Colleagues,

Please enjoy the November 2020 VTPP Success. I truly appreciate all of your continued efforts striving for excellence that ensure VTPP continues to lead in the CVMBS.

Congratulations everyone, we have made it to Thanksgiving and beyond! Faculty, staff and students have made an enormous effort, that is very much appreciated. However, please continue to wear a mask everywhere on campus, wash your hands and socially distance. As COVID-19 cases continue to rise in Texas and around the country, I urge everyone to remain on guard and diligent. Please continue to wear face coverings, wash your hands, stay home if you are ill, get tested, and quarantine if you are exposed. Texas A&M University has kiosks located around campus where anyone can get a test. There is also frequent testing available throughout the CVMBS. I also encourage everyone to utilize the very informative Hopkins COVID19 dashboard [https://coronavirus.jhu.edu/map.html](https://coronavirus.jhu.edu/map.html)

The disruption of everything due to the pandemic has highlighted the extent of enormous change we are experiencing. In VTPP and the CVMBS we are fully committed to a climate where all faculty, students, staff, and administrators feel that they are treated respectfully, and are fully accepted and valued for who they are. As we navigate our way through this new dynamic, please recognize that now, more than ever, how important it is for all of us to work together and embrace our combined future. VTPP must remain vigilant and recognize that our words and actions directly impact the sense of community and belonging that individuals feel within our department and college. Our words matter. Please continue to be mindful of them.

Don’t forget to take a look at “VTPP across Texas A&M University”. VTPP continues as a role model for research, teaching and training collaborations with faculty and students across multiple colleges. This section is designed to highlight the many connections VTPP enjoys across the Texas A&M University campus.

The November 2020 “VTPP Science in action” article comes from the work of Dr. Larry Suva and colleagues at OSU and in VIBS published in Bone. The studies performed provide an explanation for the low mineralization of the dentition in patients with hypophosphatasia (HPP). The article presents the first micro-computed tomography (microCT) based examination of the extent of mineralization in both HPP and normal human teeth. Since odonto-HPP is a common manifestation of the disease, the analytic approach has the potential to expand understanding of the dental consequences of HPP. The extremely interesting translational research article (PDF attached to this email) can be found at: [https://www.sciencedirect.com/science/article/pii/S8756328220305202?via%3Dihub](https://www.sciencedirect.com/science/article/pii/S8756328220305202?via%3Dihub)


Don’t forget to utilize the VTPP website. Please keep your personal information and webpage current as this is our first line of access for perspective students and others. For any revisions/additions that you would like or suggestions for other items to be added to the VTPP website, please let Ms. Julie Austin and I know. There is a lot there already and we are always looking to update and improve it. More recent photographs are widely needed, FYI [https://physiology.tamu.edu/](https://physiology.tamu.edu/)
Thank you everyone in VTPP for leading the way. Your efforts make us better every day. It is my privilege to work with all of you.

Larry

“So often in life things that you regard as an impediment turn out to be great good fortune.”

Ruth Bader Ginsberg.

**VTPP PUBLICATIONS (November 1, 2020-November 30, 2020)**


VTPP faculty are denoted in **bold** text, trainees in *italics*

*Please keep these important and impactful VTPP publications coming! The VTPP Success will continue to highlight our most recent achievements and is intended to serve as a concise but informative catalog of individual and departmental successes.*

**VTPP FACULTY**

Congratulations and thank you to all VTPP faculty who have submitted grants this month and all through the pandemic. Please keep up these efforts. VTPP needs all grant submissions to continue to increase! Also, ALL faculty are encouraged to utilize the **VTPP grant biopsy strategy** where sections (or major chunks) of grants in preparation and/or revision are read and critiques by our experienced VTPP research-intensive faculty. This is a proven successful strategy that I encourage everyone to utilize.

