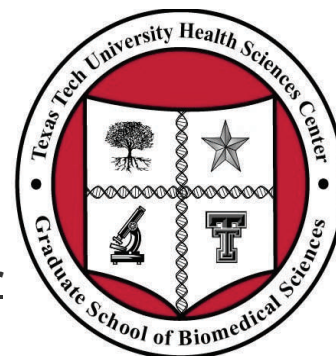




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Dean Nelson awarding GPPS student Llyod Alfonso first place for his poster at Amarillo's Research Days.

7th Annual Research days

The 7th annual Research Days occurred June 4th through the 6th in conjunction with the Marsh Lecture. Dr. John Baldwin, president of TTUHSC spoke of the importance of research to this institution during the opening ceremony. Professor John Crabbe from the Oregon Health and Science University was the Key note speaker for the Marsh lecture. His lectures introduced a new mouse model for the study of alcoholism.

Faculty, graduate students and residents from all TTUHSC campuses presented their research. GPPS students presented 29 posters. Our students were very successful in the GSBS poster competitions. Lloyd Alfonso's poster was awarded 1st, Arun Satelli 2nd and Vinay Rudraraju was awarded 3rd.

1st Place

L. Alfonso, K. Srivenugopal, T. Abbruscato, J. Weidanz, J. Gunaje
Aspirin Modulates p21 Expression in MDA-MB-231 Breast Cancer Cells: Implications in Chemotherapy

2nd Place

A. Satelli, P. Rao, K. Borges, S. Thirumala, A. Trehan, U. Rao
Galectin-4 is a Prognostic Marker of Colorectal Cancer

3rd Place

V. Rudraraju, F. Thomas, K. Taskar, J. Gaasch, R. Mitapalli, P. Lockman, D. Palmieri, P. Steeg, Q. Smith
Uptake of Suberoylanilide Hydroxamic Acid, a Histone Deacetylase Inhibitor, into Brain Metastases of Breast Cancer



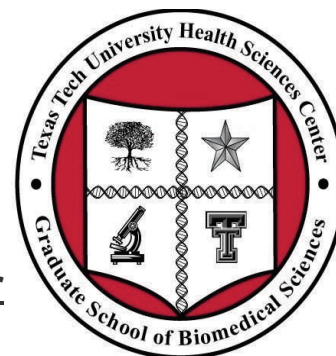
Members of the Graduate Student Association of Amarillo at the finish of the Hot Dog 15 K, organized by graduate student Erica Wisdom. For more information see page 4.



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GPPS Poster Presentations at Research Days in Amarillo June 4-6

C. Adkins, R. Mittapalli, K. Bohn, K. Taskar, V. Manda, Q. Smith, P. Lockman

Quantitative Fluorescent Microscopy to Determine Permeability Changes in Brain Adjacent to Tumor

N. Bailey, K. Srivenugopal

First Evidence for the Involvement of NRF2, a cytoprotective transcription factor in the expression of Human MGMT

K. Bennett, J. Stoll

Expression and characterization of two novel transporter orthologs, BOCT1 and BOCT2

K. Bohn, R. Mittapalli, C. Adkins, K. Taskar, V Rudraraju, Q. Smith, P. Lockman

Microvascular Density in a Murine Model of Brain Metastases of Breast Cancer

H. Thorsheim, **S. Goda, F. Thomas**, T. Abbruscato, Q. Smith
LC-MS/MS Assay of Bumetanide in Brain and Plasma

S. Guin, K. Zhang, H. Yao, M. Wang

Doxorubicin Immunoliposomes Targeting RON Receptor Tyrosine Kinase: An Alternative Strategy for Potential Cancer Therapy

P. Kandala, S. Srivastava.

3,3'-Diindolylmethane, a Dietary Agent Causes G2/M Arrest by Activating CHK2 in Human Ovarian Cancer Cells.

