla**

*Previous Peer Mentor (2020-2022), BMED Student*



**Dean Michael Enriquez**

*Previous Peer Mentor (2020-2021), BMED Student*



**Emily Jordan**

*Previous Peer Mentor (2021-2022), BMED Student*



**Natasha Garcia-Rodriguez**

*Previous Peer Mentor (2022-2023), B2BMED Cohort 1*



**Shaniah Vidal**

*Previous Peer Mentor (2022), BMED Student*



**Annu Karithara**

*Previous Peer Mentor (2023), BMED Student*



**Daniela A. Rodriguez**

*Previous Peer Mentor (2023), B2BMED Cohort 1*



**Celeste Martinez**

*Peer Mentor (2023-Current), B2BMED Cohort 2*



**Stella Rios**

*Peer Mentor (2023-Current), B2BMED Cohort 2*

# ***In Recognition of Our Advisory Committee...***

The B2BMED Advisory Committee's vast experience, wisdom and expertise has provided invaluable guidance and direction to the B2BMED Team in helping us in navigating the development and improvement of the program to ensure the fostering of scholars' growth as future leaders in the biomedical science field. Their commitment to guiding and shaping the program's vision has been instrumental in its success and impact.

We want to express our profound appreciation for their dedication to advancing the goals of the B2BMED program and for their enduring commitment to the success of our scholars. As we move forward, we look forward to continuing working together.

## **Current Members**

### **Ms. Brenda Ambuehl**

*College Advisor, Pharr San Juan  
Alamo (PSJA) ISD*

### **Dr. Ali Esmaeili**

*Dean of Division of Math, Science, IT  
& Bachelor Programs, South Texas  
College*

### **Dr. Maria Cervantes**

*Program Chair of the Department of  
Biology, Division of Math, Science, &  
Bachelor Programs, South Texas  
College*

### **Dr. Celia Flores-Feist**

*Instructor of Chemistry, Texas  
Southmost College*

### **Dr. Jonikka Charlton**

*Associate Provost of Student  
Success, Dean of University College,  
University of Texas Rio Grande  
Valley*

### **Mr. Pedro Laureano**

*Student Success Coach of Associate  
of Science, Texas Southmost College*

### **Ms. Jennifer Troncoso**

*Guided Pathway Specialist Division  
of Math, Science, IT & Bachelor  
Programs, South Texas College*

### **Dr. Reginal Christopher Gonzalez**

*Instructor of Chemistry, South Texas  
College*

### **Mrs. Martha Casquette**

*Chair of Mathematics and Sciences,  
Texas Southmost College*

### **Dr. Roni Louise Rentfro**

*District Coordinator of School  
Improvement/District Champion,  
SLOs, Brownsville Independent  
School District (BISD)*

### **Dr. Amy Weimer**

*Professor of Human Development and  
Family Sciences, Assistant Director of  
the School of Family & Consumer  
Sciences, Texas State University*

### **Dr. Christopher Alves**

*Interim Dean of Arts & Sciences,  
Texas Southmost College*

## **Past Members**

### **Ms. Patricia Flores**

*Academic Advisor, Texas Southmost  
College*

### **Ms. Celina Jorge**

*Academic Advisor, South Texas  
College*

### **Ms. Ivan Camara**

*Academic Advisor, South Texas  
College*

## Other Components of the B2BMED Program

### Biomedical Freshmen Research Initiative (BFRI) Courses

During their first year in the B2BMED program, as they are finishing up their associates degree in STC or TSC, the scholars take BMED 3121 Research Methods and BMED 3122 Research Techniques courses at UTRGV which is part of the [BFRI program](#) under the instruction of *Dr. Sue Anne Chew* and *Dr. Herminio Guajardo*.

### B2BMED Advanced Research Skill Courses

We appreciate *Dr. Maggie Shelledy* from the UTRGV Department of Writing and Language Studies for partnering with the B2BMED program in developing and co-teaching the following courses for the first 2 years. We also recognize *Dr. Randall Monty* from the UTRGV Department of Writing and Language Studies who has taken over teaching this course starting Fall 2023.

