



# Forum in Focus

FALL 2018

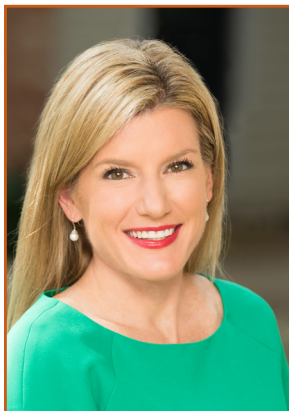
## President's Letter

Dear Forum Members,

As summer fades away and college football season is upon us, it seems to be the perfect time to reflect on the words of legendary coach Vince Lombardi, "People who work together will win, whether it be against complex football defenses, or the problems of modern society."

Football quotes may be a stretch for my first presidential letter, but hear me out... collectively, we as a group have worked together for over four decades as a comprehensive team to assist in the fight against modern diseases. The cause is noble and just and one that stands the test of time. Our Trustee and Board alumnae are incredibly loyal, our supporters enthusiastic, and our current board is a dream team of talent. I have the fortunate position of serving for a moment as this year's "player coach." While we won't be blocking or tackling, there is strategy and tactical awareness at every turn. Sports analogies aside, there is immense power in a group who is cohesively drawn together for a common cause, working together to achieve the same goals. The honor of being Forum President is great and this is a year I meet with both anticipation and pure joy. To serve, lead and learn, walking in the footsteps of truly remarkable women, I am humbled to my core.

Much of the summer was spent on the behind-the-scenes work, carefully looking at the nuts and bolts that will make our organization run smoothly and more efficiently in this digital age. Last year, **Courtney Percy** and I collaborated on a strategic plan for improving organizational efficiency and empowering our trustees to do their jobs in a way that worked for them, allowed their talents to shine through (what a talented group of women we have!) and met the demands of our organization's need to communicate with our membership and target audiences. As part of this effort, we continued to refine and update our website as well as enhance our digital presence. You can now find the Forum on LinkedIn and we will remain active on Facebook and Instagram. We are in the process of



Jody Lutz

facilitating better collaboration through electronic document sharing. The days of passing down a three ring "Forum Binder" filled with the notes of a trustee job or gala details may be behind us. In light of that, we have established new Forum email addresses and worked to collect and digitally organize historic Trustee job files.

The first email from the newly minted [Forum.President@txbiomed.org](mailto:Forum.President@txbiomed.org) email account is below. In 2018, that may seem like a small feat, but it's one that has been a long time coming.

*To: Larry Schlesinger, CEO Texas Biomed*

*From: Forum President*

*Subject: What starts at the Forum, plants the seed to change the world*

**Kim Johnson** will head up the ongoing digitization efforts this year. We have enlisted the help of professionals where needed--namely with additional web support and photography to put our Trustees' hard work out into the world in the best way possible. **Audra Kerr** and **Brooke Meabon** have been an immeasurable help in this process as has **Marty Heaner**, the new CTO/VP of Information Technology at Texas Biomed. **Kristin Tipps** will take the reigns as PR Chair, **Emily Sytsma** as Website Liaison and **Hayley Conger** will take the helm of our Social Media accounts. This trifecta of talent is poised to take us into a new digital era. **Lauren Pepping** and **Rebecca Nathan** will keep our paper roots firmly planted and will be heading up the Newsletter efforts. Much credit is due to them both for the timely nature and attention to detail that was put into this edition. We will continue to communicate with our members in more ways than one, both digitally and in paper format--so watch your mailbox!

This summer also marked the beginning of our membership campaign, lead by **Karen Bryant** and her

*Continued on next page.*

assistant **Amelita Mauzé**. Letters have been mailed, emails have been sent, and if you haven't had a chance to renew your membership please take a moment to do so now. If you opt to renew or join online, you can now set an automatic yearly renewing membership. This makes it easier for you, our members, and for forecasting membership income for the Forum. Our goal this year is to close back in on 400 members. Please invite your friends, sisters and daughters to consider Forum membership and the many benefits it offers. **Kelly Wade Fry** reprises her role as Directory Chair with **Courtney Archer** ensuring our membership rank and file are represented in the annual directory.

Always my favorite night of the year, planning is well underway for Forum Gala 2019. **Whitney Solcher Miller**, our Gala Chair, a brilliant businesswoman and dedicated volunteer to Texas Biomed (a 5th year trustee and former Founder's Council President), is poised to deliver an unforgettable night. **Cynthia Kirby** has redefined the Forum Grant process over the last four years and comes into the Gala Co-chair role with a wealth of experience and knowledge about the inner workings of the event. After chairing decorations for the 2016 Gala, **Whitney Schones** (a first year Trustee) will be the Gala Assistant. **Corinna Holt Richter**, another first year Trustee, has already jumped into her role as the Gala Grants chair. Did I mention how talented this board is? We cannot wait to celebrate "The Night They Invented Champagne" on May 4, 2019. Cue the coupes and the flutes! Vive la France! #BubblesforBioMed

Back by popular demand, our Special Events Chairs, **Emilie Petty** and **Mal Moorman**, will be organizing another "Cheers to Chairity" event this spring. Special thanks to The Argyle for their generous donation of both dining chairs and patio furniture from the recent renovations. More details to come!

Community outreach is in full swing as **Amy Maverick** and **Mary Labatt** line up student tours, and **Heather De Rojas** and **Christine Ketabchi** are already spreading the word about Science Education Awards. Both of these groups received a full makeover on our website over the summer and have an updated application process.

First Vice-President, **Amy Swaney**, and her assistant, **Nicole McClane**, have the groundwork laid for a wonderful Fall Lecture Luncheon on November 7. Tickets and tables may be purchased online now! Kudos to Amy and Nicole for the beautiful invitation and their work on the website updates to streamline luncheon related purchases.

What a treat to have my trusted sidekick, partner in crime, and the best right-hand woman in the business to lean on again this year. **Courtney Percy** remains on the board as our Immediate Past President and head of the Nominating Committee.

When reflecting on our executive officers this year, I am grateful to be surrounded by friends who bring their individual skill sets and expertise to our board. Our two secretaries, **Emily Jones** and **Ashley Weaver**—both of whom have been on call this summer and are always eager to help lead the Forum in exciting new directions. Treasurer **Stephanie Dick** is an integral part of the day to day activity, keeping our dollars and cents in line, and Parliamentarian **Elizabeth Cox** keeps us minding our p's and q's. The support of this executive team and their true servant leader perspective serves the Forum and its membership so very well.