S. Kudugunti, N. Vad, Majid Moridani

The biochemical mechanism of 4-(1H-Pyrrol-1-yl)phenol toxicity in huMan SK-MEL-28 melanoma cell line: a tyrosinase mediated prodrug bioactivation approach

M. Moridani, **N. Vad, S. Kudugunti**

In-Vitro Toxicity and In-Vivo Efficacy of Aspirin as an Anti-Melanoma Agent

R. Mehvar, **R. Parasrampur**

Hepatobiliary Disposition of Rhodamine 123 in Isolated Perfused Rat Livers

I. Shaik, R. Mehvar

Effects of Diallyl Sulfide, a Garlic Constituent, on Warm Ischemia-Reperfusion Injury in Rat Livers

R. Samala, S. Willis, K. Borges

Characterization of Ketogenic diet in mice

P. Rao, **A. Satelli**, U. Rao

RNF2 is the terminal effector of the mitogen activated protein kinase signaling.

R. Sumbria, U. Bickel

Assessment of Blood-Brain Barrier Damage by Microdialysis Probe Implantation

K. Taskar, V. Rudraraju, H. Thorsheim, F. Thomas, J. Gaasch, R. Mittapalli, C. Adkins, P. Lockman, P. Steeg, D. Palmieri, J. W. Polli, S. Castellino, S. Rubin, Q. R. Smith

Distribution of Dual Tyrosine Kinase Inhibitor Lapatinib in Brain Metastases of Breast Cancer

S. Tiwari, P. Selvaraj, M. Mattson, T. Arumugam¹

Role for Toll-like receptors in ischemic stroke induced endothelial cell dysfunction

C. Thomas, A. Rawat, F. Ahsan

Respirable PLGA-Microspheres for Pulmonary Delivery of Hepatitis B Vaccine

F. Thomas, H. Thorsheim, S. Goda, J. Gaasch, R. Gabathuler, M. Demeule, C. Che, J. Castaigne, P. Lockman, Q. Smith

Brain Uptake of ANG1005 - a Novel Paclitaxel-Peptide Vector Conjugate with Improved Blood-Brain Barrier Transport

F. Thomas, V. Rudraraju, K. Taskar, P. Lockman, D. Palmieri, P. Steeg, Quentin R. Smith

Brain Uptake of Gemcitabine across the Blood-Brain Barrier

N. Vad, S. Kudugunti, M. Moridani

In-Vivo Efficacy and Toxicity of Acetaminophen as an Anti-Melanoma Agent in Skin B16-F0 Melanoma Tumor Model in C57BL/6 Mice

S. Vemula, K. Roder, P. Lockman, T. Abbruscato

Metabolic Adaptation of Brain Subjected to Stroke Conditions.

B. Verma, D. Bhattacharya, R Timmons, J Weidanz

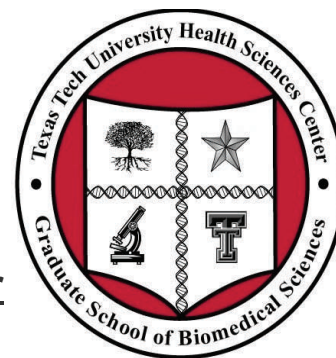
Binding specificity of TCRm conjugated nanoparticles



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GPPS Poster Presentations at Research Days in Amarillo June 4-6

S. Willis, R. Samala, K. Borges

Differences in Energy Metabolism in a Chronic Epilepsy Mouse Model?

S. Willis, R. Samala, T. Rosenberger, K. Borges

Eicosapentaenoic and Docosahexaenoic Acids are not Anticonvulsant or Neuroprotective in Mouse Acute Seizure Models

E. Wisdom, J. George, T. Thekkumkara

A Compensatory Mechanism for Acute Hyperglycemia Induced Apoptosis

L. Yang, T. Yang, S. Vemula, T. Arumugam, T. Abbruscato

Opioid Receptor Agonist as a Neuroprotective Agent in the Treatment of Stroke

Poster Presentations at Research Week in Lubbock March 11-14

The Center for Integration of Science Education & Research organized this year's Student Research Week in Lubbock. Five of our students made poster presentations. The Graduate School of Biomedical Sciences generously paid for our students travel and rooms. The theme of Student Research week was fertilization. The guest speakers all addressed reproductive science.

