President’s Message

We have had a very successful year, thanks to the enthusiasm and work of the CVC Board of Directors and Program Committee.

The 2019 SNMMI Mid-Winter Meeting in Palm Springs in January, 2019, was well attended. The featured track was Cardiovascular Nuclear Medicine with 10 sessions and 40 presentations and sponsored by the Cardiovascular Council. Topics ranged from Cardiac Sarcoidosis, Myocardial Blood Flow to Amyloidosis Imaging. Cutting edge talks included Machine Learning, FDG Imaging for Inflammation and Infection and Na-Fluoride PET Imaging of the Cardiovascular System.

We are looking forward to the Annual Meeting in one month. We have continued with the emphasis on case-based presentations and audience participation. We have a new networking event for early career CVC members that represent the future leadership of the CVC. Our goal is to build a community of young CVC members who will continue to develop the mission and goals of the Council.

Congratulations to Dr. Panithaya Chareonthaitawee, Past-President of the CVC, for her collaborative efforts with the Joint publication, FDG-PET/CT(A) Imaging Large Vessel Vasculitis and Polymyalgia Rheumatica: Joint Procedural Recommendation of the EANM/SNMMI and the PET Interest Group (PIG) and endorsed by ASNC (Eur J Nucl Med Mol Imaging. 2018 Jul;45(7):1250-1269. doi: 10.1007/s00259-018-3973-8. Epub 2018 Apr 11). This important document sets an internationally accepted standard for imaging and reporting of large vessel vasculitis and polymyalgia.

We are very grateful to our outgoing 2017 – 2019 interns, Stephanie Thorn, PhD, and Richard L. Weinberg, MD, PhD. Both Drs. Thorn and Weinberg have contributed much to cardiovascular nuclear medicine over the last 2 years with significant scientific publications and participation as moderators and speakers at the Mid-Winter and Annual SNMMI meetings. Also, congratulations to Drs. Rene Packard and Mathieu Pelletier-Galarneau, who are the successful applicants for the 2019-2021 Internship positions. We look forward to their active participation and assistance with our CVC initiatives.

We are looking forward to the Annual Meeting in Anaheim, CA, learning form the experts and reconnecting with our friends and colleagues.
Sincerely,

Terrence (Terry) Ruddy, MD, FRCPC, FACC, FAHA, FCCS

Cardiovascular Council President

Preview: 2019 Annual Meeting Cardiovascular Sessions

The Cardiovascular Council is pleased to present this outstanding program at the Annual Meeting in Anaheim. Our sincere thanks to the dedicated professionals who will serve as speakers and moderators during the event; they represent the best of Nuclear Cardiology research and education.

Saturday, June 22

The CV Council Leadership has been working diligently to develop a stellar program for the upcoming Annual Meeting in Anaheim, CA. The Cardiovascular program kicks off at 7:30 AM on Saturday morning with Categorical (CAT)02: Image Guided Decision Making and Therapy for Optimal Cardiovascular Patient Care. This session is co-sponsored by the PET Center of Excellence and organized by CVC President Terrence Ruddy, CVC Vice-President Venkatesh Murthy, and CVC Intern Richard Weinberg. It will be moderated by April Mann of Hartford Hospital and 2018 Blumgart Award winner Thomas Schindler, MD. The format features 15-minute lectures by the world’s top Nuclear Cardiologists and is designed for clinical practicality. Topics include the functional and anatomical imaging aspects of angina, ischemic disease and dysfunction, cardiac amyloidosis, cardiac sarcoidosis, cardiovascular infections, arrhythmias and quantitative approaches. Expert case study analysis will be presented by each faculty member.

Session CE07 examines Cardiovascular Molecular Imaging and Theranostics, from 1:30-3:00 PM and was organized by Mehran Sadeghi, MD and will be moderated by Mehran Sadeghi, MD and James Thackeray, PhD.

Abstract session 5: Cardiovascular Basic Science from 3:15 PM - 4:45 PM in 203B, is moderated by former CVC Intern Wengen Chen, MD, PhD.

