March 13, 2014 is World Kidney Day!

A joint initiative of the International Society of Nephrology (ISN) and the International Federation of Kidney Foundations (IFKF), World Kidney Day (WKD) is a global health campaign that aims to raise awareness of the importance of our kidneys to our overall health, and to reduce the frequency and impact of kidney disease and its associated health problems. Chronic Kidney Diseases can be treated if detected early thereby reducing other health complications and dramatically reducing the growing global burden of deaths and disability from chronic renal and cardiovascular disease. See more on WKD at: http://www.worldkidneyday.org/#sthash.G9pW6Ivp.dpuf.

Humphrey Fellows visits THRCE

Humphrey Fellows met with Dr. Navar and visited the COBRE Core facilities at the Tulane Hypertension & Renal Center of Excellence. The Tulane University School of Public Health and Tropical Medicine has been hosting the program since 1979. Since then, 299 mid-career professionals from 99 countries have participated in the Program taking training in many areas of public health, including health systems management, hospital administration, maternal and child health, tropical medicine, nutrition, environmental health, and epidemiology. For further details on the Tulane program access http://tulane.edu/publichealth/ghsd/humphrey_fellows_program.cfm.

The Hubert H. Humphrey Fellowship Program provides ten months of non-degree academic study and related professional experiences in the United States. Humphrey Fellows are selected based on their potential for leadership and their commitment to public service in either the public or the private sector. Tulane University is one of eighteen major universities in the United States that host Humphrey Fellows. These host universities are chosen for their excellence in the Program's designated fields of study and for the resources and support they offer Humphrey Fellows.
HONORS & RECOGNITION AWARDED TO THRCE AFFILIATED INVESTIGATORS

Drs. Navar and Mitchell:
- Received a AHA funding notification for a Health Sciences Fellowship for two years. Three medical students will be supported by this program each summer.
- Were recognized by the School of Medicine for having completed 25 Years of Service at Tulane University School of Medicine.

Dr. L. Gabriel Navar:
- Awarded a Serelaxin grant from Novartis to study renal reactions to Serelaxin.
- Recognized at the SOM Faculty Research Synergy Event for having received one of the top three research awards in the SOM, which was the COBRE Phase III grant for a total award amount of $5,370,692.
- Served on the external advisory committee for the Program Project grant at New York Medical College.
- Participated in the Bioinnovation IGERT Advisory Board Meeting on October 18.

Dr. Dewan S. A. Majid:
- Invited as a Key-note Speaker in the 1st Annual International Conference on Advanced Research: Physiology (ARP) to be held in Singapore from 22-24 July, 2014.
- Selected as the ‘Editor-in-Chief’ for the Annual International Conference on ARP. The Conference is organized by the ‘Global Science and Technology Forum’ based in Singapore. More details on the conference can be found at http://physiology-conf.org.

Dr. Kenneth D. Mitchell:
- Welcomed as a new member of the International Association of Medical Science Educators (IAMSE). IAMSE is a unique organization serving instructional faculty in the health sciences.
- Appointed Chair of the T1 Curriculum Committee effective July 1st, 2013.

Dr. Minolfa C. Prieto:
- Effective December 1, 2013, became an invited Member of the Committee for Scientific Sessions Programming (CSSP) of the Kidney in Cardiovascular Disease (KCVD) Council.
Honors & Recognition Awarded to THRCE Affiliated Investigators, continued...

- Was awarded, along with Dr. Lucienne Lara, a three-years grant by the Brazilian Government (CAPES and CNPq). This grant program titled “Science Without Borders,” promotes the consolidation and expansion of science, technology and innovation in Brazil through international exchange. Dr. Lara and Prieto are Co-PIs of the project "Salt sensitivity in Angiotensin II-dependent Hypertension: Unraveling the molecular mechanisms explaining the progression to renal damage."