56) Congratulations to Dr. Ivan Ivanov (Co-I) on the submission of a new NIH R01 entitled “Vanderbilt Consortium to Advance Therapeutic Options for Endometriosis”
Congratulations to Dr. Ken Muneoka (PI) and Drs. Ivan Ivanov and Ling Yi (Co-Is) on the submission of a revised NIH R01 entitled “BMP9 and articular cartilage regeneration”

Congratulations to Dr. Stephen Safe (Co-I) on the submission of a new NIH R01 entitled “Nanoparticles to improve the efficacy of adoptive natural killer cell therapy against bone metastasis”

Congratulations to Dr. Cris Heaps (Co-PI) on the submission of a revised NIH R01 entitled “Protective mechanisms of cardiac contraction in exercise-trained porcine model”

Congratulations to Dr. Annie Newell-Fugate (Co-I) on the submission of a new NIH R01 entitled “Discerning the anti-cancer mechanism of MoS2 nanoflowers”

Congratulations to Dr. Stephen Safe (PI) on the submission of a revised NIH R01 entitled “Microbial Based Treatment for Endocrine-Resistant ER-Positive Breast Cancer”

Congratulations to Dr. Yanan Tian (PI) on the submission of a revised NIH R21 entitled “Long noncoding RNA MALAT1 ablation reverses type II diabetes in mouse models: mechanisms and therapeutic application”

Congratulations to Drs. Lindsay Dawson and Regina Brunauer (Co-PIs) on the submission of a revised NIH R21 entitled “The effects of aging on BMP9-induced articular cartilage regeneration”

Congratulations to Drs. Lindsay Dawson and Regina Brunauer (Co-PIs) on the submission of an MTF Biologics-Musculoskeletal Transplant Foundation grant entitled “Generating BMP9-induced cartilage allografts for articular cartilage restoration in aged mice”

Congratulations to Dr. Ivan Ivanov (Co-I) on the submission of a revised NIH R01 entitled “New mechanisms regulating uterine epithelial integrity”

If I have missed any VTPP trainee successes, please let me know and I will add those to the next VTPP Success

A quick heads-up and reminder of the upcoming 2021 Experimental Biology meeting and the opening of American Physiologic Society (APS) abstract submissions. Abstract submission information can be found at: https://experimentalbiology.org/Abstracts.aspx

Congratulations to Josh Bertels (Phys and Dev Biol track PhD student) (Dr. Gaddy mentor) on successful completion of his qualifying exam and becoming a PhD candidate

Colleagues, a terrific opportunity in 2021 for students and trainees. The Endocrine meeting is the leading meeting for endocrinology research and clinical care worldwide. Of particular interest there are numerous basic science sessions to consider with the latest research in key topical areas.

Diabetes and Metabolism / Neuroendocrinology / Nuclear Receptors and Signaling / Reproductive Endocrinology. The virtual meeting is a great opportunity for trainees! Registration is open and information available at: https://www.endocrine.org/meetings-and-events/endo2021/endo-2021-registration

Another important opportunity for trainees with an interest in orthopedics and tissue regeneration and repair, please consider the ORS meeting (February 12-16, 2021). Registration is open and information available at: https://www.ors.org/2021-am-reg/
Congratulations to Kirby Sherman (Phys and Dev Biol track PhD student; Dr. Suva, mentor) on very successful competition in the 2020 Grand National & World Championship Morgan Horse Show. We have a world champion in our midst!

VTPP EDUCATION CHRONICLES

VTPP Education Chronicles is an opportunity to share specific ideas and information regarding higher education. VTPP continued excellence in education is a major departmental strength and the information is provided to support all educational pursuits.

For the latest in online learning resources, please visit the TAMU keep teaching page at https://keepteaching.tamu.edu/

Creativity in the Classroom. The provost recently shared information regarding the way TAMU faculty have been creative in teaching courses, particularly those who have adapted so well to teaching face-to-face with a remote audience. If you or a colleague have a creative tip to share, please send to provostcomm@tamu.edu with the subject line TEACHING TIP so these experiences can be on the Keep Teaching website indicated above.

Highlights from BIMS125 (Animals in Society) The inaugural class made their final in-class presentations. All the newest Aggies were engaged and presentations made were of the highest caliber. Congratulations to Dr. Herman, Mandy and Lisa for their continued efforts and to all the Aggies ACHIEVE. More information can be found at https://aggieachieve.tamu.edu/
Please note the pre-emptive strike regarding the 2021 CVMBS Annual Teaching Showcase. The pandemic has forced rescheduling and the program is in the works for May 2021. **Please save the date for this wonderful CVMBS event.**

**Recent highlights from McAllen.** For those who have not visited McAllen campus recently, some images from McAllen to entice you! I encourage everyone to consider a visit there and/or chatting with Dr. Charity Cavazos or I about exciting teaching opportunities at the Higher Education Center!