I would be remiss not to thank four exceptional mentors, my biggest cheerleaders and loyal friends—**Amanda Bezner**, **Terry Gouger**, **Melissa Morgan** and **Corbett Christie**. My esteemed team of advisors whom have all played an integral part in my "Forum journey" beginning with my first term as a Trustee seven years ago. Thank you for taking me under your wing and allowing me to stay there! They each have and continue to provide invaluable knowledge to our organization.

And last but certainly not least, we congratulate Trustee **Sara Trampota Conquest** on the birth of her son, Alexander. Welcome to the Forum family, Alex!

This spring, Courtney and I had the distinct pleasure of recording a brief interview with two of our founders, **Tena Gorman** and **Ruth Eileen Sullivan**, under the careful curation of Texas Biomed's Media and Communication Specialist, **Wendy Rigby**. The full podcast is available on our website, but I wanted to leave you with a poignant statement Wendy made during our time together. In referencing the Forum she stated that "we are women supporting science and each other." What a beautiful sentiment--and in that spirit, ladies--let's do this! Here's to our 47th year!

*Jody Lutz*

President 2018-2019

Texas Biomedical Forum



## Past President's Letter



Courtney Percy

Welcome back to another fulfilling year of supporting the Texas Biomedical Forum! I hope the season finds you ready and anxious to continue the great efforts of all those who have come before you.

As a new year begins, I would like to extend a special thanks to Denise Mosser, Gala Chair, and Nicole McClane, Gala Co-Chair, for all of their hard work, and the hard work of many others, to ensure the gala was a huge success. I also remain incredibly proud and grateful for our entire 2017-2018 Board of Trustees for a remarkable year. Your time and efforts are much appreciated and I continue to be amazed at all you accomplished.

Throughout my year as President, I felt fortunate to have worked with such a remarkable group of women. I'm proud of the work we accomplished together.

As the new Forum year begins, I look forward to the great achievements under the direction and leadership of Jody Lutz, this year's Forum President. I am confident she will guide the Forum through an exciting year of great accomplishments. It was an honor and privilege to act as your Forum President and I look forward to my continued involvement with this great organization.

With Gratitude,

*Courtney Percy*

Past President Texas Biomedical Forum

## TEXAS BIOMED MEMBERSHIP

I was lucky enough to spend the morning today participating on a tour of the Texas Biomedical Research Institute. So much has changed since my last organized tour four years ago. I was impressed with the strong leadership we have with Dr. Schlesinger leading the Institute and was also reminded of the impact the Texas Biomedical Forum has on the Institute's research and specifically, the impact we have on the journey of each scientist. Dr. Carrion, leading scientist focused on Ebola, recounted how the Forum's funding of a pilot study was the first step in securing NIH funding and leading to groundbreaking research for him. Dr. Carrion's story encapsulated the "why" for the Texas Biomed Forum. We raise awareness and provide the needed seed funding for research benefiting our communities and the global community. However, we can't do this, without you, our forum membership.

Your Forum membership allows you to stay up to date with all social, community, and fundraising activities of the Forum, as well as learning more about Texas Biomed. Our members are included in our social events, receive invitations to the Forum's Lecture Luncheon series and Roundtable Discussion events, and are given priority information regarding the Forum Gala.

We are in the middle of our membership renewal period and hope you have either renewed for the 2018-2019 year or are making plans to renew. Please keep in mind that the deadline to be included in this year's directory is October 31.

**FORUM MEMBERSHIP IS 100% TAX DEDUCTIBLE. RENEW ONLINE TODAY:**

**<https://forum.txbiomed.org/forum-membership/>**

We have also enclosed a membership renewal envelope to complete and return for those who prefer to renew by mail. If you have specific questions on membership, please contact Karen Bryant at [Forum.Membership@TexasBioMed.org](mailto:Forum.Membership@TexasBioMed.org).

# SAVE THE DATE: FALL LECTURE LUNCHEON

Wednesday, November 7th at The Argyle - 11:30 am.

## *UNDERSTANDING HOW AND WHY SENIORS' IMMUNE SYSTEMS ARE MORE SUSCEPTIBLE TO INFECTIONS*



**Joanne Turner, Ph.D.**

Our annual fall lecture luncheon will be held at 11 a.m. on Wednesday, November 7, at The Argyle. We are thrilled to welcome our special guest speaker, Joanne Turner, Ph.D.

Texas Biomed's Vice President for Research, Dr. Turner will discuss how and why elderly people are more susceptible to infection. In other words, what is it that changes in our aging immune systems?

A native of England, Dr. Turner completed her Ph.D. at the London School of Hygiene and Tropical Medicine and did her postdoctoral fellowship at Colorado State University. Before her recruitment to Texas Biomed, she led a university-wide program at Ohio State University to bolster women in research leadership roles--an issue about which she is passionate.

Dr. Turner's work focuses on tuberculosis in humans, using mouse models of TB. "I can see something interesting in humans, and mechanistically test it in a mouse," Turner explains. "Or, I can see something in a mouse and then go back and make sure it's relevant in humans. It's a really nice kind of cycle. It's much more powerful."

This will be a luncheon you won't want to miss! Dr. Turner is a true champion for women in science. If your mother, daughter or friend would be interested in this issue, be sure to bring her along!

Please make your reservation online today at the following website:

[www.forum.txbiomed.org/events/lecture-luncheons](http://www.forum.txbiomed.org/events/lecture-luncheons)

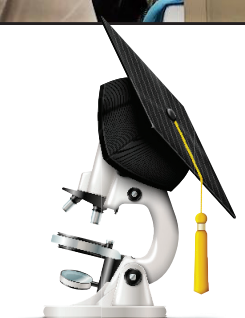
## STUDENT TOURS ARE UNDERWAY

Student Tours at the Texas Biomedical Research Institute have begun for the 2018-2019 academic year. Student tours are a collaboration between Forum volunteers and the Texas Biomedical Research Institute, and give local high school students the chance to see the research facility up close. Students attend lectures by the talented scientists who are doing cutting edge research at the facility and are treated to a tour of the National Primate Research Center. The calendar is filling up quickly! If you know a school that is interested, please email Mary Labatt and Amy Maverick, Student Tour Co-Chairs, at [Forum.Outreach@txbiomed.org](mailto:Forum.Outreach@txbiomed.org). For more information and for a link to the application, please go to <https://forum.txbiomed.org/community-outreach>.