Dr. Gerald Berenson received the Paavo Nurmi Foundation Award at the Annual International Childhood Cardiovascular Cohort (I3C) Consortium meeting in Cincinnati in September, 2013. The I3C consortium consists of the following research programs:

1. Bogalusa Heart Study (Bogalusa & New Orleans, Louisiana)
2. Muscatine Study (Muscatine & University of Iowa)
3. Cardiovascular Risk in Young Finns Study (University of Turku, Finland)
4. Childhood Determinants of Adult Health Study (Australia)
5. Minneapolis Childhood Cohort Studies (University of Minnesota)
6. Princeton Lipid Research Clinics Study (Cincinnati, OH)
7. NHLBI Growth and Health Study

Dr. Kathleen Hering-Smith:

- Was promoted to Research Associate Professor in Medicine-Nephrology with adjunct appointment in Physiology.
- Attended the pre-ASN Epithelial Transport Group Meeting held at Emory University in November, 2013.
- Mentor at ASN 2013 for the ASN Mentoring Program Medical Students and Residents.
- Participated in the ASN Physiology, Cell and Molecular Biology Advisor Group that sponsored graduate & medical students from Morehouse University and mentored for Morehouse University Students Day at ASN 2013.

Graduate & Post-doctoral fellows:

- Dr. Umadevi Subramanian, Postdoctoral Fellow, (mentor Dr. Pandey) received a New Investigator Travel Award at the High Blood Pressure Research Scientific Sessions Meeting which was held here in New Orleans September 11-14, 2013.
THRCE participates in the AHA 2013 Heart Walk

Representatives of THRCE participated in the 2013 Heart Walk sponsored by the American Heart Association on Saturday, November 2nd at LaSalle Park. The Heart Walk is an annual event to raise money for the American Heart Association. Along with the non-competitive walk, the event include numerous fun-filled health and wellness activities, free food and entertainment. Nina Majid was the Team Captain for Tulane School of Medicine (TSOM) for second year in a row and acted as the team leader for the Department of Physiology. She was responsible in coordinating and recruiting team leaders throughout the medical school. Other TSOM-departmental team leaders were Dr. David Busija (Pharmacology), Ramy Khoury (Stroke Team), Gayle Evans (Medicine), Dr. Alvaro Alonso (TSOM-Heart & Vascular Institute), Ashleigh Wolf (OB/GYN), Craig Robins (Police Department), Barbara Valo (Matas Library), Gilbert Estrada (Biochemistry), Dr. Tripp Frasch (Structural and Cellular Biology), and Lauren Lim. The team leaders were responsible for recruiting members who helped them raise funds and participated as walkers at the Heart walk. Raffles and bake sales were some of the fund-raising activities organized by the teams; Claire Fewell from the department of Pathology won the raffled autographed & framed photograph of New Orleans Saints, Drew Brees. TSOM team leaders, along with their members, helped raise over $7,719.36 for the AHA fundraising campaign. Overall, the AHA Heart Walk, with the fundraising support from Tulane and other companies in New Orleans, raised over $900,000; this fund will be used in accomplishing the AHA mission of building healthier lives free from cardiovascular diseases and stroke.

This year saw a large participation of volunteers: Over 70 members were recruited as walkers. The picture above shows some of the walkers from the various TSOM teams who had participated at the 2013 Heart Walk.
A manuscript entitled, “Circulating Adipocytokines and Chronic Kidney Disease,” by Drs. Jing Chen and others was highlighted in the October 9, 2013 issue of the American Society of Nephrology (ASN) online bulletin. Dr. Chen, is the Assistant Director of the Translational & Clinical Core Facility of the Tulane COBRE in Hypertension and Renal Biology and Associate Professor of Medicine, Division of Nephrology and Hypertension, at Tulane University, School of Medicine.

NEWS CENTER INVESTIGATORS

Dr. Sarah Lindsey has recently joined THRCE and begun utilizing the center’s Core facilities and services for her ongoing research. Dr. Lindsey is a New Orleans native and received her Ph.D. in Pharmacology from LSU Health Sciences Center in 2007. She then completed her postdoctoral training at the Wake Forest Hypertension and Vascular Research Center in Winston-Salem, NC. Dr. Lindsey received the NIH Pathway to Independence Award in 2011 and joined the Tulane Pharmacology Department in April 2012. Her laboratory investigates the role of the G protein-coupled estrogen receptor in cardiovascular health, and includes elucidating the interactions between this estrogen receptor and the renin-angiotensin system. Her research will help to determine the cardiovascular benefits and risks of hormone replacement therapy.