Session CE12 entitled Cardiac PET Workshop from 3:15 - 4:45 PM will explore the practical aspects of performing cardiac PET in the clinic. This session features Twyla Bartel DO and Sharmila Dorbala, MD, and is sponsored by the Correlative Imaging Council.

Opening Ceremonies begin at 5:00 PM, and the Poster Hall opens at 6:00 PM, along with the Exhibit Hall Welcome Reception.

Sunday, June 23

Abstract Session 13: Cardiovascular YIA Symposium is 12:30 - 2:00 PM in 203B.

CE21 at 12:30 PM is focused on Non-Invasive Evaluation of CAD in 2019 and will examine the value of SPECT/CT and coronary calcium scoring, PET perfusion and flow, and the contributions of CCTA. This session is organized by Thomas Schindler, MD and will be moderated by Thomas Schindler, MD and Daniel Berman, MD.

TS15: Technologist Papers II: Cardiovascular Science is 3:00 - 4:30 PM in 205A.
Abstract session **21: Cardiovascular Clinical Science, Advances in Clinical Utility of MBF Quantification**, moderated by CVC Intern Stephanie Thorn, PhD is 3:00 - 4:30 PM in 203B.

**CE35: Cardiac Amyloidosis: Introduction and Applications at 4:45 PM** is organized by and will be moderated by Timothy Bateman, MD and Mehran Sadeghi, MD. This session will provide a thorough review of the pathophysiology, treatment options, imaging modalities and growing role of nuclear cardiology protocols useful in assessment of this disease.

At the same time at 4:45 PM, **TS09: Cardiovascular Boot Camp I** in the Technologists Section will focus on ECG, stress testing and handling emergencies in the capable hands of April Mann, CNMT and Robert Pagnanelli, CNMT.

**Posters: Preclinical Probes for Cardiovascular** from 6:30 - 8:00 PM in Exhibit Hall C.

**Monday, June 24**

Abstract session **29: CV Basic Science: Myocardial Perfusion and Flow Quantification** is moderated by CV Council Director Rob DeKemp, PhD at 10:00 - 11:30 AM in 203B.

**CE42 at 10:00 AM is dedicated to the Nuts and Bolts of Myocardial Blood Flow: Clinical Applications.** Organized by Venkatesh Murthy, MD, PhD this session incorporates some of the recognized leaders in this important aspect of physiologic assessment. With Dr. Murthy are Robert DeKemp, PhD and Terrence Ruddy, MD of Ottawa Heart, and Thomas Schindler, MD of Wash U.

Abstract session **37: CV Clinical Science: Improving Prognostication from Cardiac Nuclear Imaging** is moderated by Council Director Robert Bober, MD in 203B.

**CE49: Cardiovascular Boot Camp II at 12:30 - 2:00 PM** features the 2017-2019 CVC Interns, Stephanie Thorn, PhD and Richard Weinberg, MD, PhD and incoming 2019-2021 Intern Matthieu Pelletier Galarneau, MD. This session will provide insight into stress testing protocols, achieving the 9 mSv dose low dose threshold, reporting SPECT MPI and an introduction to imaging cardiac sarcoidosis with FDG PET.

Abstract session **45: CV Clinical Science: Infiltrative Cardiomyopathies and Infection Imaging** moderated by Council Director Edward Miller, MD, PhD at 4:45 - 6:15 PM in 203B.

**Tuesday, June 25**

Abstract session **49: Preclinical Probes for Cardiovascular, 8:00 - 9:30 AM**, 203B.

Abstract session **53: CV Clinical Science: Vulnerable Plaque and Innervation Imaging**, moderated by Mehran Sadeghi, MD at 8:00 - 9:30 AM in 203B.

**CE70: Hermann Blumgart Award Lecture: Growing Research Opportunities in Cardiovascular Nuclear Medicine, 8:00 - 9:30 AM, 213CD.**

**CE77: Cardiac Image Quantification**, organized by Council Directors Salvador Borges-Neto, MD and Piotr Slomka, PhD 10:00 - 11:30 AM in 213CD.