### CONFIRMED:

- Natalia High School
- St. Mary's Hall
- Poteet High School
- Lavernia High School
- Southside High School



## FORUM GRANTS

One of the most important aspects of the mission of the Forum is to raise grant money for the Texas Biomedical Research Institute. The Forum fundraises year-round for the Forum Grants program which funds high-risk/high-reward pilot studies for Texas Biomedical Research Institute scientists. Each pilot study can cost as much as \$50,000 and lasts approximately one year. Often, these grants are called “seed grants” because they are relatively small but the ideas they power can grow to have a huge impact.

For 40 years, the Forum Gala has supported the scientists of the Institute and over the past 18 years, the Forum has raised an impressive \$3 million to fund pilot grants. As of today, Texas Biomed scientists have been awarded \$72 million in subsequent competitive grants to continue their work as a result of these small seed grants. That is an impressive return--each dollar the Forum awarded has brought \$26 in subsequent major grant funding.

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*Dr. Ruth Ruprecht of Texas Biomed last month announced a new defense against HIV-1, the virus that causes AIDS. The team used the animal model to show for the first time that an antibody called Immunoglobulin M (IgM) was effective in preventing infection after mucosal AIDS virus exposure. A Forum grant funded the pilot study that was used to image this antibody's action in real time. Worldwide, an estimated 90% of new cases of HIV-1 are caused through exposure in mucosal cavities.*

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We hope you will join our efforts to fundraise for Forum Grants in the following ways:

- ✓ Make a fully deductible Forum Grant donation, 100% of which will go directly to scientists' pilot studies. Donations can be made online at <https://forum.txbiomed.org/forum-grants/donate/> or by mail to: **Texas Biomedical Forum  
PO Box 6648  
San Antonio, TX 78209**
- ✓ Recommend individuals, foundations, and corporations that may be interested in contributing. We will happily contact them.
- ✓ Help spread the word about this important fundraising initiative that supports research at Texas Biomedical Research Institute.

Proceeds from the Forum Gala in May also support Forum Grants. For more information, please contact Corinna Richter, Forum Grants Chair, at [Forum.GalaGrants@txbiomed.org](mailto:Forum.GalaGrants@txbiomed.org).

## SCIENCE EDUCATION AWARDS

For the past 26 years, the Texas Biomedical Forum and the V.H. McNutt Memorial Foundation have awarded up to \$20,000 to local public and private high school science teachers each year as part of the Science Education Awards program.

Local high school science teachers are encouraged to complete the three-step application at [www.txbiomed.org](http://www.txbiomed.org) and provide a detailed proposal on a research project they will execute with their students during the school year. The application requires information on the project that includes a hypothesis, methods, the merit of the project, funding utilization for materials to be used, and student involvement and impact.

A panel of judges will review each application and determine the top winners. The judges include Valerie Guenther, the founder of the Science Education Awards program, representing the V.H. McNutt Memorial Foundation; Forum Board Trustee Chairs of the Science Education Awards; and Texas Biomed scientists. The judges determine which projects best demonstrate the strongest commitment to furthering the development of innovative and progressive science education programs.

“We are incredibly fortunate that Valerie Guenther paved the way for a program that has contributed to Science Education in San Antonio for twenty-six years and counting. The number of students impacted and whose lives have been touched by this program are a true testament to both Valerie and the ongoing work of the Forum’s Trustees,” said Forum Board President Jody Lutz. “There are several Forum presidents and gala chairs, myself and current gala chair Whitney Solcher Miller included, who began their Trustee journey as the Science Education Awards Chair. It is a unique position that introduces our Trustees to Texas Biomed scientists who serve as program judges, our community at large through our teacher outreach initiatives as well as the inner workings of the Forum Board. As one of only a handful of two-year job assignments for a Forum Trustee, it is an investment in our future that pays dividends both in Board development and the education of our society’s youth. This is just another example of the Forum planting the seed to change the world!”

Applications are due by **February 1, 2019** and winners will be recognized at the Forum Spring Luncheon at The Argyle on March 1, 2019.

# FORUM GALA 2019

## *The Night They Invented Champagne*



What's more exciting than a trip to Paris? An exclusive invitation to spend an evening at Maxim's! This year's Texas Biomedical Forum Gala celebrates the champagne filled era of the Belle Époque, which will be held on Saturday, May 4, 2019. Gala Chair, Whitney Solcher Miller; Gala Co-Chair Cynthia Kerby; and Gala Assistant, Whitney Schones, invite you to step back in time and explore the posh and ritzy world of bespoke tails, top hats, haute couture, cocktails, and yes...lots of champagne!



This year's effervescent theme was unveiled to the Gala Committee at a special luncheon held on September 12 at The Argyle. Crafting the perfect champagne is a mixture of art and science, which is befitting of our biggest fundraiser for Texas Biomed and their master scientists.



The Argyle will set the stage for this magical night, where our own French Master Chef Serge will prepare a gourmet feast fit for the Parisian elite. Afterwards, join us for "Late Night at Maxim's" for music and dancing.

Rooms and tables are quickly selling out, so we ask you to make your reservations as quickly as possible online at:

<https://forum.txbiomed.org/forum-gala/the-forum-gala-table-purchase/>

If you are unable to attend the Gala, we ask you to consider making a Forum Grant donation, which is a wonderful way to support the great, life-changing work of Texas Biomed.

We look forward to seeing you in May for lots of Bubbles and Biomed!

We would like to thank the following Gala supporters and table sponsors to date. If you are interested in sponsorship or purchasing a table, please contact us at [Forum.Gala@txbiomed.org](mailto:Forum.Gala@txbiomed.org).

