



THE AMERICAN ACADEMY OF CARDIOVASCULAR PERFUSION 515A EAST MAIN STREET ANNVILLE, PA 17003 (717) 867-1485 PHONE OR FAX OFFICEAACP@AOL.COM

HTTP://WWW.THEAACP.COM

WINTER 2017

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# Great People Working Together to Accomplish Wonderful Things

In the Spring newsletter I reviewed some of the exciting information technology (IT) and where that IT fits into perfusion. Using computer technology to help us do a better job taking care of patients makes absolute sense. After all, we use that technology every day to make our lives more convenient. Cell phones, personal calendars, many various apps from counting calories, exercise ,traffic, news, weather and the list goes on and on, all helping us navigate our way throughout the day. In the fall, I changed gears in my Academy address to the membership and focused on "Teamwork, Communication and Collaboration". We explored areas such as what makes people successful; what makes teams succeed and what makes us feel good about our career choices?. I have spent many years throughout my career building teams and figuring out what works and what doesn't. This year was exciting, being tasked with preparing the AACP annual seminar as well as implementing several changes to the well-established structure of the AACP. As I looked back at the journey I realized the key to that success was so deeply rooted in those around me who when invited to "sit it out or dance, they made the conscious decision to DANCE". Although greatly appreciated, thank you just does not seem like appropriate recognition.

Behind the scenes, there was a great deal of activity by many AACP members including the membership committee, student liaison committee, awards committee, nominating committee, simulation committee, Reed lecture committee and others. I urge you to visit the AACP website at <u>www.theaacp.com</u> for a complete listing.

The total revamping of the AACP website with a new, fresh look including easy access and improved navigation, updated content and a host of needed enhancements was headed up by Kevin Charette and the ITwebsite committee including Christine Chan, Ken Fung, Carmen Giacomuzzi and Tami Rosenthal. Additionally, Christine Chan worked diligently to grow our email contact database from a few hundred to over three thousand active perfusionist contacts in addition to improvements on our



#### Continued from Page 1

social media network. Kenmond (Ken) Fung recognized the need to transition from paper to an electronic meeting application. This was no small feat and after seeking out several mobile app companies with very high costs, Ken decided to pursue a website based solution with very reasonable pricing. However there was a great deal of work needed to populate and perfect this approach. Ken, single handily accomplished all of this work and it is nothing short of amazing. Simply enter "eventmobi.com/theaacp" into your URL to access all meeting info including, schedules, speaker info, locations, maps, floor plans, sponsors, group discussions and more.

The Program Committee also deserves special recognition. This simply amazing collaborative effort was headed up by my dear friends and committee co-chairs Linda Mongero and Dana Apsel-Mullin. Assisting Dana and Linda in the planning were members, Michael Brewer, Molly Bryant, Giovanni Cercere, Kevin Charette, Ken Fung, Bob Kroslowitz, Kevin Lilly, Harry McCar-thy II, Richard Melchoir, Greg Smigla, Steven Sutton, Christine Chan, Allison Weinberg and Richard Chan.