CENTER DEPARTURES

August 2013 saw the departures of three THRCE affiliates. Dr. Yumei Feng relocated her research program to Colorado State University and resigned from Tulane. She will continue to serve as adjunct Assistant Professor to the Department of Physiology and continue to collaborate with Tulane and THRCE Investigators. Dr. Yumei Feng had joined Tulane in 2009 as Assistant Professor to the Department of Physiology and the Director of THRCE Mouse Phenotype Core facility. Postdoctoral fellows, Dr. Wencheng Li (mentor, Dr. Feng) and Dr. Danielle Arita (mentor, Dr. Prieto) also departed in the Fall of 2013.
**SCIENCE IN NEWS: MEDTRONIC'S RENAL DENERVATION SYSTEM FAILS**

The pivotal SYMPLICITY HTN-3 trial evaluating the use of Medtronic's renal denervation system in patients with treatment-resistant hypertension failed to meet its primary efficacy endpoint. The announcement confirms that renal denervation was no better than a sham intervention for lowering office systolic blood pressure through 6 months among patients who continued taking their anti-hypertensive.

The trial's data safety monitoring board, however, determined that the trial did meet its primary safety endpoint, the rate of major adverse events a month after randomization and renal artery stenosis through 6 months.

In recent years, concerns have been raised that the magnitude of the blood pressure reductions seen in renal denervation studies without control groups would not hold up in controlled trials, and those concerns now appear to be well founded.

SYMPLICITY HTN-3, which randomized 535 patients with treatment-resistant hypertension and a starting systolic blood pressure over 160 mm Hg, had a sham-control group in which patients underwent angiography alone.

The use of a sham control makes the trial unique and suggests that some of the benefit seen in earlier studies could have been due to a placebo effect, said Aronow, who spoke on behalf of the Society for Cardiovascular Angiography and Interventions.

**Source:** The American Heart Association: Science News, Scientific Sessions 2010: Simplicity HTN-2/ [http://www.medpagetoday.com/Cardiology/Hypertension/43715](http://www.medpagetoday.com/Cardiology/Hypertension/43715). This article, originally published Jan. 9, 2014, at 11:16 a.m., was updated with new material (Jan. 9, 2014, at 3:50 p.m.).

### Upcoming Scientific Events

- **Feb. 20-22**  
  2014 Southern Regional Meeting; New Orleans, Louisiana.
- **March 6-9**  
  ISN Forefront Symposium/Intrinsic Regulation of Kidney Function: Charleston, South Carolina.
- **April 26-30**  
  Experimental Biology Meeting; San Diego, California.
- **May 1-3**  
  AHA American Stroke Association ATVB Meeting; Toronto, Ontario.
- **May 16-20**  
  American Society of Hypertension; New York, New York.
- **June 13-16**  
  International Society of Hypertension; Athens, Greece.
- **July 22-24**  
  1st Annual International Conference on Advanced Research: Physiology (ARP); Singapore.
THRCE SPONSOR
LOCAL, NATIONAL & INTERNATIONAL SPEAKERS

THRCE sponsors bi-weekly seminars by scheduling nationally and internationally recognized investigators and clinicians in the field of hypertension research, treatment and education. From September through December, 2013, the center invited the following speakers to present THRCE seminars:

- **Ovidiu Constantin Baltatu, MD, PhD**
  *Ovidiu Constantin Baltatu, MD, PhD*
  *Professor, Camilo Castelo Branco University, São Paulo, Brazil.*

The Department of Medicine, Section of Endocrinology, and THRCE jointly sponsored a seminar by Dr. Ovidiu C. Baltatu. His talk entitled, “Renal Angiotensinogen as a Potential Biomarker in Diabetic Nephropathy,” was presented on September 10, 2013.

**Summary:** The discovery, research and development of new diagnostic tools for early detection of kidney disease represent an actual preoccupation of medical scientists. According to NIH, a “biomarker” has been defined as a characteristic that is objectively measured and evaluated as an indicator of normal or pathogenic biological processes. Biomarkers are used in screening for a disease in asymptomatic persons, establishing the cause of undifferentiated symptoms, assessing the future risk of adverse outcomes, therapy selection and drug development. Similarly to the drug development process, the biomarker pipeline comprises of a basic research phase, pre-clinical feasibility studies and clinical development phases.