<i>Valero</i>	<i>David and Karen Lee Zachry</i>	<i>Andrew and Ashley Friedman</i>	<i>Camilla M. Parker</i>
<i>The Mays Family Foundation</i>	<i>Luther King Capital</i>	<i>Judy Gillis</i>	<i>Allison and Josh Zeller</i>
<i>Feik Family Foundation</i>	<i>Karen and Ronald Herrmann</i>	<i>Wendy Stieren</i>	<i>Gunn Automotive</i>
	<i>Ann Barshop</i>	<i>Kenneth P. Trevett</i>	<i>Chris Cheever</i>

## *2018 Texas Biomedical Forum "Mariposa" Gala Takes Flight*



This year's Forum Mariposa Gala was the highlight of the year! Held on May 5, 2018 at The Argyle, Gala Co-Chairs, Denise Mosser and Nicole McClane, chose to celebrate the ongoing transformation within our Texas Biomedical Research Institute with a complementary and elegant theme of "Mariposa." They elevated the fundraiser to a new level with innovative ideas and produced a successful Gala by raising over \$250,000! The success can be attributed to the fabulous Gala Committee Chairs, the efforts of so many volunteers, and the tremendous generosity of the San Antonio community.

We are so appreciative to everyone who continues to support the Forum and its mission to support the Texas Biomedical Research Institute through community relations, volunteer services and fundraising. The proceeds from the Gala go directly to fund scientists' pilot studies to further the investigative efforts of the Institute. Texas Biomed has a special place in our community and the Forum is honored to be a group that helps support them!



## TRUSTEE TOUR OF THE TEXAS BIOMEDICAL RESEARCH INSTITUTE

Forum Trustees were given the opportunity to tour the Texas Biomedical Research Institute campus in September. We were warmly welcomed by Wendy Rigby, Media and Communications Specialist; Alex Wadley, Advancement and Public Relations Specialist; and Corbett Christi, VP for Institutional Advancement, who also serves as the Forum Board Liaison to the Institute.

Wendy began the presentation with a story in which she described Tom Slick Jr. as a visionary and entrepreneur. When the land that now hosts the campus of Texas Biomed was merely a ranch on the outskirts of San Antonio, he wanted to create a “city of science.” That was the birth of what has become the Texas Biomedical Research Institute. (Side note: Tom Slick is also the man behind Southwest Research Institute and the Mind Science Foundation). Wendy followed her story with a fantastic video emphasizing the huge difference the Institute and the research done by these remarkable scientists make on the world.

Trustees then heard from Dr. Larry Schlesinger. He recently left the Ohio State University to become the President and CEO of Texas Biomed. After only fifteen months, he has made a big impact on the direction and focus of the Institute. He has implemented new core values, TIDES: teamwork, integrity, diversity, excellence, and safety. We learned more about Dr. Schlesinger’s goal to redesign and renovate the campus to bring it up to the same caliber as the scientists and research that come out of it.



*Left to right: Emily Sytsma, Lauren Pepping, Dr. Joann R. Turner, Jody Lutz, Emily Jones, Karen Bryant*



*Left to Right: Alex Wadley, Lauren Pepping, Emily Sytsma, Dr. Larry Schlesinger; Karen Bryant, Emily Jones, Jill DeYoung, Jody Lutz, Dr. Ricardo Carrion*

We also had the pleasure to hear from VP for Research Joanne Turner, Ph.D., and Associate Scientist Ricardo Carrion, Jr., Ph.D. We learned more about Texas Biomed and its history, their backgrounds, and their research. It was also evident during the presentation that they both love being a part of the Texas Biomedical Research Institute. Ricardo has been a part of Texas Biomed since he was a graduate student in 1997, and Joanne recently came into her new role to help lead and oversee all areas of research for the entire Institute.

Finally, Alex led a van tour of the Southwest National Primate Research Center—“the really fun part,” as she put it. Indeed, it was fun and really impressive! We drove past the vast areas that house baboons and other primates and heard of the enrichment that the animals receive to keep them happy and active. It is clear that all 2,500 animals are well-cared-for.

Each time we get the opportunity to tour the Texas Biomedical Institute, it further solidifies why we, the Texas Biomedical Forum, dedicate so much time and effort to support such a wonderful organization. Texas Biomed Trustees are honored to be able to support the scientific space that an incredible visionary and entrepreneur began almost seventy-seven years ago.



### RESEARCH SHOWS A PROMISING NEW CLASS OF ANTIBODIES PROTECTS AGAINST HIV-1 INFECTION



A group of scientists at Texas Biomedical Research Institute have zeroed in on a new defense against HIV-1, the virus that causes AIDS. Led by Ruth Ruprecht, M.D., Ph.D., the team used an animal model to show for the first time that an antibody called Immunoglobulin M (IgM) was effective in preventing

infection after mucosal AIDS virus exposure. Worldwide, an estimated 90% of new cases of HIV-1 are caused through exposure in the mucosal cavities like the inside lining of the rectum or vagina.

“IgM is sort of the forgotten antibody,” Dr. Ruprecht, Scientist and Director of Texas Biomed’s AIDS Research Program, said. “Most scientists believed its protective effect was too short-lived to be leveraged as any kind of protective shield against an invading pathogen like HIV-1.”

The study is published in the July 17, 2018 edition of the journal *AIDS*. The article is listed as “Fast Track,” indicating this new and exciting data should get special attention.

Rhesus monkeys at the Southwest National Primate Research Center on the Texas Biomed campus served as models for the *in vivo* study. Scientists first treated the animals with a man-made version of IgM, which is naturally produced by plasma cells located under the epithelium (the surface lining of body cavities). Half an hour later, the same animals were exposed to SHIV (simian-human immunodeficiency virus). Four out of the six animals treated this way were fully protected against the virus. The animals were monitored for 82 days.

Dr. Ruprecht’s team found that applying the IgM antibodies resulted in what is called immune exclusion. IgM clumped up the virus, preventing it from crossing the mucosal barrier and spreading to the rest of the body. The technique of introducing pre-formed antibodies into the body to create immunity is known as passive immunization.

IgM has a high affinity for its antigens and “grabs them very quickly and does not let go,” Dr. Ruprecht explained. “Our study reveals for the first time the protective potential of mucosal anti-HIV-1 IgM. IgM has a five-times higher ability to bind to virus particles compared to the standard antibody form called IgG. It basically opens up a new area of research. IgM can do more than it has been given credit.”