Please continue to let me know of successes, updates and/or issues with the delivery on-line or otherwise of any of your VTPP classes.
VTPP RESEARCH FORECAST

Identifying upcoming seminars, workshops, funding announcements, events, and conferences of interest to VTPP. I hope it serves as an accessible archive and reference for upcoming research events and deadlines, and sources of information to support our next generation of high impact discoveries.

VTPP Science Friday conversations continue to be stimulating and helping develop more interactions. All faculty are encouraged to attend these important VTPP research- and mission-focused discussions. The next Science Friday discussions are scheduled via Zoom for Thursday 8:30AM, December 3 and December 17. Faculty are encouraged to step up and initiate similar interactions and discussions. If you have specific interests in leading any Science Friday discussion/topic or have specific aims to outline or develop, just let Dr. Suva know and come present and stimulate the conversation.

VTPP Seminar Series

The Fall seminar series is here and Dr. Clement has assembled some terrific speakers. There two scientific VTPP Seminars scheduled for Friday December 4 (Dr. Mutuchamy, Medical Physiology, College of Medicine, Texas A&M University) and Friday December 11 (Dr. Khasawneh, Pharmaceutical Sciences Texas A&M University) as well as Dr. Suva’s annual State of the Department seminar on Monday December 14. Seminars will be held via Zoom, 2-3 PM. As always, please push, encourage and direct and cajole your graduate students and trainees to attend VTPP seminar.

Research in the COVID19 era at Texas A&M University

Much is still happening with ongoing research. With research activities nearing full swing, protective measures remain essential. Please continue to monitor the VPR website regarding the latest information available regarding changes to research related to dynamic COVID-19 conditions. https://vpr.tamu.edu/covid-19

Please remember to wear masks in all TAMU locations and minimize occupancy of elevators in all buildings, including all of the research buildings.

Upcoming NIH Grant Deadlines and Opportunities

Upcoming NSF Grant Deadlines and Opportunities

January 1-January 19, 2021: Major Research Instrumentation Program (MRI)
For more details and upcoming submission dates go to:
https://www.nsf.gov/funding/pgm_list.jsp?org=NSF&ord=date&page=4

VTPP Research Infrastructure

VTPP continues collecting details of the major equipment and technical capabilities that exist in VTPP research laboratories. This effort will develop a framework to support VTPP investigators identify skills and equipment resources in VTPP. By identifying VTPP resources these can be leveraged multi-investigator grant applications, but also help identify where we may lack important equipment. Current resources information is available on our VTPP website. If you have not done so, please send DH your most recent grant resources page so we can continue to compile the information.
https://physiology.tamu.edu/vtpp-research-resources/

Colleagues, I encourage you to register and attend a series virtual workshop on “Validation of Animal Models and Tools for Biomedical Research”. The workshop is being organized by ORIP in collaboration with the National Heart, Lung, and Blood Institute (NHLBI), the National Institute on Aging (NIA), the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), the National Institute of General Medical Sciences (NIGMS), and the National Institute of Neurological Disorders and Stroke (NINDS), and will be held as a series of virtual sessions from December 1, 2020 to December 10, 2020. The series will provide a venue to discuss the status and needs regarding the validation and rigor/reproducibility of animal models used in biomedical research. Registration information available at:
https://www.scgcorp.com/validationseries2021/Registration

Texas A&M Research Cores

VTPP Success provides links to TAMU research core that may help VTPP researchers and identify research resources in VTPP and across the Texas A&M system.

This month we highlight Research Development Services (RDS). RDS supports the Texas A&M research community in the pursuit of external and internal research funding by providing a full-array of proposal development and consulting services, proposal resources and templates. RDS also facilitates proposal development with a spectrum of training opportunities at no cost for faculty. In addition, RDS supports and administers internal and international grant programs. (contact: Jorja Kimball, Ph.D., Executive Director, jkimball@tamu.edu; Ph (979) 845-1811). Details of the available services can be found at:
https://vpr.tamu.edu/division-units/research-development-services
VTPP SCIENCE IN ACTION

Identifying and highlighting the impactful VTPP publications of each month. The goal is to capture these articles for annual VTPP research highlights. I hope the articles serve as an accessible archive and reference of our very best VTPP Science!

