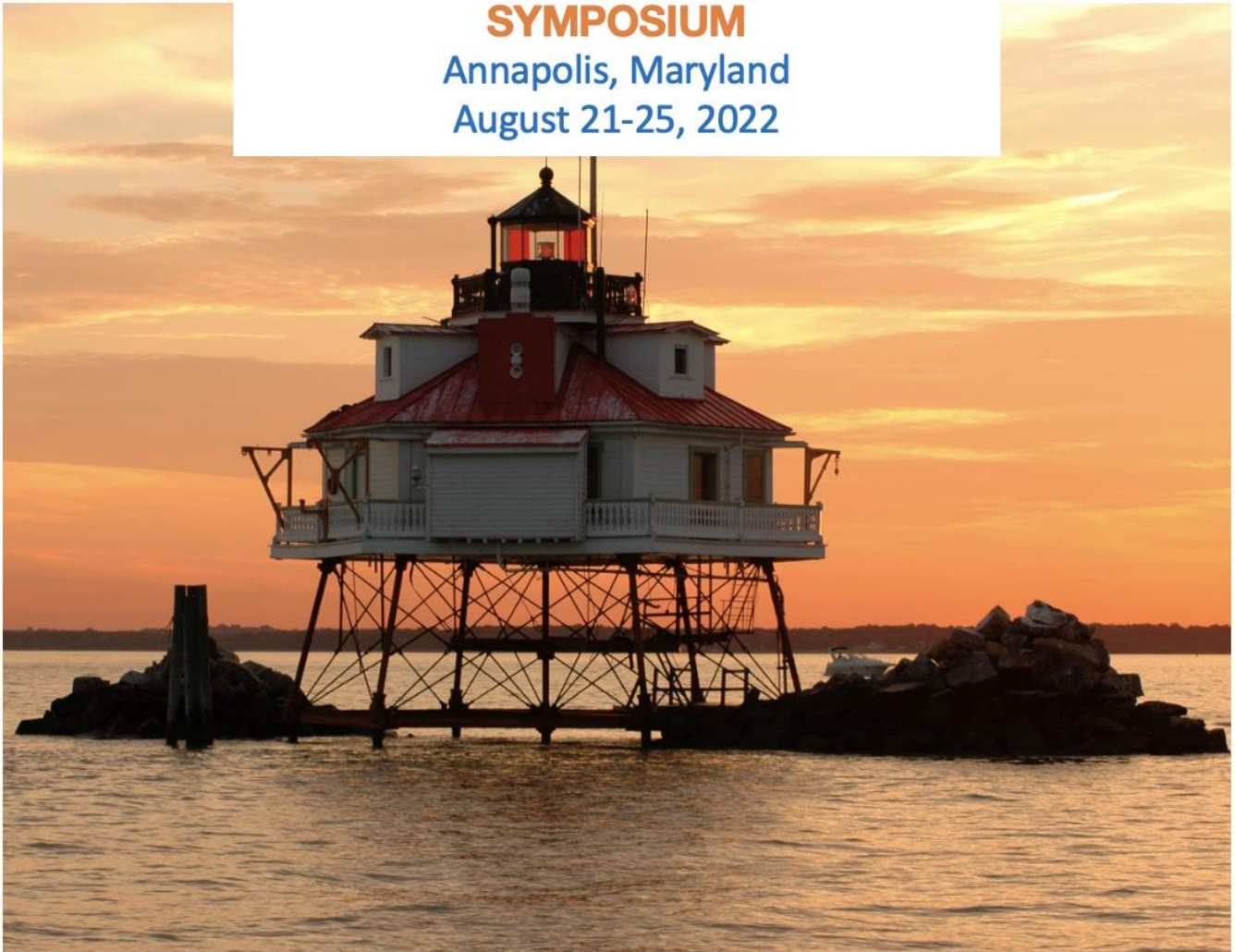


CMR 2022

2022 CONTRAST MEDIA RESEARCH SYMPOSIUM

Annapolis, Maryland
August 21-25, 2022



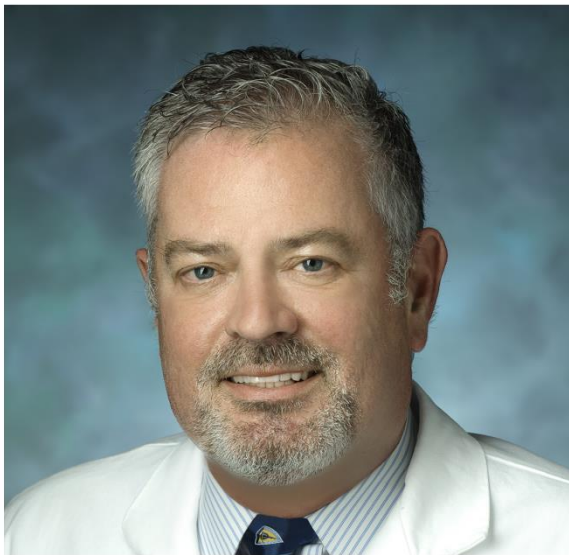
CMR 2022 WILL BE THE 22ND MEETING CONVENED SINCE ELLIOTT LASSER STARTED THE SERIES IN 1970. IT IS A UNIQUE OPPORTUNITY TO EXCHANGE UP-TO-DATE THOUGHTS AND NEW DATA IN THE FIELD OF CONTRAST MEDIA IN A COLLEGIAL FORUM THAT INCLUDES BOTH INDUSTRY AND ACADEMIC RESEARCHERS. WE THANK YOU FOR YOUR SCIENCE AND YOUR PARTICIPATION!