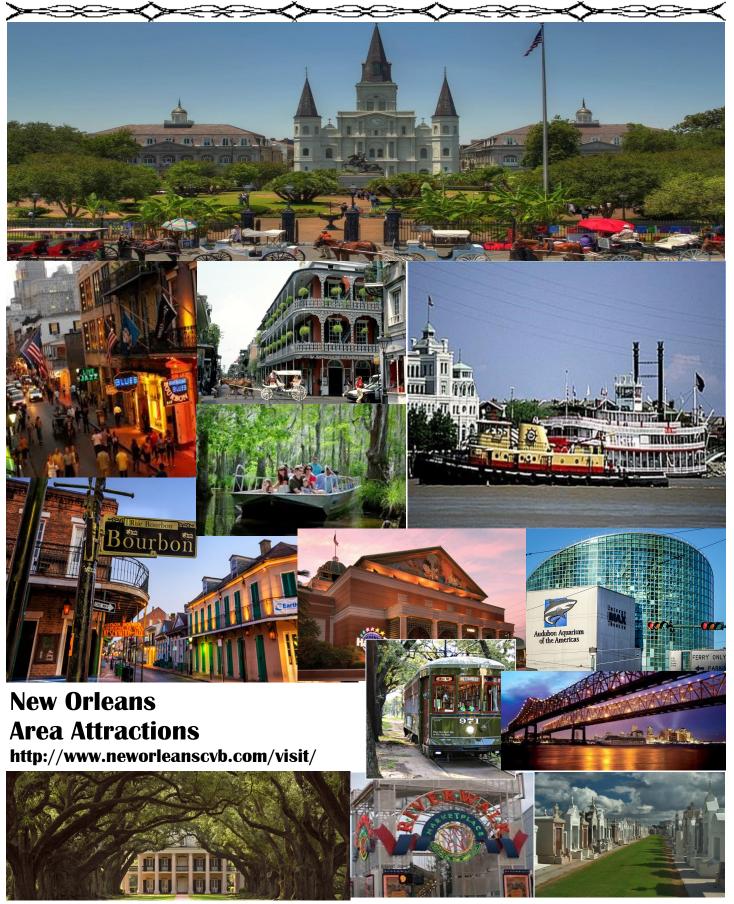
In 2018 the Annual Seminar of the American Academy of Cardiovascular Perfusion will have an entirely enhanced format. The meeting will begin on Wednesday evening and end on Saturday afternoon to allow attendees free time in New Orleans and more travel opportunity while attending one of the greatest scientific programs in Perfusion. Interaction and opportunity with our industry partners has been greatly enhanced with active participation in special meeting kickoff sessions, scientific sessions and the participant favorite fireside chats. In addition to an extremely strong scientific program, the committees also focused on fun and colligate collaborative inclusion for all meeting attendees. Dana Apsel-Mullin and Rich Melchior have arranged a "Sights and Sounds of New Orleans Pub Crawl"

for our first night (I am sure Ken will also find a way to send push notifications as we paint the town). Thursday evening features a "Hands on Workshop" and cocktail reception for all. Friday night promises to be a very special evening with **ALL** meeting attendees and guests invited to the Formal Induction Dinner and Awards presentation (tuxedo or dark suit required for the men). After honoring our meeting attendees, Dana has arranged a Live Band and dancing to cap off the evening. The meeting will wrap up on Saturday afternoon after the morning scientific paper session, special scientific panel session, lunch, the Memorial session and finally the afternoon Fireside Chat session.

Over the past year, these great accomplishments of the members of the American Academy of Cardiovascular Perfusion would not have been possible without the direction, oversight and guidance of our executive directors David and Jill Palanzo. Day in and day out they guided us, gave us advice, steered the ship, kept us on schedule and helped us avoid pitfalls of the past. It was like a finely seasoned orchestra conductor creating beautiful music. I could not be more proud of the dedication, commitment and collaboration of so many AACP members making my year as president of the AACP a special time that I will treasure for years to come. Please join us at the 39th Annual Seminar of the American Academy of Cardiovascular Perfusion, January 17-20, 2018 in New Orleans.

Warm wishes for a Healthy and Happy Holiday Season,

James R. Beck President AACP The Academy Newsletter





#### Joe Kalscheuer,

Medtronic Principal Scientist

## THE POWER OF PLASTIC

In designing a heat exchanger for an oxygenator, there are many design considerations in achieving a safe and effective design. One of the key considerations is in material selection, which is the focus of this article.

There are two broad categories for heat exchanger materials: metals and polymers (plastic). Both options can provide effective heat exchanger performance; however, polymers offer more options in forming and manufacturing, and enable device incineration. Polymeric heat exchangers can be further classified into thermoplastics, elastomers, and hybrid thermoplastic elastomers. The main differentiating point between these groups is the temperature at which the material transitions from a rigid and "glass" like material, to a soft and rubbery material; this is known as the glass transition temperature (T<sub>g</sub>). Materials that exist above their glass transition temperature behave more like a liquid at the molecular level, are lower density, and have increased rates of permeability relative to rigid glassy materials. The increased rate of permeability is a result of the increase in "free volume" of the polymer i.e. the negative space between the polymer chains.

Thermoplastics such as Polyethylene Terephthalate (PET), and Polycarbonate (PC) have  $T_g$  significantly above room temperature, and as such these materials become soft and rubber-like only under significant heat load. PET is a semi-crystalline polymer, with a  $T_g$  of 60°C and a melting temperature ( $T_m$ ) of 250°C, and densities for the amorphous and crystalline phases of approximately 1.35 and 1.5 g/cm<sup>3</sup> respectively.