J. Bass, J Weidanz

Targeting a Novel Class of Biomarkers using TCRm

E. Wisdom, T. Thekkumkara

A compensatory Mechanism for Acute Hyperglycemia Induced Apoptosis in Human Proximal Tubule Epithelial Cells

S. Kudugunti, N. Vad, G. Yount, M. Moridani

Investigation of Aspirin as an Anti-Melanoma Drug

R. Sahu, P. Kandala, M. Epperly, S. Srivastava

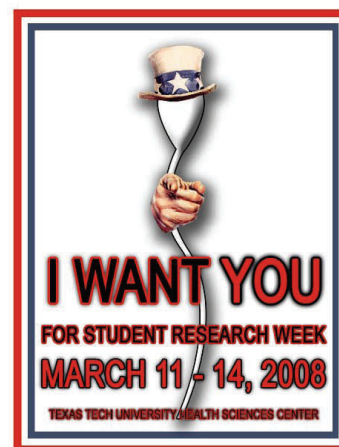
Benzyl Isothiocyanate Sensitizes Human Pancreatic Cancer Cells to Radiation Therapy

L. Yang, T. Yang, S. Vemula, T. Arumugam, T. Abbruscato

Potential Application of Opioid Agonist for stroke Treatment.

Coulter Research Building

The Coulter Research Building is on track to open in November. The School of Pharmacy will have approximately 12,000 square feet. The focus of the research conducted there will be cancer. The new space will allow expansion of existing laboratories in the SOP.

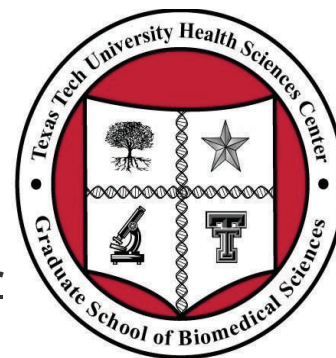




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Graduate Students Association Amarillo

GSAA elected new officers for the 08/09 school year. Vivek Gupta was elected president, and Imam Shaik vice president. Chris Adkins becomes the treasurer, Satyanarayana Goda secretary, Siva Koganti historian and Rajendar Mittapalli international officer.

GSAA made several changes to their by-laws. The fees increased by 5\$ to 30\$ per semester. Minor changes to the officers duties were made and criteria for being an active member were defined. There were changes made in how travel scholarships are awarded.

The GSAA continued its commitment to public service. Several members organized an event May 1st for the non-profit organization [Locks of Love](#). This group provides hair pieces for financially disadvantaged children who have long term medical hair loss.

Erica Wisdom organized, with the assistance of the GSAA, and the Lone Star Runners Club a 15 K run in Palo Dura canyon on July 12th to raise money for the [National Alliance on Mental Illness](#). NAMI provides support for individuals and families affected by mental illness, advocacy for the mentally ill, and education to the public. The event raised 1000\$ for NAMI and had 88 participants.



Snehal Padhye and Kaci Bohn donated their hair to the non-profit organization Locks of Love.

American Association of Pharmaceutical Scientists

This year's AAPS Annual Meeting in Atlanta, Georgia will host the "Texas Tech School of Pharmacy Friends and Alumni reception". The reception will be Monday, November 17 from 5:30 pm to 7:00 pm in the Omni Hotel CNN Center. This is a good opportunity for people who have been students, faculty or employees to see how the program has grown. Dr. Smith and the student chapter AAPS have worked together toward the realization of this event. If you would like to attend, please email Merlin.Morris@ttuhsc.edu



The TTUHSC AAPS student chapter, with their advisor Dr. Ahsan.

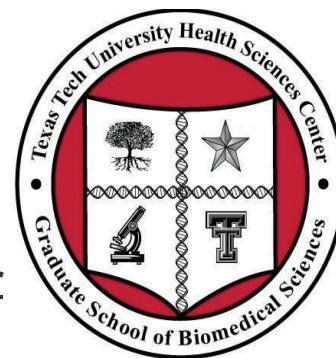
The AAPS Student Chapter hosted a Summer Luncheon for all graduate students and post-doc's on July 29 2008. The chapter also held a special screening of Dr. Randy Pausch's "Last Lecture" during the hour. The inspirational lecture has registered more than six million hits since it was first posted on the popular website "youtube". You can watch it [here](#).



