ANIMAL
CLINICAL CHEMISTRY
DACC *NEWS*
Volume 32 | Issue 1 | April 2016

AACC Better health through laboratory medicine.

# APRIL 2016 DACC NEWSLETTER

The current edition is available online at:
https://www.aacc.org/community/divisions/animal-clinical-chemistry/newsletter

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DACC NEWS
Volume 32, Number 1, April 2016
ANIMAL CLINICAL CHEMISTRY
A DIVISION OF AACC
2016 Spring Edition
Message from the Chair
In This Issue:
DACC Spring & Summer Meeting Details
DACC Spring Meeting Program
Spring Symposium Abstracts
DACC Election Results
Photos from the 2015 Annual Meeting
It is hard to believe that the first 3 months of 2016, and my tenure as chair of the division, have passed already and while I find myself enjoying longer daylight hours, I feel like the new year just started yesterday.
I have the pleasure of stating that we had more of a "sprinter" than a "winter" this year in Connecticut – mild and almost void of snow, and now that the calendar has turned to April, we are expecting snow over the next few days! Such is the joy of living in New England – if you don't like the weather, wait a minute, it will change!
I am proud to be serving as Chair of the DACC this year as 2016 is a celebratory year for our division – 40 years! Our group has a unique status of being the oldest specialty division in the AACC, the first formal meeting at AACC of animal clinical chemists was held at the National Meeting in Houston on August 2, 1976, and we are lucky to still have a founding member, Bob Emmons, still actively participating in division leadership activities and historical preservation. Our division had its first Spring Meeting in New Jersey, in 1977, and in that tradition, we have continued to present quality educational programs throughout the year each year.
The Spring Meeting this year will be hosted at Boehringer Ingelheim in Conn
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AACC's Annual Meeting being "
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If you have feedback on the current newsletter or material of interest for future newsletters, please contact the Editor, Mike Bieraugel: mike.bieraugel@gmail.com

# DACC NEWS

Volume 32, Number 1, April 2016

ANIMAL CLINICAL CHEMISTRY

A DIVISION OF AACC

2016 Spring Edition


## Message from the Chair

It is hard to believe that the first 3 months of 2016, and my tenure as chair of the division, have passed already and while I find myself enjoying longer daylight hours, I feel like the new year just started yesterday. I have the pleasure of stating that we had more of a "sprinter" than a "winter" this year in Connecticut – mild and almost void of snow, and now that the calendar has turned to April, we are expecting snow over the next few days! Such is the joy of living in New England – if you don't like the weather, wait a minute, it will change!

I am proud to be serving as Chair of the DACC this year as 2016 is a celebratory year for our division – 40 years! Our group has a unique status of being the oldest specialty division in the AACC. The first formal meeting of animal clinical chemists was held at the AACC National Meeting in Houston on August 2, 1976, and we are lucky to still have a founding member, Bob Emmons, still actively participating in division leadership activities and historical preservation, as well as another founding member, Joe Dooley, proudly amongst our ranks. Our division had its first 'Midwest Regional' Meeting in Kalamazoo at UpJohn in January of 1978, followed by the 'Eastern Regional' Meeting in Cherry Hill, NJ in April of the same year. In that tradition, we have continued to provide high quality educational programs throughout the year each year since then.

The Spring Meeting this year will be hosted at Boehringer Ingelheim in Connecticut on Friday May 6. I'm looking forward to meeting, in person, the experts that I have enjoyed speaking with over the phone. The topic chosen for the meeting is Biomarkers in Drug Induced Vascular Injury – Clinical and Preclinical Advancements. We have some excellent sessions planned, with practical applications being reviewed in the morning and exciting new developments discussed in the afternoon. Be sure to join us on Thursday May 5 for the Siemens Multispecies User Group Meeting, as well as the Speaker's Reception on Thursday evening, 6:30-8:30pm,

*(...continued on page 5)*

**In This Issue:**

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# DACC 2016 Executive Committee

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Pfizer, Global Res. & Dev.
860-686-3414
samantha.wildeboer@pfizer.com