Elastomers and Thermoplastic Elastomers such as TPUs (Thermoplastic Urethanes) have  $T_{gs}$  typically well below room temperature, increasing their rubbery quality, e.g. flexibility and decreasing their density and relative permeability. Thermoplastic Urethanes (TPUs), used in other plastic heat exchangers in oxygenators, are typically flexible, with  $T_{gs}$  of -54°C to -27°C, and respective densities at or below 1 g/cm<sup>3</sup>. Barring dramatic solubility differences between the migrating chemical and the polymer, TPUs will exhibit increased rates of diffusion relative to the more constrained and dense thermoplastic system due to the increase in volume and decrease in density of their polymer system.

In designing the Affinity Fusion Oxygenation System, Medtronic uniquely selected Polyethylene Terephthalate (PET) polymer, taking advantage of the ability to create a small tube design of capillaries to increase heat exchange performance while decreasing prime volume. Medtronic also selected PET because it is resistant to chemical migration, and it has the durability to withstand the surrounding environment.

Medtronic has performed testing to evaluate permeability performance of oxygenators with plastic heat exchangers. The results show that for the Affinity Fusion Oxygenator, Hydrogen Peroxide (H2O2) DOES NOT migrate across the PET heat exchanger.<sup>1</sup>

1. No migration is defined as being below the detectable limits of the test kit (0.2 mg/L), when measured over 6 hours with testing at 37°C with blood side flow rate of 4.5 L/min in ten Affinity Fusion oxygenators. Medtronic Data on File. Bench results may not be representative of clinical performance.





#### Marcel LaChance

SUNY Upstate Medical University

B.S. in Cardiovascular Perfusion Class of 2018

Syracuse, New York



## Monitoring Magnesium for Patients on Bypass

Perfusionists are tasked with monitoring numerous parameters to ensure that the patient's homeostasis is maintained. Electrolytes such as sodium, calcium, potassium, and bicarbonate are commonly monitored and maintained within physiologic parameters throughout cardiopulmonary bypass (CPB). The surgical team's regulation of these electrolytes is critical since their concentration has an impact on the patient's postoperative outcome. Magnesium is another essential electrolyte within the body. However monitoring this element is uncommon during and after CPB. Prophylactic dosing patients with a bolus of magnesium after cross clamp removal has become a common practice. The justification of a magnesium bolus dose is that magnesium helps to prevent arrhythmias after periods of myocardial ischemia. While there is evidence to support this practice should magnesium levels be monitored more closely before and during bypass and should the perfusionist do more to regulate magnesium levels on bypass<sup>13</sup>?

Magnesium is the second most common intracellular cation and is essential for a number of physiologic processes. Magnesium's effect on cardiac excitability, contractility, and control of vascular tone make it a relevant parameter for the open heart team. Proper quantities of magnesium in the body can prevent problems associated with cardiac surgery such as certain types of cardiac arrhythmias, coronary spasm, and sudden death. Adequate levels of magnesium are also required for the process of oxidative phosphorylation, which is needed for the recovery of myocardial cell function after cardioplegic arrest<sup>3</sup>. Hypomagnesemia, defined as serum magnesium <1.70 mg/dl, is associated with cardiac issues such as torsades de pointes, neurotoxicity, hypokalemia, hypocalcemia, and an increased risk of mortality<sup>4,9</sup>. Hypermagnesemia, defined as serum magnesium >2.56 mg/ dl, is less common than hypomagnesemia but is associated with its own issues such as bradycardia; prolonged PR, QRS and QT intervals, complete heart block, atrial fibrillation and asystole<sup>9,12</sup>.

Cardiac patients often have abnormal levels of magnesium prior to surgery and patients often present with hypomagnesemia<sup>4,8</sup>. Hypomagnesemia can occur due to a number reasons (see Table 1).