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Graduates

Three students graduated in the Spring and Summer semesters. James Egbert received an M.S. with his thesis "Vascular Permeability of the MDA-MB 231BR and RG-2 Brain Tumor Using Quantitative Fluorescence Microscopy." His advisor was Dr. Lockman. Dr. Bickel was Jiukuan Hao's mentor. Jiukuan's Ph. D. dissertation was "Therapy of Stroke with Novel Neuroprotective and Anti-inflammatory Agents." Shua Bai's Ph.D. dissertation was "Inhalable Long Acting Formulations of Low Molecular Weight Heparins" which he earned in Dr. Ahsan's laboratory.

Jennifer Paulson who received her Ph.D. in August 2007 was awarded the GSBS Outstanding Graduate Student for the 2007/2008 school year. Jennifer is now working toward her Pharmacy Doctorate.



Jennifer Paulson and her advisor Dr. Abbruscato at the GSBS hooding ceremony for the 2007/2008 year

New Students



The GPPS admitted four new students into the Ph.D. program. They are pictured here during orientation.

From left to right Chris Adkins, Hussaini Syed Sha Qhattal, Mamunur (Moon) Rashid, and Russell Snyder.

Chris has a BS in Biochemistry degree from West Texas A&M and worked as a technician in Dr. Paul Lockman's lab since August 2007, where he will continue as a student.

Hussaini has a Master's degree in Pharmaceutics from Kakatiya University in India. He worked as a lecturer at KLR Pharmacy College in India before enrolling here. He is advised by one of our new Assistant Professors, Dr. Xinli Liu.

Moon will be working with another new Assistant Professor Dr. Vardan Karamyan. He earned a Master's degree in Pharmaceutical Technology from University of Dhaka in Bangladesh after which he worked as a lecturer at another Bangladeshi school, Primeasia University. While employed there he saw a seminar given by Dr. Ahsan which interested him in this program.

Russell has a Master's from TTUHSC School of Allied Health in Molecular Pathology which he completed in 2007. He also has a B.S. also from Allied Health in Clinical Laboratory Science, which he received with honors. Dr. Thekkumkara will be his advisor.



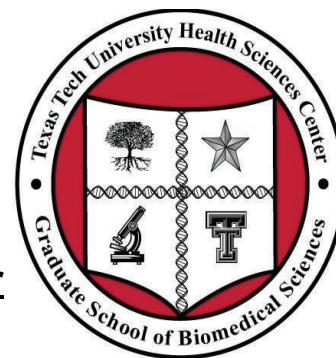
Jiukuan Hao at the GSBS hooding ceremony. Jiukuan is now an Assistant Professor at Harding University in Arkansas



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New Faculty



Dr. Liu researches nanocarrier systems to improve tumor drug delivery while avoiding healthy cells.

GPPS has added two new Assistant Professors. They are Dr. Xinli Liu who started this summer and Dr. Vardan Karamyan who started this fall.

Dr. Liu earned her Ph.D. from the University of Kentucky in 2004. Her doctoral research focused on the liposomal delivery of the prodrugs of the anti-cancer agent camptothecin. In 2007 she completed a postdoctoral fellowship at the Institute of Pediatric Clinical Research, Division of Hematology and Oncology at Children's Hospital Los Angeles, University of Southern California. For information about her research please visit her [web page](#).

Dr. Karamyan received his Ph.D. in Biology from the Institute of Biochemistry, National Academy of Sciences, Yerevan Armenia in 2004. His postdoctoral training was with Dr. Robert Speth in the Department of Pharmacology University of Mississippi. His primary research interests focus on the understanding of the organization and function of the brain renin-angiotensin system in health and disease. For information about his research please visit his [web page](#).

Awards & Scholarships

The faculty and staff awards ceremony occurred on Friday May the 2nd. Kaci Bohn presented the GSAA's awards. Dr. Mehvar received both teacher of the year and teaching team of the year awards. Terry Langehennig who is the CEO of [Panhandle Plains Student Loan Center](#) awarded several travel scholarships to our graduate students.

Nikhil Vad and Sharanya Vemula are two of the four recipients for the 2008 AAPS Graduate Student Symposium. They are the first students from GPPS to receive this honor. The awards will be presented at the AAPS Annual meeting in Atlanta, GA. They will receive a cash prize and a plaque which will be presented at the conclusion of the symposium.