WELCOME TO ANNAPOLIS! WE HAVE CHOSEN THE CAPITAL OF MARYLAND AS THE SITE OF THIS YEAR'S CONFERENCE BECAUSE OF ITS CHARM, HISTORICAL APPEAL, AND BEAUTIFUL WATERWAYS.

ANNAPOLIS IS THE GATEWAY TO NORTH AMERICA'S LARGEST ESTUARY, THE CHESAPEAKE BAY, AND IS UNDENIABLY A MARITIME DESTINATION RICH IN ON-THE-WATER ACTIVITIES. OFF THE WATER, ANNAPOLIS IS A LIVELY, UPBEAT, CONTEMPORARY CITY THAT SHOWCASES FOUR CENTURIES OF ARCHITECTURE AND EMBRACES 21ST-CENTURY LIVING, RICH WITH UNIQUE SHOPPING AND FINE DINING. STEEPED IN HISTORY AND ECLECTIC NEIGHBORHOODS, THE CITY OF ANNAPOLIS BOASTS A THRIVING CULTURAL SCENE AND A DOWNTOWN THAT MEETS AT THE WATER'S EDGE.

WHILE YOU ARE HERE, WE HOPE YOU HAVE TIME TO EXPERIENCE THIS SMALL TOWN THAT HAS NOT LOST ITS COLONIAL CHARM, THANKS TO ITS BRICK-PAVED STREETS AND BAYSIDE PATHS, AND MORE 18TH-CENTURY STRUCTURES THAN ANY OTHER CITY IN AMERICA.

MOST IMPORTANTLY, WE LOOK FORWARD TO HEARING YOUR TALK AND TO SEEING YOU AT THE PODIUM. WE ARE CERTAIN THAT THE LIVELY DISCUSSIONS AND INTERACTIONS WILL BE FANTASTIC. THANK YOU FOR BEING A PART OF CMR 2022, AND A SPECIAL THANKS TO ALL OUR SPONSORS WHO MADE THIS EVENT POSSIBLE ONCE AGAIN.



Dr. Jeff W.M. Bulte
CMR Convenor



Dr. Michael T. McMahon
CMR Co-convenor



LIFE FROM INSIDE





CMR 2022 AGENDA

SUNDAY, AUGUST 21

Check-In and Registration at the Graduate Hotel

18:30–19:30: Reception at the Federal House

22 Market Space, Annapolis, MD 21401

(410) 268-2576

MONDAY, AUGUST 22

8:00–9:00: Breakfast

9:00–9:15: Welcome and Introduction

by Jeff Bulte and Michael McMahon: CMR 2022 Conveners

Scientific Sessions at the Graduate Hotel

9:15–10:45: CT Agents: Safety Studies and New Applications
Chairs: Alexander Klibanov and Jamey Weichert

9:15-9:30

Raman Akif

Prevention of post-contrast acute kidney injury in patients with advanced kidney disease

9:30-9:45

Ilona Dekkers

Incidence of hypersensitivity reactions and PC-AKI after intra-arterial administration of ioversol

9:45-10:00

Elizabeth Rowe

A nephroprotective iodinated contrast agent with cardioprotective properties: A pilot study

10:00-10:15

Ketan Ghaghada

Interrogation of tumor microenvironment using nano-radiomics

10:15-10:45: Round Table Discussion

10:45-11:00: Coffee Break

11:00-13:00: MRI Agents: Safety and Biodistribution Studies
Chairs: Michael Tweedle and Evan Unger

11:00-11:15

Olivier Clément

Safety of contrast agents in clinical practice: is there a consensus between guidelines?

11:15-11:30

Carlo Cosimo Quattrocchi

Skin features in patients with multiple sclerosis: is there a relationship with GBCAs?