Chronic nephropathy such as hypertensive or diabetic is characterized by a decline of kidney function and the presence of persistent albuminuria. Microalbuminuria is used as surrogate end point for progression of kidney disease. However, recent evidence indicates that microalbuminuria is not a predictor of nephropathy development. Urinary proteins derived from the kidney provide a useful biomarker source. Biomarker discovery strategies can be over high-throughput “omics” screenings or hypothesis-based approaches. Tissue renin-angiotensin systems (RASs) have been implicated in a variety of pathologies. The sustained activation of renal RAS in chronic kidney diseases contributes to the development and progression of disease. Diabetes mellitus induces a well-known low plasma rennin activity state. The development of nephropathy associated with diabetes mellitus is associated with the activation of renal RAS. Clinical trials with angiotensin converting...
enzyme inhibitor (ACEi: trandolapril, BENEDICT study) or angiotensin receptor blocker (olmesartan, ROADMAP study) showed a benefit of RAS inhibition on prevention of microalbuminuria as a surrogate endpoint. In a recent intervention review, the Cochrane Intervention Group found that ACEi could actually prevent the onset of diabetic nephropathy. These data contribute to the concept that renal RAS is highly involved in the pathogenesis of diabetic nephropathy.

Recent preclinical and clinical studies indicate that renal angiotensinogen synthesis is increased in diabetic nephropathy. Angiotensinogen is the only precursor of the renin-angiotensin system that is produced in various organs including kidney. Accumulating evidence indicates that augmented synthesis of angiotensinogen in the renal proximal tubular cells is involved in hypertension and diabetic nephropathy. Tubular angiotensinogen might be degraded by renin or cathepsin E that is also located in proximal tubule cells. Renal angiotensinogen synthesis levels are correlated with microalbuminuria, as denoted by its gene expression or urinary concentrations. Corroborated recent evidence strongly suggests that urinary angiotensinogen may be used as an early biomarker for detecting diabetic nephropathy in asymptomatic persons or for assessing the treatment efficacy or effectiveness.

- **Thomas M. Coffman, MD**  
  *James R Clapp Professor of Medicine*  
  *Chief, Division of Nephrology*  
  *Duke University Medical Center, Durham NC*  
  *Program Director in Cardiovascular and Metabolic Disorders, Duke-NUS, Singapore.*

Dr. Thomas M. Coffman presented, “AT1 Angiotensin Receptors in Renal Epithelia: Paradoxical Effects in Hypertension,” on September 19, 2013.

**Summary:** The powerful peptide hormone angiotensin II has a broad range of physiological actions, primarily mediated by type I (AT1) angiotensin receptors. In the kidney, AT1 receptors are important in normal physiological mechanisms for control of salt and water homeostasis. However, AT1 receptors can also play maladaptive roles in hypertension and kidney disease. In this regard, ACE inhibitors and angiotensin receptor blockers are effective in the treatment of hypertension and preventing progression of chronic kidney diseases such as diabetic nephropathy. Dr. Coffman’s laboratory has been interested in understanding the specific mechanisms linking AT1 receptors in the kidney to the development of hypertension and chronic kidney injury, focusing on target cell lineages that are critical to these processes. Using renal cross-transplantation, his group has
previously demonstrated a non-redundant role for AT1 receptors in the kidney to regulate blood pressure and promote the pathogenesis of hypertension. More recently, they have used cell-specific gene targeting to explore these issues. These studies have elucidated complex actions of AT1 receptors to influence renal epithelial function and by consequence to regulate blood pressure. Recent findings and their implications will be discussed.

- Paul K. Whelton, MD
  Show Chwan Professor of Global Public Health, Department of Epidemiology, Tulane University School of Public Health and Tropical Medicine, New Orleans, LA.

On September 26, 2013, Dr. Paul Whelton presented “Sodium, BP and CVD: What the data show.”