The CH scholarships went to 5 students. Sarah Willis, Arun Satelli, Imam Shaik, Katie Bennett, and Sharanya Vemula were each awarded 500\$. The CH scholarships will again be awarded in the fall of 2008. Katie and Arun also received a travel scholarship from the American Society for Biochemistry and Molecular Biology.

Erica Wisdom received a \$1550 award from the Minority Access to Research Careers program sponsored by the Federation of American Societies for Experimental Biology to attend the Experimental Biology Meeting in San Diego, CA from April 4-9. She also received a \$5000 scholarship from the Hispanic Scholarship Fund in May. Kaci Bohn will receive a \$525 award from TTUHSC to travel to the Neuroscience Conference in November.



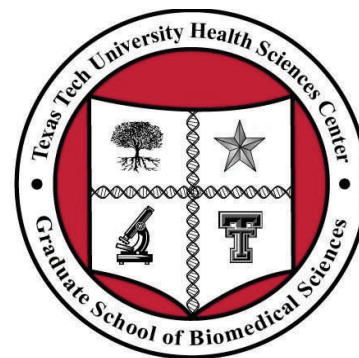
Dr. Mehvar received 2 awards for outstanding teaching from the GSAA.



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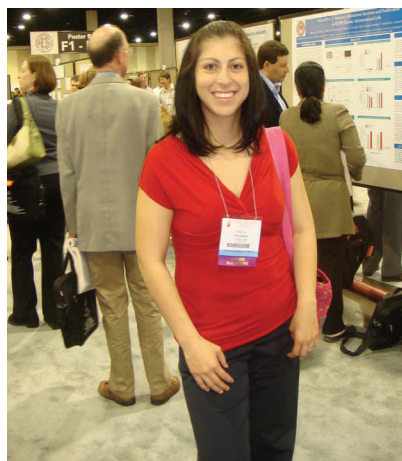
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Conferences

During the spring and summer of 2008 GPPS students made poster presentations at several conferences. The conferences were the Annual Meeting & Exposition of the Journal Controlled Release Society, Experimental Biology, the International Symposium for Dietary Therapies on Epilepsy and other Neurological Disorders, the American Association of Cancer Research and a Gordon research conference on Barriers of CNS.



Katie Bennett and her daughter Teagan after the Experimental Biology conference in San Diego.



Erica Wisdom at the Experimental Biology Conference in San Diego



A. Satelli, P. Rao, P. Lockman, K. Srivenugopal, U. Rao
Varied expression and localization of multiple galectins in different
American Association of Cancer Research San Diego April 12-16

V. Gupta, A. Rawat, F. Ahsan
PGE1 Microparticles for Pulmonary Arterial Hypertension Treatment via the Pulmonary Route
Annual Meeting & Exposition of the Journal Controlled Release Society, New York, New York, July 12-16

K. Bennett, J. Stoll
Expression and characterization of two novel transporter orthologs, BOCT1 and BOCT2
Experimental Biology conference in San Diego, CA from April 05 - 09, 2008.

E. Wisdom, J. George, T. Thekkumkara
A Compensatory Mechanism for Hyperglycemia Induced Apoptosis
Experimental Biology conference in San Diego, CA from April 05 - 09, 2008

M. Wang, S. Guin
Doxorubicin immunoliposomes targeting RON receptor tyrosine kinase: An alternative strategy for potential cancer therapy
American Association of Cancer Research San Diego April 12-16

C. Thomas, A. Rawat, F. Ahsan
Respirable PLGA-Microspheres for Pulmonary Delivery of Hepatitis B Vaccine
Annual Meeting & Exposition of the Journal Controlled Release Society, New York, New York, July 12-16

V. Pillai, Y. Chen, J. Crumley, R. Bazinet, S. Rapoport, M. Weis.
Triacsin C is a time dependent inhibitor of Long Chain Fatty Acyl CoA Synthetase (Acs1) in endothelial cells
Experimental Biology conference in San Diego, CA from April 05 - 09, 2008

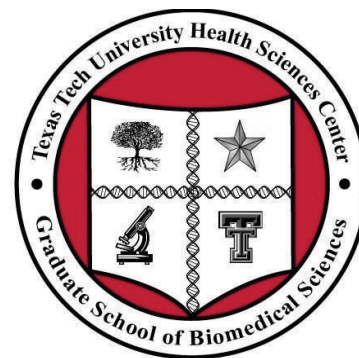
S Tiwari, M. Mattson, T. Arumugam
Role of Toll like receptors in ischemic stroke induced endothelial cell dysfunction.
Experimental Biology conference in San Diego, CA from April 05 - 09, 2008