11:30-11:45

Mariane Le Fur

Elemental imaging and speciation analysis of gadoterate in rat kidney samples

11:45-12:00

Cecile Factor

Gadolinium speciation in tissues. A general review on the current strategies and perspectives

12:00-12:15

Clemens Guenther

Toxicity and behavioral assessment in mice following GBCA exposure in utero or in juveniles

12:15-12:30

Hubertus Pietsch

Assessment of intraepidermal nerve fibre density in rat foot skin samples after multiple administrations of Gadolinium-based contrast agents

12:30-13:00: Round Table Discussion

13:00-14:00: Lunch at the Graduate Hotel

14:00-15:45: Advances in MRI AGENTS I

Chairs: Jenny Yang and Guanshu Liu

14:00-14:15

Michael McMahon

Optimizing imidazoles for dynamic contrast-enhanced CEST MRI urography

14:15-14:30

Gordana Vitaliano

Novel clathrin-based superparamagnetic iron oxide nanopores for MRI of dopamine transporters in drug addiction

14:30-14:45

Eric Ahrens

Functionalized fluorocarbon nanoemulsions for multimodal imaging of tumor-associated macrophages

14:45-15:00

Aparajita Bhattacharya

Engineering fluorinated thermo-responsive assembled protein (F-TRAP) for theranostic applications in glioblastoma multiforme

15:00-15:15

Jessica Lohrke

Preclinical profile of Gadoquatrane: A novel tetrameric, high relaxivity, macrocyclic gadolinium-based contrast agent for CE-MRI

15:15-15:45: Round Table Discussion

15:45-16:15: Panel Discussion

Chairs: Elizabeth Rowe, Michael Tweedle, Evy Stavik

***“Recent Changes in FDA Regulations:
Devices or Drugs, Friends or Foes?”***

16:15-16:30: Coffee Break

16:30-17:00: Torsten Almén Medal Award Lecture

Moderator: Carlo Cosimo Quattrocchi

***Eva Toth: “Metal Complexes in MRI:
Increasing Relaxivity and Stability”***

19:00-20:30: Dinner at the Graduate Hotel

TUESDAY, AUGUST 23

7:30-8:30: Breakfast

8:30-10:30: Multimodal and Theranostic Imaging Agents *Chairs: Robert Mattrey and Edward Delikatny*

8:30-8:45

Jeff Bulte

Pass the aspirin: Self-assembled nanotheranostics for CEST MRI, Raman imaging, and cancer therapy

8:45-9:00

Jacques Lux

A novel microbubble platform for cancer immunotherapy: Using MUSIC to activate the STING pathway

9:00-9:15

Marie Pierre Krafft

Oligo(ethylene glycol) bisphosphonate dendrons in fluorocarbon-stabilized biomedical microbubbles

9:15-9:30

Ali Shakeri-Zadeh

MPI/MRI cell tracking of ALS patient-derived, genome-corrected iPSCs and iPSC-derived motor neurons

9:30-9:45

Yicheng Ni

OncoCiDia as a dual targeting chemo-radial theranostic: Potential for brain metastasis

9:45-10:00

Arvind Pathak

VascuViz: a multimodality and multiscale imaging pipeline for vascular systems biology

10:00-10:30: Round Table Discussion

10:30-10:45: Coffee Break

10:45-12:30: Optical and Targeted MRI Agents

Chairs: Arvind Pathak and James Basilion

10:45-11:00

Edward Delikatny

Fluorescent ChoK α inhibitor for intraoperative tumor imaging in a veterinary clinical trial

11:00-11:15

Hisataka Kobayashi

Near infrared photoimmunotherapy of cancer; targeting immune suppressor cells for enhancing immunity

11:15-11:30

Michael Tweedle

4lphf-d-HN17: a novel hybrid small molecule-cell-penetrating peptide in HNSCC

11:30-11:45

Sarah Garifo

Preparation and characterizations of a Nanoplatfrom-based MRI/OI Contrast Agent

11:45-12:00

Cynthia Choi

Long-acting, APC Gd-chelates for tumor MR imaging and therapy

12:00-12:30: Round Table Discussion

12:30-13:30: Lunch at the Graduate Hotel

13:30-14:30 MRS Probes for Detecting Metabolites

Chairs: Janet Morrow and Mark Pagel

13:30-13:45

Sarah Garifo

Enzymatic activity monitoring through dynamic nuclear polarization in the earth magnetic field

13:45-14:00

Zoltan Kovacs

Detecting zinc in biological samples with hyperpolarized ^{15}N MRS

14:00-14:15

Eul Hyun Suh

Detection of D- and L-lactate in erythrocytes and cancer cells by use of a chiral NMR shift reagent

14:15-14:30: Round Table Discussion

14:30-14:45 Coffee Break

14:45-16:30: Ultrasound Agents ***Chairs: Marie-Pierre Krafft and Jacques Lux***

14:45-15:00

Agata Exner

Nanobubbles for contrast enhanced ultrasound imaging of prostate cancer in a large animal model

15:00-15:15

Evan Unger

Ultrasound mediated cavitation for the treatment of Alzheimer's disease

15:15-15:30

Robert Mattrey

Improving cell retrieval from blood through increased buoyancy with targeted microbubbles