**Summary:** An extensive body of information documents the presence of a direct relationship between sodium (Na) and blood pressure (BP) as well as BP lowering following a reduction in Na intake. Three new clinical trials meta-analyses provide additional documentation of the BP lowering effects of Na reduction, with no adverse effects on lipid levels or renal function following modest reductions in Na intake and evidence of a greater BP lowering effect in older persons, African-Americans, those with a higher starting level of BP, and those with a more successful intervention. The three largest and longest randomized controlled trials (TOHP, phases I and II, and TONE) employed a behavior change intervention to obtain a 25-30% reduction in Na intake. This resulted in a 3-4 mm Hg additional reduction in systolic BP (SBP) among already well controlled hypertensive seniors and an enhanced ability to withdraw BP medication (TONE). It also produced a 2-3 mm Hg reduction in SBP and a 20-25% reduction in incidence of hypertension, with evidence of even greater long-term benefit, in pre-hypertensives. Prolonged (10-15 years) post-trial follow-up of the TOHP I and II cohorts suggest modest Na reduction reduces CVD events by approximately 30% and CVD mortality by about 20%. Modeling studies based on the TOHP experience and achievement of American Heart Association (AHA) guideline recommendation for Na intake predict a ten year reduction in total mortality of >1 million persons.

A preponderance of observational cohort studies has identified a direct relationship between Na intake and CVD but a number have noted no relationship, an inverse relationship, or a J-shaped relationship. All of the available studies are based on secondary analysis of datasets from studies that were not originally designed to address the
association between Na intake and CVD and each suffers from some combination of bias (especially measurement bias and reverse causality), residual confounding, and random error. Consequently, they are of insufficient quality to support firm conclusions.

Based on the available evidence, the AHA, Institute of Medicine, US federal government, World Health Organization, and agencies in >40 countries recommend a reduction in Na intake to levels varying from 2300 mg/day to 1200 mg/day. Survey experience indicates that almost no one in the US meets any of these goals. Approximately 80% of the Na consumed in the US and most other countries comes from addition of Na during food processing or commercial food preparation. Achievement of a meaningful general population reduction in Na is only feasible in the context of reducing the amount of Na added to commercially available foods. Recent studies show no evidence of an overall change in Na content for processed and restaurant foods. Only about 1% of meals at sit down chain restaurants meet the FDA “healthy meal” criterion for Na intake and most meals exceed daily intake recommendations. Na content for the fast food products varies substantially by vendor and by country for the same vendor.

Experience in Finland, the United Kingdom and elsewhere suggests voluntary approaches and modest changes in policy can produce about a 1% per year reduction in Na intake. In the US, encouraging efforts are being spearheaded at the local (e.g. New York City) and national (e.g. AHA initiatives) level with the goal of achieving guideline recommendations over time.

- Kailash N. Pandey, PhD
  Professor & Vice-Chair of Medical Research,
  Department of Physiology,
  Tulane University School of Medicine,
  New Orleans, LA

On October 10, Dr. Kailash N. Pandey presented a seminar titled “Paradigms of the Sensing and Signaling of Guanylyl Cyclase/Natriuretic Peptide Receptor-A in the Pathogenesis of Blood Pressure and Heart Failure.”

Summary: Cardiac hormones – atrial and brain natriuretic peptides (ANP, BNP) – bind to receptor guanylyl cyclase/natriuretic peptide receptor-A (GC-A/NPRA) and elicit diverse biological functions, most of which are directed towards lowering blood pressure and maintaining cardiovascular homeostasis. Our long-term objective is to elucidate the nature and mode of functioning of GC-A/NPRA at the cellular and molecular levels, towards translational studies for diagnosis, treatment, and prevention of hypertension and
cardiovascular events. Our immediate goal is to gain understanding of the role of GC-A/NPRA in the control of normal and abnormal cellular and physiological processes in regulating high blood pressure and congestive heart failure at the molecular levels using genetically altered animal models in vivo.