**TS36: Cardiac PET in 2019**, organized by April Mann and Robert Pagnanelli, 207D.

**Cardiovascular Basic Science Posters, 3:00 - 4:30 PM Exhibit Hall C.**

**Cardiovascular Clinical Science Posters, 3:00 - 4:30 PM, Exhibit Hall C.**
Finally, Council Director and former CVC President Mehran Sadeghi will give the **Cardiovascular Highlights in the Henry J. Wagner Highlights Symposium**, beginning at 4:45 PM in Ballroom A-D. This is an excellent opportunity to see the best of the cardiovascular science for those unable to get to all of their desired sessions during the week.

You can register for SNMMI here: [http://www.snmmi.org/AM/Registration/Content.aspx?ItemNumber=12340](http://www.snmmi.org/AM/Registration/Content.aspx?ItemNumber=12340). Don’t miss the opportunity to hear directly from the world’s leading experts in cardiovascular imaging at this upcoming SNMMI.

**CV Council Young Professionals Networking Event at SNMMI**

The Cardiovascular Council plans to hold a networking event at the 2019 Annual Meeting for early-career CVC members. The event will be available for CVC member fellows-in-training and CVC members, who are within the first 3 years of completion of their respective training. The event is also open to YIA first authors, and all current and former CVC Interns.

Attendees will be able to meet the leadership of CVC and learn more about the mission and objectives of the Council. In addition, attendees will understand how they can become more involved in the CVC from the research, education, and social media perspectives. The goal is to foster new interest in the CVC and build a community of young members who will be active in the council to uphold its Charter and continue its mission.

The event is scheduled on Saturday, June 22nd, and will begin after the CVC Categorical session (CAT02), from 4:00 - 5:00 PM. The Opening Ceremonies begin at 5:00 PM, and the Poster Hall opens at 6:00 PM.

The location will be announced to all CVC members prior to the Annual Meeting. If you are interested in attending, please write to memberinfo@snmmi.org.

**2017-2019 CVC Intern Updates**

The 2017-2019 CVC Interns are Stephanie Thorn, PhD, and Richard L. Weinberg, MD, PhD.

The SNMMI Internship Program was established in 2008 with the aim, “To identify and train future leaders of SNMMI in the structure, governance, and operations of the organization, to prepare individuals for progressive levels of responsibility, and to ensure effective leadership that advances the mission and goals of the organization”.

**Dr. Thorn** holds the position of Research Scientist at Yale University, in the Yale Translational Research Imaging Center (YTRIC).

She has continued to produce meaningful observations from her large-animal heart failure model and will be presenting her most recent data at SNMMI. In this study the extraction fraction and biodistribution of 18F Rhodamine (18F Rho6G) in a swine ischemia-reperfusion model are reported.

In a new study published April 8th in Scientific Reports, Dr. Thorn and her colleagues at the University of Ottawa tested the mechanism by which angiotensin receptor blocker-neprilysin inhibitor (ARNi) improves prognosis in heart failure with reduced ejection fraction (HFrEF). In the experiment a rat model of HF was induced by myocardial infarction, and the effect of different treatment approaches, ARNi (sacubitril/valsartan) versus valsartan alone were compared at either 1 or 5 weeks to assess the effect on ventricular remodeling.

99mTc-NC100692 and 201Thallium micro-SPECT/CT were used to evaluate myocardial angiogenesis and post-MI perfusion. They found that ARNi improved global LV function and limited remodeling in the remote and border zones, while increasing perfusion to the infarct. Since the positive findings for ARNi in the PARADIGM-HF trial,
studies like this could improve the understanding of the underlying mechanisms by which HFrEF could be addressed medically.

In another April publication, Dr. Thorn participated in a non-imaging animal study evaluating the effect of negative-pressure wound therapy (NPWT) on vascular endothelial growth factor (VEGF), finding that NPWT increased VEGF expression nearly 3-fold 8 days after wound closure. The results suggest that improving angiogenesis is a mechanism by which surgical wound healing could be accelerated.

In addition to her remarkable scientific work, Dr. Thorn will be engaged as an educator at SNMMI, lecturing on the use of PET/CT in cardiac sarcoidosis in the Cardiovascular Boot Camp II (CE49) on Monday.