- BMED 3123 Advanced Research Skills I Course: How to Write a Research Proposal
- BMED 3124 Advanced Research Skills II Course: How to Write a Research Report

### Translational Research Seminar Series (TRSS)

Scholars attend the TRSS seminars, hosted by the UTRGV Department of Health and Biomedical Sciences, UTHSC School of Public Health Brownsville Regional Campus and UTRGV South Texas Diabetes and Obesity Institute, which provides the scholars an opportunity to learn from established scientists critical reasoning and scientific presentation skills as well as spur interest and excitement in various disciplines in biomedical sciences.

### Rigor and Reproducibility Training

Rigor and reproducibility training is key in ensuring our scholars responsibly contribute to scientific advancement. Scholars receive rigor and reproducibility training during the sessions below and in their individual laboratory, through their research mentors:

- First Year B2BMED Professionalism Workshop by *Dr. Mario Gil*
- BMED 3123 Advanced Research Skills I Course: How to Write a Research Proposal
- BMED 3124 Advanced Research Skills II Course: How to Write a Research Report

### Professionalism Workshops

Please see below a list of workshops that have been developed and delivered to the scholars. We appreciate the workshop presenters and panelists who have contributed to the growth of our scholars through these workshops.

- **First Year Workshops**
  - Email and Communication Etiquette by B2BMED Team
  - How to Be Successful at STC/TSC/UTRGV by B2BMED Team
  - Resilience and Positive Psychology by *Dr. Maria Castaneda*
  - Importance of Rigor and Reproducibility by *Dr. Mario Gil*
  - Time Management and Studying Skills by *Dr. Lorena Lopez*
  - Nutrition for Stress Management by *Mrs. Racheal Villareal*
  - UTRGV Resources - *Representatives from different UTRGV Offices and BMED Student Organizations*
  - Strategies for Success in BMED by *Dr. Hugo Rodriguez*
- **Second Year Workshops**
  - Preparing a Curriculum Vitae by B2BMED Team
  - Preparing a Personal Statement by B2BMED Team
  - Summer Internship Application Process by B2BMED Team and *B2BMED seniors/alumni*
  - Preparing a Conference/Symposium Abstract by B2BMED Team
  - Presenting your Research at a Conference or Symposium by B2BMED Team
  - The Graduate School Application Process by B2BMED Team
- **Both Years:** Biomedical Research Careers by B2BMED Team and *BMED/B2BMED seniors/alumni*

# CONTACT US!

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**Dr. Sue Anne Chew**

*UTRGV B2BMED Program Director*  
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**Dr. Saraswathy Nair**

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**Ms. Jaqueline Quintanilla**

*UTRGV B2BMED Part-Time Assistant*  
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**Dr. Mehrzad Mahmoudian-Geller**

*STC B2BMED Program Director*  
[mmahmoud@southtexascollege.edu](mailto:mmahmoud@southtexascollege.edu)

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**Dr. Griselda Galvez**

*TSC B2BMED Program Director*  
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Phone: (956) 295-3594

# NOW ACCEPTING APPLICATIONS FOR B2BMED COHORT 5!

The B2BMED Program provides students with a wide range of benefits including:

- **Mentored Research Experience:** Conduct cutting-edge research alongside esteemed UTRGV faculty.
- **Stipend Support:** Receive financial assistance with a stipend of up to \$14,340 per year (that's \$1,195 per month) to ease your academic journey.
- **Tuition and Fees:** Enjoy up to 60% coverage of tuition and fees during Year 1 and 2 of the program.
- **Travel Funding:** Receive funding support to attend a national research conference every year.
- **Summer Internship:** Receive funding support to travel to a summer internship program in Year 2 of the program.
- **Multi-Level Advising and Mentoring:** Receive academic advising throughout the program.
- **Professionalism Workshops:** Attend professional workshops tailored to build your skills.
- **STEM Tutoring:** Receive 1-on-1 tutoring based on your needs.
- **Research Seminars:** Attend research seminars and join a community of professionals.

Join B2BMED and unlock a world of opportunities for your academic and research growth!



# Scan Me!