- **Jiang He, MD.**
  
  *Joseph S. Copes Chair and Professor,*  
  *Department of Epidemiology,*  
  *Tulane University School of Public Health & Tropical Medicine,*  
  *New Orleans, LA.*

On November 21, 2013 Dr. Jiang He presented “**Effects of Immediate Blood Pressure Reduction on Death and Major Disability in Patients with Acute Ischemic Stroke.**”

**Summary:** The China Antihypertensive Trial in Acute Ischemic Stroke was randomized clinical trial conducted among 4071 Chinese patients with ischemic stroke within 48 hours of onset and elevated systolic blood pressure. A total of 2038 patients were randomly assigned to receive antihypertensive treatment (aimed at lowering systolic blood pressure by 10% to 25% within the first 24 hours after randomization, achieving blood pressure less than 140/90 mm Hg within 7 days, and maintaining this level during hospitalization) and 2033 to control (discontinue all antihypertensive medications during hospitalization). Primary outcome was a combination of death and major disability (modified Rankin Scale score ≥3) at 14 days or hospital discharge. Mean systolic blood pressure was reduced from 166.7 mm Hg to 144.7 mm Hg (-12.7%) within 24 hours in the antihypertensive treatment group and from 165.6 mm Hg to 152.9 mm Hg (-7.2%) in the control group within 24 hours after randomization (difference, -9.1 mm Hg; P <0.001). Mean systolic blood pressure was 137.3 mm Hg in the antihypertensive treatment group and 146.5 mm Hg in the control group at day 7 after randomization (difference, -9.3 mm Hg; P <0.001). The primary outcome did not differ between treatment groups (683 events in antihypertensive treatment vs 681 events in control; odds ratio, 1.00 [95% CI, 0.88 to 1.14]; P = .98) at 14 days or hospital discharge. The secondary composite outcome of death and major disability at 3-month post-treatment follow-up did not differ between treatment groups (500 events in antihypertensive treatment vs 502 events in control; odds ratio, 0.99 [95% CI, 0.86 to 1.15]; P = .93). This trial indicates that among patients with acute ischemic stroke, blood pressure reduction with antihypertensive medications, compared with the absence of hypertensive medication, did not reduce the likelihood of death and major disability at 14 days or hospital discharge.
Dr. Franck Mauvais-Jarvis presented a seminar titled “Role of developmental androgen excess in the pathogenesis of hypertension and metabolic dysfunction” on December 5, 2013.

Summary:
Emerging evidence supports a developmental origin for the metabolic syndrome in the context of polycystic ovary syndrome (PCOS) in which the fetal environment programs both reproductive and metabolic abnormalities that will occur in adulthood. To explore the role of developmental androgen excess in programming metabolic dysfunction in adulthood, we reported a mouse model system in which neonates were androgenized with testosterone. We compared female mice with neonatal exposure to testosterone (NTF) with control females (CF), control males (CM), and male mice with neonatal testosterone exposure (NTM). NTF develop many of the features of metabolic syndrome observed in women with PCOS. These features include increased food intake and lean mass, visceral adiposity with enlarged adipocytes, hypoadiponectinemia, decreased osteocalcin activity, insulin resistance, pre-diabetes, and hypertension. NTF also develop a novel form of leptin resistance independent of STAT3. In contrast, littermate NTM develop a phenotype of hypogonadotropic hypogonadism with decreased lean mass and food intake. These NTM mice exhibit subcutaneous adiposity without cardiometabolic alterations. We discuss the relevance of this mouse model of developmental androgenization to the metabolic syndrome and its clinical implications to human metabolic diseases and hypertension.
### Recent Publications

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<th>Authors</th>
<th>Title</th>
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<tr>
<td>Gao H, Derbenev AV</td>
<td>Synaptic and extrasynaptic transmission of kidney-related neurons in the rostral ventrolateral medulla.</td>
<td><em>J Neurophysiol.</em></td>
<td>2013</td>
<td>110</td>
<td>2637-47</td>
<td>24027107/PMC3882766</td>
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**Publications**


From September through December, 2013 investigators and physicians affiliated with T.H.R.C.E. participated in many regional, national, & international meetings.

**Annual Meeting of the Society for the Study of Ingestive Behavior, New Orleans, LA. Jul. 30 - Aug. 3**

- **Jiang Y.** TRPV1 regulates leptin expressing neurons in the dorsal motor nucleus of the vagus.