# DACC 2016 Committees

**Nominating** (Year as Chair)
Tammy Lambert (2016)
Peter Szczerba (2017)
Susan Haley (2018)
*Vacancy* (2019)
Amy Hudak*
**Exec Comm Rep*

**Membership**
*Volunteers Needed!*

**Fund Raising**
Jon Kimball
Chris Perigard
Samantha Wildeboer*
**Exec Comm Rep*

**Awards**
Jon Kimball (Chair)
Kay Criswell
Bob Emmons
Doug Neptun

**Scientific Program & Long Range Planning**
Amy Hudak[1,3]
Susan Emeigh Hart[2]
Doug Thudium[4]
Kay Criswell
Jon Kimball

*Principal Organizer: 1: 2016 Spring Symposium, 2: 2016 Annual Meeting Symposium, 3: 2017 Annual Meeting Symposium, 4: 2016 Annual Meeting Lunch & Learn*

# DACC Supporters

## *Benefactors*

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Boehringer Ingelheim

Pfizer

## *Patrons*

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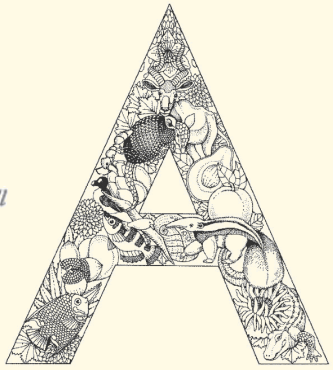
LAB·THRU·PUT Efficiency Tools for the Clinical Laboratory

### *Friends*

**Nelly Aranibar – *Bristol-Myers Squibb***
**James Christensen – *Pfizer, Inc.***
**Ashley Frazer-Abel – *National Jewish Health***
**Gregory Friedrichs – *Novartis***
**Christine Grimaldi – *Boehringer Ingelheim***
**Aimee Hillegas – *GlaxoSmithKline***
**Christopher Horvath – *bluebird bio***
**Jon Kimball – *The Potter-Hawkins Group***
**Michael Laposata – University of Texas**
**Rounak Nassirpour – *Pfizer, Inc.***
**Sharon Sokolowski – *Pfizer, Inc.***
**Dirk Sprenger – *Sprenger Biotech Biz***
**Stephan Sultana – *Novartis***
**Jacqueline Tarrant – *Genentech***
**Michael Thibodeau – *Boehringer Ingelheim***
**Samantha Wildeboer – *Pfizer, Inc.***
**Johanna Wisniewski – *Pfizer, Inc.***

The Division of Animal Clinical Chemistry (DACC) welcomes all persons interested in advancing clinical laboratory science in animals by promoting and encouraging the study, exchanging knowledge, and expanding and improving the practice of clinical laboratory science in animals.



Our division provides a forum for sharing of information relevant to methods of analysis, reference intervals for different animal models, selection of appropriate species for research, and feasibility of transferring relevance of the data to human medicine. The DACC supports the development of methods to detect specific target organ effects and cellular changes associated with xenobiotic agents and/or disease processes.

The Division publishes this newsletter and sponsors regional and national meetings as a means for promoting education, research, and service. We encourage members to pursue professional interactions with AACC as well as within other professional groups. Our membership represents scientists working in interdisciplinary fields, industry, academia, and governmental laboratories.

## Message from the Chair, *(continued from page 2)*

which will be co-sponsored by the DACC and Lab-ThruPut this year. Refer to the meeting agenda and speaker abstracts that are included in this newsletter for additional information on all the meeting events.

**W**ith the AACC's Annual Meeting being "local" for a large number of east coast members, I anticipate that our DACC activities will be well attended. Our General Business Meeting with a Lunch and Learn session is planned for Monday, August 1, 2016, at the Philadelphia Marriott Downtown, Immunoassay Method Selection and Validation for the Preclinical Laboratory. Please come to the Marriott early that same day and join the Executive Committee meeting from 9:00am — 11:00am. Attending the Executive Committee meeting is a good way for members to experience the leadership side of the organization – we need our members to take an active role in the division leadership. There will also be a Brown Bag session led by our Past-Chair, Susan Emeigh Hart, on Monday August 1, titled "Of Mice and Men": Species Differences Relevant to Specimen Collection and Clinical Laboratory Parameters for the Laboratory Investigator. Be sure to join us on Tuesday night, August 2 for our annual DACC awards presentation reception and mixer recognizing Outstanding Contributions to Animal Clinical Chemistry hosted by Siemens.