An accompanying editorial says Dr. Ruprecht has “set off a new wave in evaluating the activity of IgM antibodies in neutralizing HIV-1...[and she and her group] have largely broadened the horizon of neutralizing HIV-1 antibodies, which, as single or combined agents, may be used for HIV-1 prevention and treatment.”

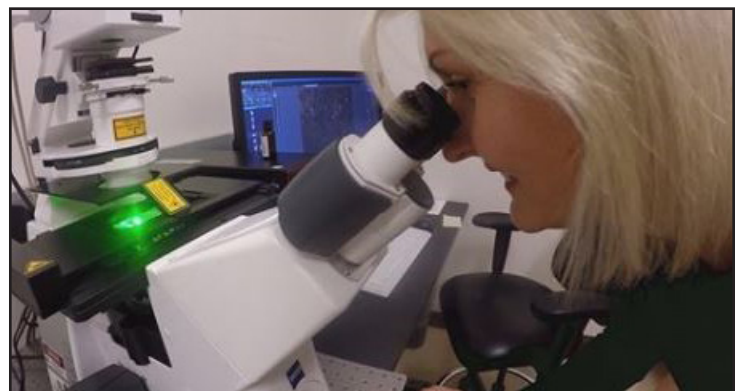
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### NEW RESEARCH PINPOINTS PATHWAYS EBOLA VIRUS USES TO ENTER CELLS

A new study at Texas Biomedical Research Institute is shedding light on the role of specific proteins that trigger a mechanism allowing Ebola virus to enter cells to establish replication. The work, published in a supplement to *The Journal of Infectious Diseases*, was led by Staff Scientist, Olena Shtanko, Ph.D., in Texas Biomed’s Biosafety Level 4 Laboratory. The BSL4 is a high-containment facility that houses research on diseases for which there are no approved vaccines or cures.

The new outbreak of the deadly Ebola virus declared just last week in eastern Democratic Republic of Congo is believed to have claimed more than 30 victims so far, highlighting the continued urgency to find a way to stop the pathogen from killing the people it infects.

The cellular pathway under study is called autophagy, a word that literally means “self-eating.” This ancient



Olena Shtanko, Ph.D. as seen on KENS5



mechanism is switched on by cells to destroy invading foreign material or consume its own organelles and protein complexes in order to recycle nutrients and survive. Autophagy generally takes place inside the cell. Conducting in vitro work using live Ebola virus, Dr. Shtanko found that, surprisingly, this mechanism was clearly active near the surface of the cells and plays an essential role in facilitating virus uptake.

Ebola virus invades cells through macropinocytosis, a poorly understood process in which the cell surface remodels to form membrane extensions around virions (virus particles), eventually closing to bring them into the interior of the cell. “We were stunned to find that Ebola virus is using autophagy regulators right at the surface of the cell,” Shtanko said. “Knowing that these mechanisms work together, we can start finding ways to regulate them.”

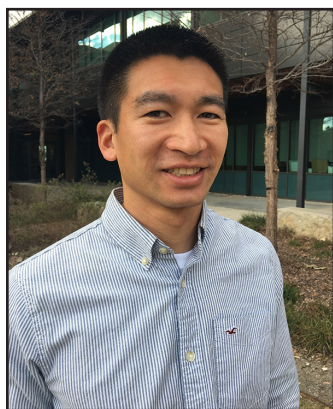
The interplay between these two cellular processes could have implications for treatment of health conditions other than viruses. Shtanko believes that regulation of the autophagy proteins with a drug could help combat complex diseases where macropinocytosis is dysregulated such as in cancer and certain neurodegenerative disorders, including Alzheimer’s.

“The work is a great example of serendipity,” said Scientist Rob Davey, a co-author on the study. “Few would have thought that working on Ebola virus would reveal something truly new about how the cell works.”

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## NEW HEPATITIS B VACCINE TESTING AT TEXAS BIOMED



**Chris Chen, Ph.D.**

The animals got their first vaccinations on June 12, 2018. Principal Investigator Chris Chen, Ph.D., explains the vaccine delivers a Hepatitis B protein that will activate immune cells. Eight animals will receive six vaccinations over 20 weeks. Then, scientists will be observing the immune response.

The experimental therapy has been tested in mice and pig models. After it is tested in nonhuman primates at the SNPRC, the company plans to begin phase 1 testing in humans.

“Here’s what makes this project unique,” Dr. Chen said. “The idea is the vaccine could potentially work as a therapeutic as well as a prophylactic.” This would be a big breakthrough for the 250 million people around the world who are chronically infected with the HBV virus. Currently, there are no good therapies for this infectious disease. A vaccine that’s 95% effective in preventing hepatitis B infection has been available since 1982.

Much of the work involved in developing a hepatitis B vaccine was conducted in chimpanzees at Texas Biomed. Safety and efficacy testing of the first hepatitis B vaccine was also done at the Institute.

At the Southwest National Primate Research Center and Texas Biomed, Scientists, Veterinarians, Animal Care Staff, the Immunology Core and Research Support Staff are all working on the project.

TheVax was founded in 2012 and is headquartered in Taipei City, Taiwan. It focuses on the development of human immune therapy drugs. Most recently, it presented promising data from earlier trials of this vaccine at the 68<sup>th</sup> Annual Meeting of the American Association for the Study of Liver Diseases in October of 2017. The company is also focusing on treatments for cervical, liver and lung cancer.

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## REPURPOSING PROMISING CANCER DRUGS MAY LEAD TO A NEW APPROACH TO TREATING TB

Promising experimental cancer chemotherapy drugs may help knock out another life-threatening disease: tuberculosis (TB). A new study published by scientists at Texas Biomedical Research Institute in San Antonio pinpoints a mechanism in regulating cell death called apoptosis that is a potential new target for helping to control the bacterial infection (*Mycobacterium tuberculosis* or *M.tb*) that causes the lung disease TB.

Lead author of the newly-published study, Eusondia Arnett, Ph.D., a Staff Scientist at Texas Biomed, and her colleagues have been testing this theory for about two years. Using human immune cells called macrophages and infecting them with *M.tb* in the lab, scientists were able to test their theory that pathways regulated by a master regulator of gene expression – a host protein

called PPAR<sub>γ</sub> — are a good target for intervention to halt the progression of the disease.