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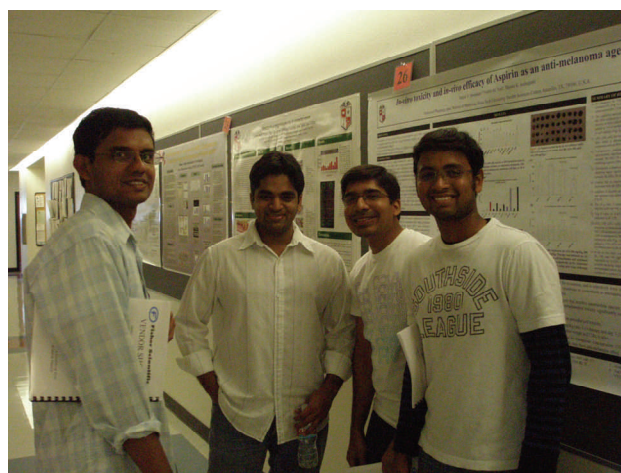


Conferences

- S. Vemula**, K. Roder, T. Yang, K. Shah, L. Yang, J. Bhat, T. Thekkumkara, T. Abbruscato.
A functional role for sodium dependent glucose transport across brain endothelial cells during oxygen glucose deprivation *Gordon research conference- Barriers of CNS*, Tilton, NH, June 22-27, 2008
- S. Willis, R. Samala**, T. Rosenberger, K. Borges
Lack of anticonvulsant and neuroprotective effects of eicosapentaenoic docosahexanoic acid in mice.
International Symposium for Dietary Therapies on Epilepsy and other Neurological Disorders

2008 Spring and Summer Publications

- Bennett KM**, Hoelting C, Martin CP, Stoll J.
Estrogen Effects on High-Affinity Choline Uptake in Primary Cultures of Rat Basal Forebrain.
Neurochem Res. 2008 May 16 [Epub ahead of print]
- Hao J**, Mdzinarishvili A, Abbruscato TJ, Klein J, Geldenhuys WJ, Van der Schyf CJ, Bickel U.
Neuroprotection in Mice by NGP1-01 after Transient Focal Brain Ischemia.
Brain Res. 2008 Feb 27;1196:113-20
- L Dwoskin, T. Wooters, S. Sumithran, K. Siripurapu, B. Joyce, P. Lockman, **V. Manda**, J. Ayers, Z. Zhang, A. Deaciuc, J. McIntosh, P. Crooks, M. Bardo.
N,N'-Alkane-diyl-bis-3-picoliniums as Nicotinic Receptor Antagonists: Inhibition of Nicotine-Induced Dopamine Release and Hyperactivity.
J Pharmacol Exp Ther. 2008 May 6 [Epub ahead of print]



From left to right Venkateswar Pillai, Vinay Rudraraju, Satyanarayana Goda, and Vamshi Manda at the 7th annual Research Days in Amarillo.



Participants in the GSAA ski trip to Taos

- Samala R., Willis S**, Borges K.
Anticonvulsant Profile of a Balanced Ketogenic Diet in Acute Mouse Seizure Models.
Epilepsy Res. 2008 June 17 [Epub ahead of print]
- Shaik I.**, George J., Thekkumkara T., Mehvar R.
Protective Effects of Diallyl Sulfide, a Garlic Constituent, on Warm Hepatic Ischemia-Reperfusion Injury in a Rat Model
Pharmaceutical Res. 2008 July 15 [Epub ahead of print]
- Willis S., Samala R.**, Rosenberger T, Borges K.
Eicosapentaenoic and Docosahexaenoic Acids are not Anticonvulsant or Neuroprotective in Acute Mouse Seizure Models
Epilepsia, 2008 Jul 14 [Epub ahead of print]

Agonist is published every fall and spring semester by the Graduate Program of Pharmaceutical Sciences (GPPS). To include information in the next Agonist please contact Merlin Morris at 356-4015 ext 227 or email Melin.Morris@ttuhsc.edu.