**E**lections last fall brought familiar names to the Executive Committee: Doug Thudium was elected to Chair-Elect, graciously offering to serve the division again, after previously serving in the capacities of Chair-Elect, Chair, and Past-Chair (2006 - 2009), and also as a previous member of DACC's nominating committee. Pete Szczerba was elected to the role of Secretary, adding that role to his existing DACC roles of Historian, and Nominating Committee member – Pete is a busy guy! Speaking of the Nominating Committee, the division currently has an opening in this committee, due to the surprise retirement of a member in 2015 – are you interested in serving the division? The Nominating Committee is a simple step in becoming an active member in leadership. Reach out to one of the Executive Committee members if you would like to volunteer to fill this position for the next 2 years. Join us on Thursday evening, May 5, at 5:00pm-6:30 in the Ethan Allen Inn for the DACC Executive Committee Meeting – all members are welcome, this is a perfect opportunity for you to interact with the leadership of the division and see if you would like to become active on one of the committees or maybe even run for Chair-Elect next year!

**I**n the 25 years that I have been a member, I have watched the DACC grow and change. The future of the division lies in both our past and our future. Our past is full of amazing educational programs and leaders whose dedication to science and our community has allowed the group to thrive. Our future lies with you, our members. We rely on our members for division leadership, development and presentation of educational programs, for the advancement of the veterinary clinical pathology world. And the fact is, our membership has been shrinking over the past few years as the pharmaceutical world has been reduced in number via mergers and acquisitions. One of my goals this year is to expand attendance of the spring activities beyond our membership rolls, reaching out through Siemens representatives and biotech associates of our current members. Please contact me directly if you have any ideas for increasing membership rolls and/or membership participation. Our Spring Meeting program is our best-attended event each year, we need to optimize participation.

**2**016 has also brought change to the AACC organization, with a new governance structure that was announced in late 2015. One change is that the Division Management Group (DMG) is being replaced by the Science & Practice Core Committee, which will continue to be comprised of the division chairs, but is intended to guide the translation of science into practice. This change is still "in the works", and the role of this new committee is not yet well defined. AACC seeks it to have a larger presence than the DMG historically had, but how that will be accomplished has yet to be determined. Another change that we experienced in 2015 was the discontinuation of the DACC listserv, replacing it with "Artery". Our division members have been slow to embrace this change, and I have to admit I miss the quick effectiveness of the listserv. But I implore that if you haven't yet signed up for Artery, please do so as soon as possible – it is the best way for us to reach our members quickly.

**I** look forward to seeing everyone at the Spring Meeting, and hopefully many members in Philadelphia as well.

❖ *Amy* DACC Chair

# DACC 2016 Spring Symposium

## Biomarkers in Drug Induced Vascular Injury – Clinical and Preclinical Advancements

This meeting is an overview of current biomarker utility for monitoring drug induced vascular injury, from both the clinical and preclinical perspective. It will include discussion of advances in technology: some not yet utilized in the clinical arena and others utilized on a non-routine basis in the pre-clinical drug safety environment. Updated consortium group data will be presented, as well as novel applications of biomarker use.