When Dr. Arnett's team treated *M.tb*-infected macrophages with Mcl-1 inhibitors that target this important apoptotic pathway, they found a reduction of *M.tb* growth by 80%.

Almost 20 people develop TB and four people die from the disease every minute, somewhere in the world. TB is now the world's deadliest single infectious disease, surpassing AIDS.

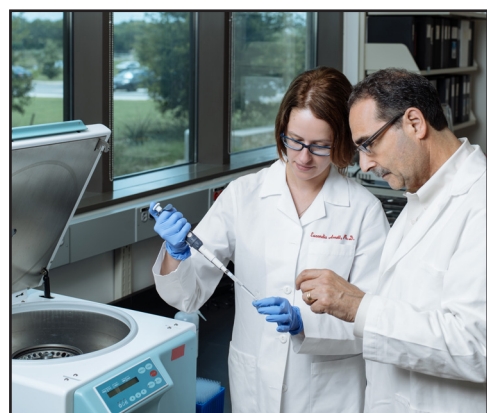
"If we can stimulate apoptosis in *M.tb*-infected cells, then we can reduce *M.tb* growth, Dr. Arnett explained. "Induction of apoptosis and subsequent reduced *M.tb* growth should ultimately result in less inflammation and damage to the lungs, and increased control of TB."

Tuberculosis infection also creates granulomas in the lungs — dense cellular structures that are the body's attempt to wall off an infection it is unable to eliminate. However, granulomas also provide a niche for the bacterium to become recalcitrant to antibiotics, Dr. Arnett's study showed that these experimental cancer drugs also reduced *M.tb* growth in granulomas using a human granuloma model holding promise for the activity of these drugs in human and animal models.

Cancer drugs similar to those used in the study are already in Phase II of Food and Drug Administration clinical trials. The next step for testing on the TB front will be to find out the effectiveness of this therapy in a mouse model, and then finally, in a nonhuman primate before moving on to human trials.

"It's very exciting that these have already gone through a lot of testing in humans and we can capitalize on that," Dr. Arnett said, explaining this could speed up the time it takes to get a new treatment to patients with tuberculosis.

This study is a great example of why basic scientific research is so important," said senior investigator of the



**Eusondia Arnett, Ph.D.,  
and Larry Schlesinger, M.D.**

study Dr. Larry Schlesinger, the President & CEO of Texas Biomed. "When we study important host cell pathways for disease, we can find relationships we didn't even know existed.

We can forge new ways to use current knowledge to create novel strategies for host-directed therapy for infection to be used along with antibiotics."

The study is published in the June 21, 2018 edition of the Journal, *PLOS Pathogens*.

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## **UNDETECTED ZIKA INFECTIONS MAY BE TRIGGERING MISCARRIAGES AND STILLBIRTHS**

A collaborative study between six of the National Primate Research Centers, including the Southwest National Primate Research Center at Texas Biomedical Research Institute in San Antonio, shows pregnancy loss due to Zika infections that don't cause women any symptoms may be a common but unrecognized cause of miscarriages and stillbirths.



**Rhesus monkey**

"This is an important study where all of the primate centers collaborated to provide enough data and information to further our understanding of Zika's effect on pregnancy," said Scientist Jean Patterson, Ph.D., of Texas Biomed.

Zika roared into world headlines in 2015 when a cluster of cases in Brazil produced a large spike in babies born with a devastating birth defect called microcephaly, a brain abnormality. Other adverse outcomes include sensory defects, like blindness and even pregnancy loss.

Collecting data from several species of nonhuman primates (rhesus macaques, pigtail macaques and marmosets), scientists found 26% of female nonhuman primates (NHP) inoculated with Asian/American ZIKV (Zika virus) in the early stages of pregnancy experienced miscarriage or stillbirth later, despite the fact that the animals showed few clinical signs of infection.

During the pregnancies of the Zika-infected monkeys, scientists monitored their progress through ultrasounds (to detect the fetus' heart beat), amniocentesis (a test in which amniotic fluid is drawn) and blood draws.

"The primary conclusion from this multi-center study with important implications for pregnant women infected with Zika virus is that stillbirth and miscarriage occur more frequently in infected nonhuman primates than animals not exposed to the virus," explained lead author

Dawn Dudley, Ph.D., with the Wisconsin National Primate Research Center. “This conclusion would not have been possible without the concerted efforts among the investigators at each institution to share and combine our data to draw statistically significant conclusions while also conserving precious nonhuman primate resources.”

The study is published in the journal *Nature Medicine*. The authors conclude “the high rates of fetal loss among ZIKV infected NHP pregnancies raises concern that Zika-associated pregnancy loss in humans may be more frequent than currently thought.”

The results parallel human reports of more significant adverse outcomes in babies exposed to ZIKV during the first trimester. No treatments or vaccines for Zika exist, although scientists at Texas Biomed and elsewhere are experimenting to find ways to cope with this emerging mosquito-borne infectious disease.

In the United States, Zika infections have been detected in Florida and Texas. In counties along the Texas border with Mexico, the Texas Department of State Health Services is asking OB/GYNs to test pregnant patients for Zika three times during their pregnancy. All pregnant women are cautioned to protect themselves against mosquito bites.

**National Primate Center collaborators on the study include:**

- Southwest National Primate Research Center
- California National Primate Research Center
- Oregon National Primate Research Center
- Tulane National Primate Research Center
- Washington National Primate Research Center
- Wisconsin National Primate Research Center

**Other institutional collaborators on the study include:**

- Texas Biomedical Research Institute
- University of Wisconsin-Madison
- University of California-Davis
- Oregon Health and Science University
- Baylor College of Medicine
- University of California-San Francisco
- Tulane University Health Sciences Center
- University of Washington-Seattle
- Seattle Children’s Research Institute
- University of Wisconsin-Madison

## TEXAS BIOMED ANNOUNCES NEW SOUTHWEST NATIONAL PRIMATE RESEARCH CENTER DIRECTOR



**Deepak Kaushal, Ph.D.**

Texas Biomedical Research Institute President and CEO Larry Schlesinger, M.D., has named Deepak Kaushal, Ph.D., as the new Director of the Southwest National Primate Research Center (SNPRC), one of seven NIH-supported national primate research centers. Dr. Kaushal will succeed Robert Lanford, Ph.D., who is

retiring from his administrative role at SNPRC in 2019. As Director of SNPRC, Dr. Kaushal will be responsible for leading a national scientific resource funded by a \$40 million National Institutes of Health grant and a team of nearly 150 scientists, veterinarians and animal care professionals.