#### Table 1 Causes of Hypomagnesemia

- Loop diuretics (furosemide) Certain cardiac drugs (digoxin)
- Antibacterial drugs
   (aminoglycoside)
- Blood transfusions
- Hemodilution
- Ultrafiltration techniques

Physiologic solutions used preoperatively, or to prime CPB circuits may not contain any supplemental magnesium (eg. Lactated Ringers and 0.9% saline solution). Some solutions like Normsol R, and Plasmalyte A do contain physiologic levels of magnesium (3meq/L) and may be preferable as priming solutions. Certain CPB ultrafiltration techniques such as ZBUF or DUF may also reduce the concentration of magnesium if the volume replacement solu-

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tion has no magnesium (eg, normal saline)<sup>10</sup>.

Monitoring and maintaining magnesium levels throughout the body can be difficult and potentially misleading. Serum magnesium is commonly used to monitor the concentration of magnesium in the body. However, serum magnesium concentration can be an inaccurate representation of the total body magnesium<sup>3</sup>. For example, a patient may present with hypermagnesemia according to their serum magnesium values, but may still be suffering from low total body magnesium levels. There are a few reasons for this phenomenon. One reason is that only a portion of magnesium found in the serum is physiologically active. Ionized magnesium (iMg) is considered to be the physiologically active form of magnesium and comprises 55% of the total serum magnesium<sup>1</sup>. In addition, only 1% of the total magnesium found in the body is located in the serum, whereas 99% is stored elsewhere such as the bones, muscle tissue, and non-muscular tissue<sup>3,4,12</sup>. Other measurements for magnesium reported include iMg and urinary Mg analysis before and after Mg administration. iMg and urinary Mg anaylsis are reported to represent total body Mg more accurately<sup>1,4</sup>.

Monitoring and treating a patient's magnesium level could decrease the chance of arrhythmias after cardiac surgery. In a number of studies, researchers found that treating patients' magnesium levels resulted in a lower risk of arrhythmias post-operatively. Manrique et al. found that pediatric patients treated with up to 50 mg/kg magnesium during the rewarming period of CPB were significantly less likely to acquire junctional ectopic tachycardia (JET) after cardiac surgery. Although magnesium supplementation was shown to prevent JET, there was no correlation to magnesium supplementation and risk of mortality or length of stay in the cardiac intensive care unit. Chernow et. al found that of 117 patients, 61% had hypomagnesemia, and 5% had hypermagnesemia. In the same study Chernow et. al found that there was no difference in the length of stay in the intensive care unit of patients with abnormal and normal serum magnesium levels. The same authors of this study state that patients with serum magnesium <1meq/dl warrant immediate therapy. They also reference that the serum magnesium levels will help to identify patients at risk for myocardial infarction. Bingyang Ji et al. performed a study examining magnesium added to cold cardioplegic solutions and

found that certain amounts of magnesium (8-10 mmol/L) resulted in a siginificant decrease in biomarkers (cTnl and CK-Mb) of damaged myocardium up to 72 hours postoperatively.

Treating a patient's magnesium level has also been shown to have no effect on the chance of arrhythmias or mortality after cardiac surgery. In a trial by Cook et. al, prophylactic IV MgSO<sub>4</sub> (magnesium sulphate) in addition to beta blocker administration didn't reduce the incidence of atrial arrhythmias after CABG and valvular heart surgery. Another study by Lancaster et. al found that potassium and magnesium supplementation don't protect against atrial fibrillation, and that increased magnesium post operatively may be associated with increased postoperative atrial fibrillation. In addition, Vyvvan et. al found no significant correlation with serum magnesium concentrations and arrhythmias, pre, peri, nor postoperatively. The same authors concluded that serum magnesium level doesn't appear to be useful in deciding to supplement a patient with magnesium.

Despite magnesium's importance in many physiological processes, treating magnesium levels in patients needing heart surgery remains controversial. Several studies support magnesium supplementation in patients presenting with abnormal magnesium levels however nearly an equal amount have found no correlation or even warn against its supplementation<sup>5</sup>. Many of these studies base their findings off of serum magnesium levels which may not correlate to the actual total body magnesium of patients. The debate of magnesium supplementation for decreasing arrhythmias postoperatively is an opportunity for perfusion groups to determine if magnesium supplementation during bypass aids in decreasing arrhythmias and mortality post-operatively. In addition, patients may also present with hypermagnesemia preoperatively, therefore additional magnesium supplementation may be a contraindication during bypass. Most studies also supplement magnesium with magnesium sulphate. Further studies on the supplementation of MgCl<sub>2</sub> versus MgSO<sub>4</sub> may also be necessary due to the potential toxic effects of the sulphate ion<sup>11</sup>.

lonized magnesium, ultrafiltrated magnesium, or more accurate determinations of total body magnesium besides serum magnesium should be evaluated. Preoperative levels of total magnesium should also be examined routinely for patients requiring CPB.