**Registration:**

https://www.aacc.org/store/conferences/11000/biomarkers-in-drug-induced-vascular-injury

**Hosted at:**

Boehringer Ingelheim, contact: Amy Hudak, 203-798-4636, amy.hudak@boehringer-ingelheim.com

* GPS address for main security gate: 39 Briar Ridge Road, Danbury, CT

**Lodging and Travel:**

Ethan Allen Hotel, 21 Lake Avenue Extension, Danbury, CT, 203-744-1776

* approximately 3.5 miles from Boehringer Ingelheim
* reservations required by April 20th to guarantee discounted rate ($95/night)

**Nearest Airports:**

Westchester County Airport, approximately 35 minutes away

* ground transportation: www.dlctrans.com

Bradley International Airport, approximately 1 hr 20 minutes away,

* ground transportation: rental car recommended, taxi is approximately $180/one way

# 2016 AACC Annual Meeting in Philadelphia - *DACC Activities*

## DACC Brown Bag Session

Monday August 1, 2016, 7:30am - 8:30am, 12:30pm - 1:30pm
Session No.: 4479

Susan G. Emeigh Hart, VMD, PhD, DACVP, DABT, ERT
Director, Experimental Pathology, Boehringer Ingelheim Pharmaceuticals, Inc.
"**Of Mice and Men**": Species Differences Relevant to Specimen Collection and Clinical Laboratory Parameters for the Laboratory Investigator.

## DACC Executive Committee Meeting

Monday, August 1, 2016, 9:00am - 11:00am
Philadelphia Marriott Downtown

## DACC General Business Meeting and Lunch & Learn Session

Monday, August 1, 2016, 12:00pm - 2:30pm
Philadelphia Marriott Downtown
Topic: "**Immunoassay Method Selection and Validation for the Preclinical Laboratory**"

## DACC Awards Presentation Reception and Mixer Recognizing Outstanding Contributions to Animal Clinical Chemistry

Tuesday August 2, 2016, Evening, Venue TBD *(date and time of event subject to change)*
Generously Hosted by Siemens Healthcare Diagnostics

## Animal Clinical Chemistry Poster Session: Date and time: TBD

**2016 DACC Spring Meeting Program:**
**Biomarkers in Drug Induced Vascular Injury – Clinical and Preclinical Advancements**

## Thursday – May 5

### Siemens Multispecies Users Group Meeting
**8:00am – 3:30pm**

**Ethan Allen Inn**, 21 Lake Avenue Extension, Danbury, CT **Lunch Provided**
For registration contact David Metrena at david.metrena@siemens.com
or Dave Zelmanovic at david.zelmanovic@labthruput.com with ideas for presentations

### DACC Executive Committee Meeting
**5:00pm – 6:30pm**

**Ethan Allen Inn**
Open to All Members! Come Join in the Planning of DACC Activities!

### Meet the Speakers Reception and Mixer

**Ethan Allen Inn** **6:30pm – 8:30pm**
Generously Sponsored by the DACC and LabThruPut **Hors d'oeuvres / Cash Bar**
**RSVP before 4/30 (*Yeses Only*) to Amy at** amy.hudak@boehringer-ingelheim.com

## Friday – May 6

### Registration and Continental Breakfast
**8:00am – 8:30am**

**Boehringer Ingelheim**
39 Briar Ridge Road, Danbury, CT
Host Site Contact: **Amy Hudak**, amy.hudak@boehringer-ingelheim.com
or 203-798-4636

### Welcome from the DACC Chair
**8:30am – 8:45am**

**Amy Hudak**, MPA, BS, MT(ASCP)
DACC Chair and Symposium Moderator
NDS US Clinical Pathology Laboratory Manager, Boehringer Ingelheim
Ridgefield, CT

### Soluble Biomarkers as Early Biochemical Signatures of Cardiac Pathophysiology: Surrogates for Therapeutic Efficacy and Harm
**8:45am – 9:30am**

**Christopher deFilippi**, MD
Vice Chair of Academic Affairs, Inova Heart and Vascular Institute, Fairfax Virginia
Adjunct Professor of Medicine, Virginia Commonwealth University Richmond, VA

### Principles of a Single Molecule Array Technology and Use in an Ultrasensitive Digital Immunoassay for Cardiac Troponin
**9:30am – 10:15am**

**Purvish Patel**, PhD
Field Applications Scientist, Quanterix Corporation, Lexington MA

**2016 DACC Spring Meeting Program:** *(continued…)*
**Biomarkers in Drug Induced Vascular Injury – Clinical and Preclinical Advancements**