The November 2020 highlighted “VTPP Science in Action” article (link included above and below) comes from a collaborative effort between the Dental school at the Ohio State University and VIBS and VTPP investigators in the CVMBS. The manuscript outlines a series of elegant experiments designed to provide a novel method for assessing the extent of mineralization in human hypophosphatasia (HPP) patient teeth, as well as identify differences in enzymatic activity associated with biallelic mutations in alkaline phosphatase. Figure 3 from the article (right) identifies the extent of the mantle dentin defects in HPP patient teeth. The figure shows control and HPP incisors where white indicates enamel (EN), gray indicates dentin (DE), and yellow indicates acellular cementum (AC), which was undetectable on HPP incisors. HPP teeth also exhibit excessive remaining root structure and radiolucent regions in outer dentin (yellow arrow). Congratulations again to all the members of the research team for the highly impactful study. There is still much to be learned and done! The manuscript can be found at:

VTPP always celebrates departmental birthdays, November 2020 birthday congratulations go to Julie Austin, Trudy Bennett, Jeff Brady, Srijana Upadhyay and Dr. Jeremy Wasser. We have again missed another great VTPP cake celebration opportunity. Hopefully we will be able to celebrate another year soon. Happy birthday and congratulations everyone celebrating this month!

Thank you to all our fabulous VTPP staff. The faculty, students and I are especially appreciative of everything you do to ensure VTPP remains a great department. You make us better every day!

VTPP ACROSS TEXAS A&M UNIVERSITY

Identifying and highlighting the impact of VTPP across campus. I hope it serves as an accessible archive to track the extent to which our faculty, staff and students work to bring down barriers to VTPP success! This new addition is part of an ongoing description of existing VTPP interactions with the goal to generate questions about multidisciplinary opportunities and to help identify common themes that may expand future VTPP collaborations. I look forward to more information about expanding these important interactions.

VTPP through the Michael E DeBakey Institute have contributed significantly to the Annual Pandemic Forum’s held by the Scowcroft Institute for International Affairs in the Bush School of Government and Public Service. These well attended and important forums are attended by participants from around the world providing significant visibility to VTPP and Texas A&M University. Each year the forum’s findings are presented to members of the House and Senate in Washington DC based on their need for factual information about pandemics. This information is even more important during the current pandemic. The proceedings of the Pandemic Forum are published and distributed widely among legislators both in Texas and in Washington DC. Copies can be found on the Scowcroft Institute website at: https://bush.tamu.edu/scowcroft/white-papers/ These interactions with the Centers for Disease Control and Prevention (CDC) and National Institutes of Health (NIH), along with congressional representation has had significant impact on the passage of critical pandemic legislation spearheaded. VTPP continues to lead in efforts to interact across the Texas A&M University campus!

In December, the 6th Annual Pandemic Summit will feature the bio-economy, including: technologies that present the greatest potential and threats; the intellectual property and legal challenges that exist in protecting the bio-economy; and the COVID-19 pandemic. The pandemic summit schedule and registration can be found at https://bush.tamu.edu/scowcroft/events/
December 1 is giving Tuesday! Please consider taking the opportunity to make charitable donations as able. It is especially important in the current tumultuous environment. For information about gifts to VTPP or TAMU, please contact Trudy Bennet: tbennett@tamu.edu

Please consider supporting Sybil Camacho’s efforts to get through the 2021 New York City Marathon in memory of our late staff member and great colleague and friend Melissa Stokes. The marathon date has not been decided as of yet. As you may recall, Sybil was registered for the 2020 race which was cancelled by the pandemic. Please keep Sybil’s ongoing and dedicated efforts in mind for 2021. The link to Sybil’s sponsor donation page for Melissa is below:

https://online.crohnscolitisfoundation.org/site/TR/TeamChallenge/AllChapters?px=3900800&pg=personal&fr_id=8671
VTTP WELLNESS

Please enjoy how VTTP is staying well during the pandemic. I share them with you as part of VTTP’s continued success!! No names are provided, to protect the innocent. Please keep sending images of VTTP Wellness to share, and please continue to be safe!

You want me to do what?

World champion’s ribbons!

Is that a refrigerator for the lab?

Now that is relaxing!

Dr. Heaps has a new technician!

A pair of new Aggie rings!

Holiday science discussions…?

A real sleeping beauty……
VTPP WELLNESS

Somewhere near the Mexico border….

Staff townhall with a friend….

“I AM ALWAYS DOING THAT WHICH I CAN NOT DO, IN ORDER THAT I MAY LEARN HOW TO DO IT.”

∞ PABLO PICASSO ∞