15:30-15:45

Robert Mattrey

Acoustic vaporization of internalized perfluorobutane nanodroplets for imaging and immunotherapy

15:45-16:00

Alexander Klibanov

PSMA-targeted microbubbles: a potential contrast agent for tumor cell imaging in mosaic vasculature

16:00-16:30: Round Table Discussion

19:00-20:30: Dinner on your own

WEDNESDAY, AUGUST 24

7:30-8:30: Breakfast

8:30-10:15 Nanocarrier Agents I (MRI) *Chairs: Olivier Clément and Eric Ahrens*

8:30-8:45

James P. Basilion

Prostate-specific membrane antigen targeted gold nanoparticles for PCa radiotherapy and MR Imaging

8:45-9:00

Guanshu Liu

MRI tracking of magnetically labeled extracellular vesicles following systemic delivery

9:00-9:15

Delphine Felder-Flesch

SUPERSPIO®: a functional magnetic platform for active tumor targeting

9:15-9:30

Ramesh Marasini

Gadolinium labeled macrophage-derived exosome as a magnetic resonance imaging contrast agent

9:30-9:45

Ethel Ngen

Engineering prostate tumors with targeted photodynamic therapy for enhanced nanoparticle delivery

9:45-10:15: Round Table Discussion

10:15-10:30: Coffee break

10:30-12:30 Advances in MRI Agents II

Chairs: Zheng-Rong Lu and Alexei Bogdanov

10:30-10:45

Small molecule MR probes for imaging organ fibrogenesis

Yingying Ning

10:45-11:00

Early detection and staging fibrosis and inflammation by pMRI using targeted protein contrast agents

Jenny Yang

11:00-11:15

Multinuclear Fe(III) complexes as MRI Contrast Agents

Janet Morrow

11:15-11:30

Detecting Zn(II) secretion using Mn(II)-based magnetic resonance imaging contrast agent candidate

Gyula Tircso

11:30-11:45

Acid, base and autocatalyzed proton exchange as an additional route to enhance the relaxivity of paramagnetic MRI contrast agents

Zsolt Baranyai

11:45-12:00

PET/MRI contrast agents for measuring extracellular pH in the tumor microenvironment

Mark Pagel

12:00-12:30: Round Table Discussion

12:30-13:30: Lunch

13:30-14:15: Business Meeting

14:15-16:15: Nanocarrier Agents II (MRI and MPI)

Chairs: Delphine Felder-Flesch and Yicheng Ni

14:15-14:30

PEGylated magnetic nanoparticles as a theranostic agent

Indiana Ternad

14:30-14:45

Nodal staging of solid tumors: USPIO-enhanced MRI 2.0

Tom Scheenen

14:45-15:00

Building a magnetosome-like nanoparticle for MRI using essential bacterial genes

Qin (Daisy) Sun

15:00-15:15

Encapsulation techniques to create biocompatible super-resolution tracers for magnetic particle imaging

Benjamin Fellows

15:15-15:30

MPI/CT imaging of stem cell-mediated tumor delivery of a bimodal superparamagnetic and radiopaque nanocomplex

Chao Wang

15:30-15:45

Multimodality detection and treatment for breast cancer with a biodegradable “one-for-all” nanoparticle contrast agent

Jessica Hsu

15:45-16:15: Round Table Discussion

16:15-16:30: Coffee Break

16:30-17:00: Harry Fischer Medal Award Lecture
Moderator: Carlo Cosimo Quattrocchi

**Dean Sherry: “The Joy of Scientific Discovery:
Playing with the f-Elements”**

17:00-17:15: Group Picture

18:00-21:00: Gala Dinner at McGarvey’s

*8 Market Space, Annapolis, MD 21401
(410) 263-5700*

THURSDAY, AUGUST 25

7:30-8:30: Breakfast

8:30-10:00: Advances in MRI Agents III *Chairs: Hubertus Pietsch and Tom Scheenen*

8:30-8:45

Alexei Bogdanov

Iron-chelate based redox probe for MR imaging of aneurysmal inflammation

8:45-9:00

Zheng-Rong Lu

Preclinical assessment of MT218 for accurate diagnosis of invasive prostate cancer with MRMI

9:00-9:15

Yajuan Li

Preclinical Evaluations of a Targeted MRI Contrast Agent MT218 for Clinical Development

9:15-9:30

Jingjuan Qiao

Precise and noninvasive detection of liver metastases and progression by Protein MRI Contrast Agents

9:30-10:00 Round Table Discussion

**10:00-10:30 Elliott Lasser Award for Best Abstract
*Presenter: Jeff Bulte***

**10:30-11:00 Closing and Remarks
Evy Stavik/Paul Evans: Presentation CMR 2024 Venue**