## Friday – May 6

**<BREAK>** **10:15am – 10:45am**

### Identification of Translatable Preclinical and Clinical Biomarkers of Vascular Injury Through the PSTC and SAFE-T Consortia Collaboration — 10:45am – 11:30am

**Bradley Enerson**, PhD
Associate Research Fellow, Drug Safety Research & Development
Worldwide Research & Development, Pfizer, Inc. Groton, CT

**<LUNCH>** **11:30am – 12:30pm**

### Vascular Origin of Vildagliptin-induced Skin Effects in Cynomolgus Monkeys — 12:30pm – 1:15pm

**Peter K Hoffman**, MD, PhD
Executive Director and Global Preclinical Expert in Cardiovascular Safety
Novartis, East Hanover NJ

### Nonclinical Vascular Injury Safety Assessment: Novel Strategies Utilizing Tissue Specific and Circulating mRNA Candidate Biomarker Panels to Detect and Predict Rodent Drug Induced Vascular Injury — 1:15pm – 2:00pm

**Deidre Dalmas Wilk**, PhD
Senior Investigator, Investigative Transcriptional and Cellular Safety, Mechanistic Safety and Drug Disposition, In Vitro/In Vivo Translation
GlaxoSmithKline, King of Prussia, PA

**<BREAK>** **2:00pm – 2:15pm**

### Vascular Imaging of Matrix Metalloproteinase Activity as an Informative Preclinical Biomarker of Drug-Induced Vascular Injury — 2:15pm – 3:00pm

**Raymond Gonzalez**, PhD
Director, Analytical and Biochemical Toxicology, Safety Assessment
Merck Research Laboratories, West Point, PA

### Discussion/Closing Remarks — 3:00pm – 3:15pm

# *Meeting Abstracts*

## *DACC Spring Meeting Friday, May 6, 2016*

### Principles of a Single Molecule Array Technology and Use in an Ultrasensitive Digital Immunoassay for Cardiac Troponin

Purvish Patel, PhD

**T**he ability to detect single protein molecules in blood could accelerate the discovery and use of more sensitive diagnostic biomarkers. Quanterix has developed a fully automated digital immunoassay based on Single Molecule Array (Simoa) technology. To detect low-abundance proteins in blood, they are captured on microscopic beads decorated with specific antibodies and then labeled the immune complexes (one or zero labeled target protein molecules per bead) with an enzymatic reporter capable of generating a fluorescent product. After isolating the beads in 50 fL reaction chambers designed to hold only a single bead, fluorescence imaging is used to detect single protein molecules. Single-molecule enzyme linked immunosorbent assay (digital ELISA) approach can detect as few as ~10–20 enzyme-labeled complexes in 100 µL of sample (~$10^{-19}$ M) and routinely allowed detection of clinically relevant proteins in serum at concentrations (<$10^{-15}$ M), much lower than conventional ELISA. **U**ltra-sensitive cardiac troponin measurement offers a promising new tool for early detection and monitoring of cardiovascular disease. The association between increases in cardiac troponin and adverse cardiac outcomes is well established. With growing interest as an early indicator of adverse heart health trends, the ability to quantify troponin in healthy control populations is emerging as a highly desirable assay capability. Prognostic use of cardiac troponin measurements requires an assay with very high sensitivity and outstanding analytical performance.

**W**e've reported analytical data using Simoa for cardiac troponin I (cTnI) with a limit of detection 2 logs lower than contemporary high sensitivity troponin assays.

**W**e've reported development and preliminary validation of an investigational assay meeting these requirements and demonstrate its applicability to cohorts of healthy individuals and patients with heart failure. ❖

### Identification of Translatable Preclinical and Clinical Biomarkers of Vascular Injury Through the PSTC and SAFE-T Consortia Collaboration

Bradley Enerson, PhD
Associate Research Fellow, Drug Safety Research & Development
Worldwide Research & Development, Pfizer, Inc. Groton, CT