Dr. Kaushal is currently Director of the Center for Tuberculosis Research within the Tulane National Primate Research Center (TNPRC) in Covington, La. and Professor in the Department of Microbiology and Immunology at Tulane University School of Medicine in New Orleans, La. He will assume the Director position at SNPRC in January 2019 following Dr. Lanford’s retirement. Dr. Lanford, whose research has helped advance new therapies in the clinic for Hep B and the curative treatments now available for Hep C, will continue as a scientist at Texas Biomed.

“We are excited Dr. Kaushal will be joining the Texas Biomed and SNPRC team,” Dr. Schlesinger said. “He is a world-renowned researcher whose focus in tuberculosis and HIV, specifically using nonhuman primates in TB research, is a natural fit with the Institute’s long-term vision of becoming the world-leader in infectious disease research. His experience as Leader of the Tulane Tuberculosis Research Unit, managing both budgets and personnel for several multimillion-dollar, grant-funded projects provides him the unique expertise and background necessary to guide SNPRC into a new era.”

Dr. Kaushal has built an illustrious career with more than 25 years of experience working to eradicate tuberculosis, which kills more than two million people worldwide each year and is one of the three major causes of death

due to infectious diseases. Using the macaque nonhuman primate model, Dr. Kaushal's lab tests new drugs against the disease and new vaccine candidates. His lab also aims to combine drug and vaccine candidates to combat drug resistant tuberculosis. Several of his research projects aim to understand the basic mechanism underlying how tuberculosis progresses and evades the human immune response. He explains that by understanding how TB misconfigures the immune system, scientists can develop more targeted pathways for treatment and vaccine options. A major focus of his research is to study the synergy between TB and HIV-AIDS. Better understanding these phenomena will advance both vaccine- and drug-development for these two catastrophic diseases.

"The opportunity to work in San Antonio is tremendous," Dr. Kaushal said. "The community has a strong health science center and medical school, a network of higher education that fuels the engine of a research enterprise, strong non-profit organizations such as the Southwest Research Institute and is a vibrant, multicultural city. This is a place where technology, industry and supported research in infectious diseases can grow."

Dr. Kaushal expressed excitement about the potential to lead new initiatives, as well as initiatives already in the works, such as the 2019 NHP Models of AIDS meeting next year. Hosted by SNPRC, the meeting is expected to bring international exposure to Texas Biomed, SNPRC and San Antonio, showcasing the region's unique capabilities and assets.

He added that nonhuman primate research has been critical to many of today's medical breakthroughs and will continue to be important as we strive to find therapies, vaccines and cures for diseases impacting us today and tomorrow. He found San Antonio to be welcoming of the resources SNPRC provides, and he is impressed with the philanthropic support in the city. While federal funding continues to remain flat and the cost of performing science increases, Dr. Kaushal added that greater private funding will be necessary to ensure that this critical, national resource is available and nurtured for the future of biomedicine and the health of both people and animals.

"Dr. Lanford and the SNPRC leadership team have advanced an outstanding program," Dr. Kaushal said. "I am excited about the vision Dr. Schlesinger has laid out for the Institute, which calls for enhancing the primate facilities, growing high containment laboratory capabilities and building upon the great programs already

in place that utilize nonhuman primate resources. Texas Biomed is in a unique position with both its primate center and high containment laboratories to make a lasting impact on human health. I look forward to working with the team to build upon the successes of the past and create more opportunity for the future."

Dr. Kaushal expects to begin transferring his scientific program beginning in January 2019. Among the top-funded NIH scientists, Dr. Kaushal has served as principal or co-investigator on nearly 30 NIH-funded grants. He currently has 5 active R01 grants from the NIH and serves as co-investigator on three additional R01 grants. A Bill and Melinda Gates Foundation supported researcher, Dr. Kaushal will bring a portfolio of about \$25 million in grant funding to SNPRC and Texas Biomed.

He has authored more than 94 journal publications that have been published, are in press, in review or in revision and has presented at more than 66 scientific conferences worldwide. He serves as a guest editor, reviewer and ad hoc reviewer for multiple scientific journals, including *Nature Medicine*, *Nature Communications*, the *Journal of Immunology* and *Public Library of Science Neglected Tropical Diseases* among many others. He currently serves as a full member of NIH's AIDS-associated Opportunistic Infections and Cancer (AOIC) Study Section.

Dr. Kaushal has a Ph.D. in biochemistry & microbiology from the University of Delhi in India. Among his many professional affiliations, Dr. Kaushal is currently a member of the Infectious Diseases Society of America, the American Society for Biochemistry and Molecular Biology, the Bill and Melinda Gates Foundation Collaboration for TB Vaccine Discovery (CTVD), the Bill and Melinda Gates Foundation working group on Nonhuman Primate Models, and the AIDS Clinical Trials Group (ACTG).

Dr. Kaushal expressed his gratitude to Tulane University and the Tulane National Primate Research Center leadership for the support he has received the past 12 years as a faculty member there and wishes the entire TNPRC community the best in their future endeavors.

## FACTS YOU SHOULD KNOW ABOUT THE TEXAS BIOMED RESEARCH INSTITUTE

**1** Tom Slick founded the Foundation for Applied Research, known today as Texas Biomed, in 1941 at the age of 25.

**2** Texas Biomed and the Southwest Research Institute shared the same campus until the late 1950s when Texas Biomed moved to its current location at Military Road and Loop 410.

**3** The Argyle has more than 1,500 members, each of whom make an annual donation to Texas Biomed that together equal the earnings of a \$35 million endowment.

**4** Since 1999, \$3 million in pilot research funded by the Forum has translated into \$70 million in funding for projects--a 23:1 return on investment.

**5** Texas Biomed is the only place in the world home to both a maximum containment laboratory (Biosafety level 4) and a national primate research center.

**6** Texas Biomed currently houses about 2,500 animals for research including chimps, baboons, macaques, marmosets and more.

**7** When Texas Biomed animals need diagnostic or scans for research, they are transported to the UT Health San Antonio Research Imaging Center. It is a great collaborative arrangement.