#### References

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tion during Cardiopulmonary Bypass to Prevent Junctional Ectopic Tachycardia after Pediatric Cardiac Surgery: A Randomized Controlled Study." *The Journal of Thoracic and Cardiovascular Surgery*, vol. 139, no. 1, 2010, doi:10.1016/ j.jtcvs.2009.07.064.

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Caspi, Joseph, et al. "Effects of Magnesium on Myocardial Function after Coronary Artery Bypass Grafting." *The Annals of Thoracic Surgery*, vol. 59, no. 4, 1995, pp. 942–947., doi:10.1016/0003-4975(95)00050-u.



#### The ACADEMY ANNUAL MEETING DEADLINES

ABSTRACT DEADLINE	October 31, 2017
MEMBERSHIP DEADLINE	November 17, 2017
PRE-REGISTRATION	December 17, 2017
HOTEL REGISTRATION	December 17, 2017
2018ANNUAL MEETING	January 17-20, 2018

#### **Other Meetings**

#### Pediatric Perfusion at Cardiology 2018

February 21-25, 2018 Hyatt Regency Scottsdale Resort and Spa at Gainey Ranch, Scottsdale, Ariz. 45.4 Category I CEU credits from ABCP Registration is now open! http://www.chop.edu/events/cardiology-2018

#### 14th International Conference on Pediatric Mechanical Circulatory Support Systems Pediatric Cardiopulmonary Perfusion Conference May 2-5, 2018

Ann & Robert H. Lurie Children's Hospital of Chicago Chicago, IL Contact: Akif Ündar Email: aundar@psu.edu Phone: 717-531-6706



### **PRE-REGISTRATION FORM**

The 2018 Annual Meeting of The American Academy of Cardiovascular Perfusion



MEMBER	FEE	Amount	FIRESIDE CHAT REGISTRATION	
Registration Fee	\$445.00		(make your first three choices each day)	
2018 Annual Dues	\$155.00		Thursday Sassiana	
Guest to Induction Dinner	\$100.00		Thursday Sessions	
Adult Guest to Workshop	\$25.00		1)	
NON-MEMBER	FEE	Amount	2)	
Registration Fee	\$495.00		3)	
Guest to Induction Dinner	\$100.00		Friday Sessions	
Adult Guest to Workshop	\$25.00			
STUDENT PERFUSIONIST	FEE	Amount	1)	
Registration Fee	\$130.00*	Waived**	2)	
Guest to Induction Dinner	\$100.00	Walvea	·/	
Adult Guest to Workshop	\$25.00		Saturday Sessions	
* <b>MUST</b> include a letter from the	φ20.00			
school director with registration.			1) 2)	
**To take advantage of the waived Student			3)	
fee, you must be a current Student Member			o/	
of The Academy.				
	FEE	A	-	
FELLOW or SENIOR MEMBER		Amount		
Registration Fee	\$445.00			
2018 Annual Dues	\$180.00			
Guest to Induction Dinner	\$100.00			
Adult Guest to Workshop	\$25.00			
PRINT OR TYPE NAME				
HOME ADDRESS				
CITY	STATE _	2	ZIP	
HOME PHONE		PHONE		
E-MAIL ADDRESS			(Required for confirmation)	
ANTICIPATED ARRIVAL DATE IN NEW ORLEA	NS			
Will you be attending the Induction Dinner on Friday evening? YES NO				
(Dark Suit and Tie Required / Black Tie Optional)				
Please read all instructions and informatic If you have questions completing this form, please through the hotel directly.				
Total Amount of Payment \$ METHOD	OF PAYM	ENT: Check*	* Money Order Credit Card	
VISA/MasterCard #		Exp. Dat	e 3-digit security code	
Credit card billing address if different from above.				
ADDRESS				
СІТҮ	STATE _	2	ZIP	

#### **INSTRUCTIONS and INFORMATION**

o Complete each appropriate section of this form by printing or typing.

o All attendees are invited to the Induction Dinner on Friday evening. Attire is dark suit and tie required.

o Members must pay their 2018 Annual Dues along with their registration fees by completing that portion of the form.

o You will receive acknowledgment of your pre-registration by January 5, 2018--bring it with you to the meeting.

o No pre-registration will be processed after December 17, 2017.