Drug-induced vascular injury (DIVI) occurs during the drug development and discovery process and can severely hinder the advancement of new therapies into Phase I clinical trials. To help manage a preclinical DIVI finding in drug development there is a need for improved circulating biomarkers to monitor DIVI in clinical trials. There are two precompetitive consortia that have worked toward development of better DIVI biomarkers, The Vascular Injury Working Group (VIWG) of the Predictive Safety Testing Consortia and the IMI Safer and Faster Evidence-based Translation (SAFE-T) Consortium. The VIWG has focused primarily on nonclinical biomarkers of DIVI, while SAFE-T has focused on clinical biomarkers. Due to the common objectives between the consortia, a collaborative partnership was formed. With respect to DIVI, the goal is to generate a data set that will garner a Letter of Support from the FDA and EMA which may facilitate a full clinical biomarker qualification within a limited context of use in healthy volunteers in Phase 1 trials. A unique challenge is the lack of clinically available drugs that induce findings in man that are similar to preclinical DIVI; therefore, our joint strategy relies on the premise that biomarkers of DIVI in nonclinical species will translate to humans due to the similar morphological manifestation of VI among species regardless of the mechanism of injury. To date, the VIWG has identified candidate endothelial, smooth muscle and inflammatory biomarkers that overlap with clinical biomarker candidates being developed by IMI SAFE-T either directly at the protein level or in the compartments from which they are released. This presentation will review our joint strategy, biomarker selection, and a summary of the nonclinical qualification data generated to date. ❖

# Meeting Abstracts

## DACC Spring Meeting Friday, May 6, 2016

### Vascular Origin of Vildagliptin-Induced Skin Effects in Cynomolgus Monkeys

Peter K Hoffman, MD, PhD
Executive Director and Global Preclinical Expert in Cardiovascular Safety

The purpose of this presentation is to describe the characterization of skin lesions in cynomolgus monkeys following vildagliptin (dipeptidyl peptidase-4 inhibitor) treatment. Oral vildagliptin administration caused dose-dependent and reversible blister formation, peeling and flaking skin, erosions, ulcerations, scabs, and sores involving the extremities at lower doses and necrosis of the tail and the pinnae at higher doses after 3 weeks of treatment. At the affected sites, the media and the endothelium of dermal arterioles showed hypertrophy/hyperplasia. Skin lesion formation was prevented by elevating ambient temperature. Vildagliptin treatment also produced an increase in blood pressure and heart rate likely via increased sympathetic tone. Following high dose treatment with vildagliptin, recovery times after lowering the temperature in the feet of monkeys and inducing cold stress was prolonged.

Ex vivo investigations showed that small digital arteries from skin biopsies of vildagliptin treated monkeys exhibited an increase in neuropeptide Y–induced vasoconstriction. This finding correlated with a specific increase in NPY and in NPY1 receptors observed in the skin of vildagliptin treated monkeys. Present data provide evidence that skin effects in monkeys are of vascular origin and that the effects on the NPY system in combination with increased peripheral sympathetic tone play an important pathomechanistic role in the pathogenesis of cutaneous toxicity. ❖

### Nonclinical Vascular Injury Safety Assessment: Novel Strategies Utilizing Tissue Specific and Circulating mRNA Candidate Biomarker Panels to Detect and Predict Rodent Drug Induced Vascular Injury

Deidre Dalmas Wilk, PhD
Senior Investigator, Investigative Transcriptional and Cellular Safety,
Mechanistic Safety and Drug Disposition, In Vitro/In Vivo Translation