**8** The Southwest National Primate Research Center at Texas Biomed is one of only two primate research centers in the nation that has access to marmoset populations for research and houses the oldest population of marmosets, which are necessary for aging research.

**9** More than 2,500 baboons from the Institute's pedigreed baboon colony were genotyped, and Texas Biomed has used that information to create the first genetic linkage map of any nonhuman primate.

**10** We have a Snail "Ranch" that houses 2,000+ snails...their favorite meal is salad no croutons, no dressing! Why snails? They carry a parasitic disease called schistosomiasis, that infects 200 million people in the world.

## UPDATE YOUR ADDRESS BOOKS: NEW FORUM EMAIL ADDRESSES

The Forum has new email addresses! Please update your address books accordingly. The new email addresses will allow Trustees to communicate in a more professional and consistent way. Additionally, they will streamline communication for current and future Trustees. Please use the following email addresses when communicating with these committees:

**President:** .....  
Forum.President@txbiomed.org

**Treasurer:** .....  
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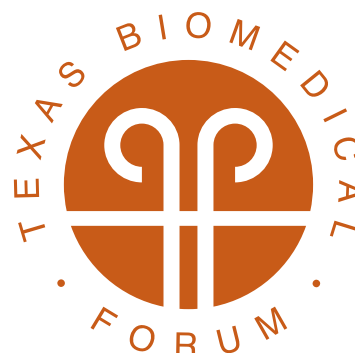
**Special Events:** .....  
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# 2018-2019 TEXAS BIOMEDICAL FORUM



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**Not Pictured:** Karen Bryant, Elizabeth Cox, Mallory Moorman

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**Christina Ketabchi** and her husband, Evan, have two children. CeCe is one and Henry is four. She was born and raised in San Antonio and returned home after graduating from SMU. Christina was an assistant district attorney at the DA's office and left right before she gave

birth to her daughter, CeCe. She is so excited to be a part of The Forum and to meet everyone involved!



**Mary Labatt** was raised in a military family and grew up in various cities throughout the United States. She graduated high school in San Antonio and now calls it home. Mary obtained her undergraduate degree from the University of Evansville in Indiana and

obtained a Masters in Healthcare Administration from Trinity University. She has spent the past ten years working in the healthcare field in various administrative capacities and is now taking a break to focus on her family. Mary has three active children, ages two, five, and seven. In her spare time she enjoys playing indoor and outdoor soccer on several women's leagues in the San Antonio area.



**Lauren Pepping** was born and grew up in Jeddah, Saudi Arabia and moved to San Antonio to attend Trinity University. After graduating she moved to Chicago to pursue a career in finance. Lauren moved back to San Antonio eight years ago with her husband, and four years ago

started her business, COOKIE CAB. Lauren is a foodie, loves to travel, and spend time with her three kids--Maya, Lena, and Nico. As a person who truly enjoys science and the positive impact it can make, Lauren is grateful to be a Trustee alongside so many amazing women!



**Corinna Holt Richter** is the President of HOLT CAT, the Caterpillar® dealership headquartered in San Antonio. She represents the fifth generation of the Holt family in the business. Corinna and her husband, J.B., have two young children, Holt and Charlotte. She earned

a Bachelor of Arts degree in Art History from Vanderbilt University. She is dedicated to many community organizations in San Antonio and when not working or volunteering her time, loves to cook, travel and spend time with friends and family in Port Aransas.



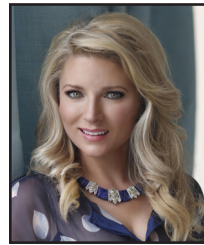
**Whitney Schones** is originally from Oklahoma City, is a graduate of the University of Oklahoma and has resided in San Antonio approximately seven years. Her favorite pastimes are golfing and eating Mexican food with her husband, Bryan, and daughters, Syler

and Marjory. She is an interior designer who specializes in residential remodels--the older the house, the better! One of the many reasons Whitney is most excited to be a Trustee is the lasting friendships that are formed from the board. Some of her favorite people she has met in her new hometown have either been or are Trustees.



**Emily Sytsma** is originally from Evansville, Indiana. She attended the University of Southern Indiana and moved to San Antonio in 2003. Emily is married to Johnny Sytsma and they have four children. Together they own J&S Mobile Home Services Inc. She is

an active community volunteer and is excited to join as a Trustee to help further awareness of Texas Biomed and the work it does.



**Kristin Tips** was born and raised in San Antonio. She earned a Bachelors of Business Administration with minors in Business Management and Marketing from The University of the Incarnate Word. She is now President and Lead Funeral Director of MPIO, Inc., Mission

Park Funeral Chapels, Cemeteries, Crematories and Memorials business, managing 28 operations in Texas. She is also CEO of Mission Park Investment Company, LLC, a private investment firm, Executive VP of International American Life Insurance Company, President of Fairmount Investments, LLC, Historic Fairmount Hotel and President of Tips Energy Group, LLC investing in solar, wind, oil and gas in Oklahoma and Texas. Kristin was appointed by Gov. Greg Abbot as a commissioner and confirmed by the Texas State Senate in fall of 2017 for a six year term to oversee statewide activities of the Texas Funeral Service Commission. She has a big heart and gives back to the community she loves. Her passion is helping to honor and memorialize the lives of our Nation's Heroes. She is humbled by her work with the Purple Heart Memorial in downtown San Antonio and fallen service men and women memorial at the SAPD Academy in honor of those who paid the ultimate sacrifice. She is married to her best friend and love of her life Robert D. "Dick" Tips. They are blessed with two children, Peggy and Robert, and are members of Christ Episcopal Church.



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TEXAS BIOMEDICAL  
RESEARCH INSTITUTE

# Cocktails with Scientists

A ROUNDTABLE DISCUSSION

**Thursday, November 15th, 2018**

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**Cocktail Reception 5:45 p.m. | Roundtable Discussions 6:30 - 7:30 p.m.**

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We welcome all Forum members to our Fall Roundtable event. Spouses or a guest included!

Join us for an evening of engaging conversations with brilliant scientists who are changing the world with their research. Please look out for your formal invitation coming soon!

<https://forum.txbiomed.org/events/forum-special-events/roundtable-discussions/>