Dr. Weinberg is an Assistant Professor of Internal Medicine and a consultative cardiologist with clinical and research interests in nuclear cardiology. In 2018, he was named Associate Program Director of the Cardiovascular Disease Fellowship Program at the University of Michigan. In 2019 he has added to a growing list of important publications addressing the clinical applications of myocardial blood flow.

In a recent publication in Circulation Cardiovascular Imaging (2019;12), Dr. Weinberg and his colleagues at Columbia University explored the potential of a link between Myocardial Flow Reserve (MFR) and rheumatoid arthritis (RA). The stated goal was to assess the prevalence of myocardial microvascular dysfunction in RA patients without clinical cardiovascular disease. RA patients underwent rest and stress N-13 ammonia PET imaging and echocardiography. Global MBF was quantified at rest and at peak hyperemia. MFR was calculated, and a small number of asymptomatic and symptomatic non-RA patients were evaluated as controls.

In RA patients, the mean MFR was 2.9 ± 0.8, with 29% having a reduced MFR. Male sex and higher interleukin-6 were significantly associated with lower MFR, while the use of tumor necrosis factor inhibitors was associated with higher MFR. Higher LV mass index and LV volumes were also associated, but not LVEF or diastolic dysfunction.

Overall, the MFR in RA patients was similar to the symptomatic controls referred for clinical scans. Further study is warranted to explore whether existence of RA with reduced MFR may increase the risk for heart failure.

At SNMMI, Dr. Weinberg is participating in various aspects of the CVC programming as a session organizer (CAT02, CE49), moderator (CE49) and speaker (TS09). He is also taking a lead role in the new networking event described above.

Please join the Cardiovascular Council in congratulating these two young professionals for their outstanding achievements, and plan to attend their sessions and support the important work they are doing to advance the field on behalf of the SNMMI membership.

**CVC News: Outstanding Educator Award**

In February, the Cardiovascular Council approved the **CVC Outstanding Educator Award and Lectureship**, a new accolade designed to recognize an outstanding educator in the field of cardiovascular radionuclide imaging. Interest in the award has been driven by the rapid growth of research, and subsequently the published literature, surrounding cardiovascular medicine in general. In addition, the evolving healthcare environment itself requires trainees to broaden their skill base to incorporate the aspects of public policy, business and financial management.

The CVC recognizes the critical role of dedicated educators in support of the Council and the SNMMI in educating not only imagers but the broader medical community, as well as the public. The educators’ activities and efforts are consistent with the current Value Initiative of the SNMMI. They lead our educational sessions, contribute to state-of-the-art consensus documents, guidelines, position statements, appropriate use criteria, and other CVC advocacy activities. All of these actions are in addition to their own research work, writing clinical manuscripts and book chapters, and teaching their respective fellows and residents.
The CVC Outstanding Educator Award and Lectureship will recognize a current CVC member who has made extraordinary and consistent contributions to the CVC’s activities as described above. CVC length of service and lectureship is a top priority when selecting candidates for the award. Each year, a call for nominations will be announced in July, with a deadline in September. The awardee will receive a plaque and will present a lecture during a CVC CE Session at the annual SNMMI meeting in the year the candidate receives the award.

Look for the call for nominations this summer, and we hope you will join us to celebrate the first winner of the Outstanding Educator Award in New Orleans in 2020.

2019 Blumgart Award Winner: Terrence Ruddy, MD

The Hermann Blumgart Award is the highest award and honor bestowed by the Cardiovascular Council. The election by the Board of Directors of the CVC is based on criteria of both scientific contributions to the field of cardiovascular nuclear medicine and service to the SNMMI.

This year the CVC is delighted to announce that the 2019 Blumgart Award winner is Terrance D. Ruddy, MD, FRCP, FACC, FAHA, FCCS; Professor of Medicine and Radiology at the University of Ottawa, and Director of Nuclear Cardiology at the University of Ottawa Heart Institute. As a founding member of both the American and the Canadian Societies of Nuclear Cardiology, and presenter of more than 400 invited national and international scientific lectures, he is truly recognized around the world for his outstanding leadership in cardiovascular nuclear medicine.