#### -- After this date you must register at the meeting.

o Your receipt and meeting credentials will be available for you at the Pre-Registration desk at the meeting.

#### o There will be NO ADMISSION to any Fireside Chat without proper admission credentials.

o If you are joining The Academy with your registration you must:

1) complete appropriate areas of the form;

2) you MUST INCLUDE the membership application form;

3) include the \$25 filing fee;

4) include \$155 for the 2018 Annual Dues;

(Your membership begins with the closing business meeting)

o ONLY VISA/MasterCard credit cards are accepted - with VISA/MasterCard you may FAX your registration to (717) 867-1485

o The AACP Federal Tax ID Number: 63-0776991 (for hospital use only)

o Refund policy: Anyone that is pre-registered for this meeting and is unable to attend will receive a full refund minus \$50.00 for handling, mailing, and processing upon written request before January 5, 2018.

 Make checks payable to AACP (US dollars). Mail completed pre-registration form and check to: AACP
 5154 East Main Stroot

515A East Main Street Annville, PA 17003

IF YOU HAVE QUESTIONS FILLING OUT THIS FORM, PLEASE CONTACT THE NATIONAL OFFICE (717) 867-1485.

o If paying by VISA/MasterCard you may FAX this form to (717) 867-1485 or mail to above address.

## **Contact Information for Our Sponsoring Partners**

#### **GETINGE GROUP**

Phone: 888-627-8383 Fax: 732-667-1901 Website: www.maquet.com

#### INVOSURG

Fax: 617-507-6462 Website: www.invosurg.com

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#### QUEST MEDICAL, INC.

Phone: 800-627-0226 or 972-390-9800 Fax: 972-390-2881 Website: www.guestmedical.com

#### **TERUMO CARDIOVASCULAR SYSTEMS**

Phone: 734-663-4145 or 800-521-2818 Fax: 734-663-7981 Website: terumo-cvs.com

## 39<sup>th</sup> Annual Seminar of The American Academy of Cardiovascular Perfusion

New Orleans Marriott Hotel New Orleans, Louisiana January 17 - 20, 2018

### Wednesday, January 17, 2018

9:00 AM – 2:00 PM 1:00 PM – 5:00 PM 3:30 PM - 4:00 PM	Council Meeting REGISTRATION Opening Business Meeting Fellow, Member, Senior and Honorary Members
4:00 PM – 7:00 PM	Breakout Rooms
8:30 PM	Sights and Sounds of New Orleans Pub Crawl

## Thursday January 18 2018

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7:00 AM	REGISTRATION
7:00 AM – 8:00 AM	Video Presentations
8:00 AM – 10:00 AM	Scientific Paper Session:
	Moderators: Richard Chan & Christine Chan
10:00 AM – 10:30 AM	Break
10:30 AM – 12:30 PM	Special Scientific Session
	Hot Topics and Current Trends
	Moderators: Daniel Fitzgerald and David Fitzgerald
	Training and Simulation - Dr. Marc Dickstein
	New and Emerging Technologies - Ken Fung
	Hypobaric Oxygenation for GME Removal - Dr. Keith Gipson
	Complex Aortic Repair - Christine Chan
	Updates on Heart Transplants, Lung Transplants & VADS
	- Dr. Jonathan Haft
	Panel Q&A
12:30 PM – 1:30 PM	Lunch
1:30 PM – 4:00 PM	Special Scientific Panel
	<b>Extracorporeal Support - In &amp; Out of the Operating Room</b> <i>Moderators: Dana Apsel and Harry McCarthy</i>
	Pulmonary Medicine Perspective - Dr. Dan Brodie
	Early Mobilization on ECMO: Is It Possible?- Dr. Dan Brodie
	Lung Transplant Support - Desiree Bonadonna
	Shock and ECPR Use - Desiree Bonadonna
	ECMO Transport (Inter-hospital, Outside Ground and Air) - Michael Brewer
	Interesting Cases and Lessons Learned - Killian Patton
	Interesting Cases and Lessons Learned - Allison Weinberg Panel Q&A