**Young Investigator Workshop, Sponsored by the International Society of Hypertension, New Orleans, LA. Sept. 10**

- **Arita DY.** Prorenin receptor enhances renin activity in the urine of diabetic patients.
- **Bourgeois C.** Histone deacetylase 9 contributes to sex differences in intrarenal angiotensinogen transcription.

**High Blood Pressure Research, New Orleans, LA. Sept. 11-14**

- **Castillo A, Majid DS.** Renal Hemodynamic and Excretory Responses to Systemic Administration of Interleukin-10 in Anesthetized Mice. *Hypertension, Abstract 043.*
- **Gao H; Barnes MJ; Majid DSS; Derbenev AV.** Rapid Inhibition of Pre-sympathetic Kidney-related Neurons in the Rostral Ventrolateral Medulla by Leptin. *Hypertension, Abstract 438.*
Continued...

- Li W, Feng Y. Angiotensin II via Its Type 1 Receptor Up-regulates (Pro)renin Receptor Expression in Doca-salt Hypertension. *Hypertension, Abstract 006.*
- Satou R, Hering-Smith KS, Navar LG. Angiotensin II type 1 receptor activation is required for angiotensin II and interleukin 6-induced augmentation of angiotensinogen expression in mouse renal proximal tubular cells. *Hypertension, Abstract# 565.*
- Satou R, Hering-Smith KS, Navar LG. Differential expression and regulation of angiotensinogen in renal proximal tubule cells from S1, S2 and S3 segments. *Hypertension, Abstract# 564.*
- Satou R, Hopfer U, Navar LG. Angiotensin II promotes proliferation and fibrosis in parietal epithelial cells contributing to the development of Crescentic glomerulonephritis. *Hypertension, Abstract# 566.*
- Woods TC. Severity of Hypertension does not correlate with increased miR-221 and miR-222 Expression. *Hypertension, Abstract 097.*
**Presentations**

**American Society of Nephrology Meeting, Atlanta, GA. Nov. 7**
- El-Dahr SS. Epigenetics of Congenital Abnormalities of the Kidney and Urinary Tract.
- Liu J, Li M, El-Dahr SS, Saifudeen ZR. P53 promotes adhesion of Six2+ cells within the nephron progenitor niche.
- Wang F, Yao X, Saifudeen ZR, El-Dahr SS. The histone H3K79 methyltransferase, Dot1l, regulates the fate of ureteric bud tip cells.
- Yan L, Yao X, Saifudeen Z, El-Dahr SS. Gene-environment interactions in the ureteric bud lineage cause CAKUT.
- Hering-Smith K. Urinary Citrate Excretion in NaDC1 Knockout mice.

**Southeast Regional IDeA Meeting, Little Rock, AK, Nov. 15-17**
- Satou R, Hering-Smith K, Hamm, LL, Navar LG. Angiotensinogen is differentially regulated by angiotensin II and interleukin 6 in renal proximal tubular S1, S2 and S3 cells.
THRCE investigators and physicians were invited to lecture at various national and international events.

El-Dahr, Samir, MD, presented:
- “Epigenetics of Congenital Abnormalities of the Kidney and Urinary Tract” on November 7th in the session “Epigenetics of Renal Disease” held at the 2013 American Society of Nephrology Meeting in Atlanta, Georgia.

Pandey, Kailash N, PhD, presented:
- “Natriuretic Peptides and their Receptors in Hypertension and Heart Failure” on December 3, 2013 at the Amity Science, Technology and Innovation Foundation at Amity University in Noida, New Delhi, India.

Minolfa C. Prieto, PhD, presented:
- “The Role of the Prorenin Receptor in the Distal Nephron in Hypertension” as the Highlighted Speaker for the symposium on Cardiovascular Research at the SE Regional IDeA Meeting held in Little Rock, Arkansas on November 16, 2013.
THRCE Seminars

September 10, 2013 **
Joint Seminar: THRCE & Department of Medicine, Endocrinology

Ovidiu Constantin Baltatu, MD PhD, FAHA
Professor, Camilo Castelo Branco University, São Paulo, Brazil.
“Renal angiotensinogen as a potential biomarker in diabetic nephropathy.”