Nonclinical drug-induced vascular injury (DIVI) is a challenging safety issue impacting various structural classes of potential pharmaceuticals which leads to attrition due to a lack of understanding of predictivity for clinical risk and lack of sensitive and/or translational biomarkers. Innovative strategies were developed to identify risks during precandidate screening enabling educated decision making. Rats were given 28 different vascular toxicants for 1 to 4 days. Mesentery was collected and endothelial and vascular smooth muscle cells were microdissected from each artery followed by GeneChip analysis. A novel panel of genes representing those which showed a dose responsive pattern for all treatments in which DIVI was histologically observed was developed. Usefulness of the mRNA VI panel for prediction of DIVI was confirmed by histology and in serum of rats administered two well established vascular toxicants. The novel gene panel has been utilized in an integrated fashion along with a strategy incorporating off-target in vitro screening for activity known to be reflective of vascular toxicants (e.g. PDE4 inhibitor (i)), and standard cardiovascular (CV) functional assessments. Application of the DIVI strategy in an in vivo case study following oral administration of 2 precandidate (PC) kinase inhibitors of unknown mechanism with/without in vitro PDE4i activity were conducted to identify DIVI potential. Utilization of the strategy, resulted in classification of 1 of the 2 PCs as a potential vascular toxicant based on in vitro evidence of PDE4i activity and alterations in genes shown to be predictive of DIVI; thus, enabling selection of the “best molecule” for further development. The comprehensive genomic VI tissue and circulating mRNA panels offer a refined list of candidate genes associated with and predictive of DIVI irrespective of compound class. This, collectively, with in vitro evaluation for off target activity and CV functional assessments, provides an integrated approach for detection and prediction of DIVI that can and has been utilized to aid in target and candidate selection and/or proactive design of development strategies to mitigate these potential risks. Overall, the candidate genes will hopefully lead to further refinements which are a critical first step in identification of translational clinical markers of DIVI. ❖

# *Meeting Abstracts*

## *DACC Spring Meeting Friday, May 6, 2016*

**Vascular Imaging of Matrix Metalloproteinase Activity as an Informative Preclinical Biomarker of Drug-Induced Vascular Injury**

Raymond Gonzalez, PhD
Director, Analytical and Biochemical Toxicology, Safety Assessment
Merck Research Laboratories, West Point, PA

**L**ack of widely applicable biomarkers that are specific to and either predictive or diagnostic of drug-induced vascular injury (DIVI) continues to be a major obstacle during drug development. Biomarkers derived from universal physiologic responses to vessel injury, such as inflammation and vascular remodeling, could make good candidates, however, they characteristically lack specificity for vasculature. We evaluated whether vascular remodeling-associated protease activity as well as expected changes to vessel permeability resulting from DIVI could be visualized ex vivo in affected vessels, thereby allowing for direct visual monitoring of the pathology to address the specificity gap. We found that visualization of MMP activation accompanied by increased vascular leakage (permeability), in the mesentery of rats treated with agents known to induce vascular injury correlated well with incidence and severity of DIVI histopathological findings and its associated inflammation, as well as with circulating levels of TIMP-1 and NGAL. The weight of evidence approach reported here shows promise as a collective DIVI preclinical tool by means of complementing non-invasive monitoring of circulating biomarkers of inflammation with direct imaging of affected vasculature, and thus lending specificity to its interpretation. These findings are supportive of a potential strategy that relies on translational imaging tools to complement circulating biomarker data for monitoring of vascular injury both preclinically and clinically. ❖

## A Bit of DACC History

**Below is a copy of the original freehand pen and ink of our division's logo drawn by Ingrid Austin. The earliest formal use of it was on the cover of the "*Application for Animal Clinical Chemistry Division*" dated 1982.**

## Help Wanted Co-Editor

**Your DACC *NEWS* is Seeking a Co-Editor to Join the Editorial Staff.**

**An Excellent Opportunity for a DACC Member to Gain Experience in Newsletter Layout and Publication While Making Tangible Contributions to the Division.**

**◆ *No Prior Experience Necessary* ◆**

**Contact**
**Mike Bieraugel, 760-716-2936**
**Mike.Bieraugel@gmail.com**
**-or-**
**Jon Kimball, 919-967-4016**
**JonKimball@msn.com**

# DACC's Newly Elected Office Holders

The results are in from the division election!
Congratulations to **Susan Haley**: Nominating Committee Member,
**Douglas Thudium**: Chair-Elect, and **Peter Szczerba**: Secretary.
Bios of the new Executive Committee officers appear below.