Dr. Ruddy has also authored over 200 manuscripts and book chapters, dating back to 1986 while a Clinical and Research Fellow at Massachusetts General Hospital under Doctors H. William Strauss and Charles Boucher. From his earliest work in myocardial perfusion, infarction, vasodilation and ventricular function, it was clear that his career would be one of distinction in radionuclide imaging.

Having completed his internship, medical residency and cardiology residency in Toronto, Dr. Ruddy returned to Canada in 1986 to begin his remarkable career at the University of Ottawa, where he was appointed Director of Nuclear Cardiology at the University of Ottawa Heart Institute in 1998. He was University Chair and Division Head of Nuclear Medicine (2001-2012) and Cardiology (2006-2012). He founded the Canadian Molecular Imaging Center of Excellence (CMICE®) in 2007 and was its Director until 2014. CMICE developed novel targeted radiopharmaceuticals for imaging myocardial perfusion, cellular apoptosis and necroptosis. This research led to 4 US and international patents and multiple human phase 1 and 2 clinical trials. Under his leadership, Ottawa has emerged as a prolific source of scientific data on SPECT and PET cardiac imaging, most recently leading the way in quantification of myocardial blood flow with both modalities.

As a testament to his ongoing energy and enthusiasm for cardiac imaging, Dr. Ruddy remains on the editorial boards of several cardiovascular journals, including the Journal of Nuclear Cardiology. Not one to keep such depth of knowledge and experience to himself, he has trained over 100 residents and fellows in cardiac imaging and cardiology.

His service to the Cardiovascular Council of the SNMMI began with his election to the Board of Directors in 2009, after which he became Secretary in 2014, and Council Vice-President in 2016. He is currently serving as the President of the Council after serving his President-Elect term from 2017-2018. His energy and enthusiasm have served the SNMMI and the CVC Council well during his many years of service, for which we are all grateful.

Dr. Ruddy will receive the Blumgart Award on Tuesday, June 25th after his lecture entitled “Growing Research Opportunities in Nuclear Cardiology”, for which his vast experience will no doubt be instructional in the changing healthcare landscape and the interaction of cardiology and medical imaging.
The Blumgart Award is presented in session **CE70 which begins at 8:00 AM in Room 213CD**. Please join us in congratulating Dr. Terrence Ruddy as the 2019 winner of the prestigious Hermann Blumgart Award.

**CVC Board of Directors**

Terrence D. Ruddy, MD  
Council President  
Venkatesh L. Murthy, MD, PhD  
Council Vice President  
Timothy Bateman, MD  
Council Vice President-Elect  
Wengen Chen, MD, PhD  
Council Secretary  
Edward J. Miller, MD PhD FASNC FACC  
Council Treasurer  
Panithaya Chareonthaitawee, MD  
Council Immediate Past President  
Wanda Acampa, MD, PhD  
Council Board of Directors  
Esma A. Akin, MD  
Council Board of Directors  
Robert Bober, MD  
Council Board of Directors  
Salvador Borges-Neto, MD  
Council Board of Directors  
James R. Corbett, MD  
Council Board of Directors  
Robert DeKemp, PhD  
Council Board of Directors  
James R. Galt, PhD  
Council Board of Directors  
Miguel Hernandez Pampaloni, MD, PhD  
Council Board of Directors  
Diana Paez  
Council Board of Directors  
Mehran M. Sadeghi, MD  
Council Board of Directors  
Piotr J. Slomka, PhD  
Council Board of Directors  
James T. Thackeray, PhD  
Council Board of Directors  
Vasken Dilsizian, MD  
Non-Voting Member  
Bennett S. Greenspan, MD, FACNM, FACR,FSNNMI  
Non-Voting Member  
Edward L. Lyons, Jr., RT(R), CNMT  
Non-Voting Member  
Thomas Hellmut Schindler, MD  
Non-Voting Member  
Prem Soman, MD, PhD  
Non-Voting Member  
Stephanie L. Thorn, PhD  
Intern  
Richard L. Weinberg, MD, PhD  
Intern

Please visit the [Cardiovascular Council](#) website for more information and to join or renew your membership! Your membership is critical to the ability of the CVC to continue providing the highest caliber educational programs!

Follow us on Twitter at [@CVC_SNMMI](#) for more news and updates as they happen!