4:00 PM – 6:00 PM	Fireside Chats Student only forum VADs and Mechanical Support Best practices/ Evidence based / Goal directed perfusion New technologies: TAVR, Angiovac, pump technology, heater coolers, circuitry & more Generations in the workforce, motivation, staff satisfaction, mindset and engagement
6:00 PM – 8:30 PM	Sponsor's "HANDS ON" Workshop and Reception All Meeting Attendees and Guests
Friday, January 19, 20 7:00 AM 7:00 AM – 7:30 AM 7:30 AM – 9:30 AM	018 REGISTRATION Video Presentations Scientific Paper Session <i>Moderators: William Riley &amp; Richard Walzack</i>
9:30 AM – 10:00 AM	Break
10:00 AM – 11:30 AM	<ul> <li>Special Scientific Panel</li> <li>Complex Congenital Heart Surgery</li> <li>Moderators: Tami Rosenthal and Carmen Giacomuzzi</li> <li>Comparison of Two Pediatric Cases Requiring the Use of Bivalirudin During Cardiopulmonary Bypass—Molly Bryant</li> <li>Ventricular Assist Devices for the Failing Fontan Patient <ul> <li>Dr. Mascio</li> </ul> </li> <li>A Perfusionist's Guide for the 15kg Failing Fontan on a VAD <ul> <li>Richard Melchior</li> </ul> </li> <li>Successful Oxygenator Change Out During Cardiopulmonary Bypass In A Pediatric Patient With Hypercholesterolemia – Alagille Syndrome - Isaac Chinnappan</li> <li>Single Ventricle vs 1.5/2v Repair Dilemma - Dr. Mascio Panel Q&amp;A</li> </ul>
11:30 AM – 1:00 PM	Lunch
1:00 PM – 3:30 PM	Special Scientific Session: Education, Communication and Collaboration with Industry Partners Moderator: Giovanni Cercere
3:30 PM – 5:30 PM	Fireside Chats Pediatrics ECMO Computers in Perfusion, EMR, Real-time notification, alarms, alerts, connectivity Simulation, when s#%t hits the fan, are you ready? Perfusion education, past, present and future

The Academy Newsletter

Winter 2017

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### Saturday, January 20, 2018

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7:00 AM 7:00 AM – 7:30 AM 7:30 AM – 9:30 AM	REGISTRATION Video Presentations Scientific Paper Session <i>Moderators: Deborah Adams and John Toomasian</i>
9:30 AM – 10:00 AM	Break
10:00 AM – 12:15 PM	Special Scientific Panel Scientific Research: Biostatistics, Epidemiology, Quality Measures, Outcomes and Reporting Moderators: Linda Mongero and James MacDonald Update on Scientific Research - Joseph Sistino, PhD, CCP Biostatistics - Eric Tesdahl, PhD Quality Measures and Outcomes - Al Stammers, MS, CCP Infection Prevention and Control - Tom Coley, RN, CCP Emeritus Panel Q&A
12:15 PM – 1:45 PM	Lunch
1:45 PM – 3:30 PM	Memorial Session In Memorium - Diane Clark Charles C. Reed Memorial Lecture - James MacDonald Thomas G. Wharton Memorial Lecture - James Beck
3:30 PM – 5:30 PM	Fireside Chats HIPEC, HILP, ILI the chemoperfusion alphabet Perfusion accidents Cardioplegia Quality improvement: What are you doing? Team building, leadership, engagement, what makes a satisfied workforce
5:30PM	Closing Business Meeting Fellow, Senior and Honorary Members Only

# THE ACADEMY TO OFFER LIVE WEBCAST

The American Academy of Cardiovascular Perfusion will again be offering a live webcast of our 2018 Annual Meeting in New Orleans. The General Sessions of the meeting will be broadcast in high quality streaming video. There will also be an opportunity for attendees to ask questions, thus qualifying for 34.8 Category I CEUs from the American Board of Cardiovascular Perfusion.

# 2018 Annual Academy Meeting Host Hotel



# New Orleans Marriott Hotel 555 Canal Street

## New Orleans, Louisiana

Single/Double Occupancy - \$199.00 per night Reservations: 800-228-9290 504-581-1000

Please mention that you will be attending the Annual Conference of The American Academy of Cardiovascular Perfusion when making your reservations.