## Elected as DACC's Chair-Elect in 2016

**Douglas Thudium**, MS, BS, MT(ASCP)
*Merck Research Laboratories*

**D**oug received a BS in Chemistry and Medical Technology from Elizabethtown College and served a 12-month clinical internship at Abington Memorial Hospital, followed by three years working in the hospital chemistry laboratory. He received his MS in Clinical Chemistry from West Chester University. Doug has worked in clinical pathology within Safety Assessment for three major pharmaceutical companies – Wyeth, GlaxoSmithKline and most recently with Merck as a Principal Scientist. His interests include method development, identifying toxicologically significant biomarkers valid for both animal and human applications. Highly involved with complement and cytokine assays and multiplexed immunoassays. He has been an active member of the DACC for 20 years, previously serving in the capacities of Chair-Elect, Chair, and Past-Chair (2006 - 2009), and also as a member of DACC's nominating committee. Doug has presented numerous posters at the annual meeting supporting the DACC presence and has been a speaker at LabMed meetings and made several oral presentations at the American Society for Veterinary Clinical Pathology meeting. He continues to maintain a keen commitment to increasing the knowledgebase and professional networking of individuals involved in toxicology-related clinical pathology. He remains focused on upgrading the breadth and impact of clinical pathology testing in support of drug safety assessment by exploring and applying new methods and technologies. ❖

## Elected as DACC's Secretary in 2016

**Peter Szczerba**, MS, BS, MT(ASCP)
*Merck Research Laboratories*

**P**eter joined the DACC in 2001, and he's increased his activity in the division over the past few years as a member of the Nominating Committee and as the DACC's Archivist. Through his career he has worn many hats and gained experience with multiple technologies and areas of research. He says that the one constant was being able to rely upon the rich resources within the DACC community. The chapter meetings, focus group discussions, and the ListServ topics have provided additional direction for his growth and development. He has been very excited to take another step and become even more involved in the leadership of the DACC and give back to our incredible organization that has provided him so much. Peter received a BS in Medical Technology from the University of Delaware and a Masters in Clinical Chemistry from West Chester University. While attending graduate school he worked as a Med Tech in Wilmington, Delaware. He then joined Merck Research Laboratories as a Staff Biologist within the Laboratory Animal Resources (LAR) Diagnostic Laboratory. In 2004 he assumed the supervisor role and managed a team supporting both colony health as well as discovery research. Since then his role has transitioned into an Associate Principal Scientist on the laboratory team within the Safety Assessment Clinical Pathology Department. ❖

## Photos from the 2015 Annual Meeting

- DACC Morning Symposium on the Development of Preclinical and Clinical Biomarkers
- DACC Lunch and Learn Session on Mass Spectrometry

2015 Lunch & Learn Speakers:
Jennifer Colangelo, Steven Cotton, and Victoria Zhang


Moderator:
Dave Desmond

Susan Emeigh Hart and
David Zelmanovic

Peter,
Rosanne,
Beth,
and
Rosemary

Dave Desmond and
Susan Emeigh Hart

See More Photos from the 2015 Annual Meeting at:
https://share.shutterfly.com/share/received/welcome.sfly?fid=d8f37ae2fba9eb99&sid=0AbtGjRqzbMXDqY

*Thanks to DACC Photographers Amy & Rosemary!*

# Short Scripts.....

## AACC / DACC
**Annual Meeting**
July 31 – August 4, 2016
Philadelphia, PA


## DACC
**Spring Symposium**
May 6, 2016
B.I. Danbury, CT

## American College of Toxicology
**Annual Meeting**
November 6–9, 2016
Baltimore, MD

## Society of Toxicologic Pathology
**STP**
**Annual Meeting**

## ACVP / ASVCP
**Annual Meeting**
December 3-7
New Orleans

## AACC Artery
Animal Clinical Chemistry
Forum Resource Center

https://community.aacc.org/divisions/animal_clinical_chemistry

## The Membership of the DACC Extends a Huge *THANK YOU* to its Outgoing Officers:

**2013–2015's Chair-Elect, Chair, Past-Chair**
David Desmond, *Abbvie*

**2015's Nominating Committee Chair**
Dirk Sprenger, *Antech Diagnostics*

The DACC is Seeking a Volunteer to Appoint as a Member of the Nominating Committee to Fill the Remaining Term of an Impromptu Vacancy. Every Aspect of the DACC Depends on the Volunteerism of People Like YOU!