September 19, 2013

Thomas M. Coffman, MD
Professor of Medicine, Cell Biology, and Immunology,
Department of Medicine; Division of Medicine-Nephrology,
Duke University School of Medicine, Durham, NC.
“AT1 Angiotensin Receptors in Renal Epithelia: Paradoxical Effects in Hypertension.”

September 26, 2013

Paul K. Whelton, MD
Show Chwan Professor of Global Public Health,
Department of Epidemiology,
Tulane University School of Public Health and Tropical Medicine, New Orleans, LA.
“Sodium, BP and CVD: What the data show.”

October 10, 2013

Kailash N. Pandey, PhD
Professor & Vice-Chair of Medical Research,
Department of Physiology, Tulane University School of Medicine, New Orleans, LA.
“Paradigms of the Sensing and Signaling of Guanylyl Cyclase/Natriuretic Peptide Receptor-A in the Pathogenesis of Blood Pressure and Heart Failure.”

November 21, 2013

Jiang He, MD
Joseph S. Copes Chair and Professor, Department of Epidemiology,
Tulane University School of Public Health & Tropical Medicine, New Orleans, LA.
“Effects of Immediate Blood Pressure Reduction on Death and Major Disability in Patients with Acute Ischemic Stroke.”

December 5, 2013

Franck Mauvais-Jarvis, MD, PhD
Price-Goldsmith Endowed Professorship in Nutrition Research
Professor of Medicine, Division of Endocrinology and Metabolism,
Tulane School of Medicine, New Orleans, LA.
“Role of developmental androgen excess in the pathogenesis of hypertension and metabolic dysfunction.”

February 13, 2014

Andrea Zsombok, PhD
Assistant Professor, Department of Physiology,
Tulane School of Medicine, New Orleans, LA.
“The effect of olanzapine on brainstem neurons.”

March 27, 2014
12:00pm - 1:00pm

Mark C. Chappell, PhD
Professor, Department of Physiology and Pharmacology,
Director, US-Brazil Science Without Borders Program,
Wake Forest School of Medicine, Winston-Salem, NC.
TBA

April 10, 2014

Daniel R. Kapusta, PhD
Professor of Pharmacology
PI and Director, COBRE Cardiovascular Research Program
LSU Health Sciences Center, New Orleans, LA.
TBA

May 22, 2014

Prasad V.G. Katakam, MD, PhD
Assistant Professor, Department of Pharmacology,
Tulane School of Medicine, New Orleans, LA.
TBA

Conferences are held alternative Thursdays at 4:00pm in the Tulane Medical School, Pharmacology Library, Room 4700
** Denotes the seminar date is not our normally scheduled day.
Tulane Hypertension and Renal Center of Excellence (THRCE) houses 4 research core facilities that were developed during COBRE phases I and II and are now maintained and supported by a COBRE Phase III grant awarded by the NIH/NIGMS. These core facilities are essential for the support of basic, clinical, and translational research in hypertension and renal biology and provide unique research opportunities for emerging leaders in hypertension by establishing an enriched environment in which to develop investigators in both the clinical and basic hypertension research. The resources and services provided by the Center’s COBRE Core facilities can be utilized by both COBRE and other investigators within Tulane and other institutions for hypertension, cardiovascular and renal research. The 4 research Core facilities are:

- **The Molecular, Imaging, and Analytical Core**: This facility serves as the resource for instruments and equipment needed to perform advanced molecular biology, semi-quantitative immuno-histochemistry and bio-analytical experiments.

- **Animal and Gene-Targeted Core**: This facility maintains and generates new breeding pairs, does genotyping, and maintains colonies of genetically manipulated mice and rats.

- **Mouse Phenotyping Research Core (MPRC)**: Contains resources to support high-tech data collection capabilities that are unique in the State of Louisiana and essential to research requiring the utilization of an array of methodologies to perform measurements of cardiovascular, blood pressure and renal function in mice.

- **Clinical and Translational Core**: Promotes and facilitates clinical and translational studies in hypertension, kidney disorders, and related cardiovascular diseases.

Other activities of the center include the sponsorship of local and regional meetings on Hypertension and public education programs to increase awareness of the dangers of hypertension. For further information regarding the Core Facilities, please access [http://tulane.edu/som/thrce/](http://tulane.edu/som/thrce/).