

# Vulnerable Patient Meeting

A Cardialysis Event

18<sup>th</sup>  
20<sup>th</sup>  
JUNE 2017

## PROGRAM

GREECE  
CRETE HERAKLION  
ATLANTIS HOTEL



## DAY 1

### Basics

- 📄 Sudden Death and Vulnerable Patient
- 📄 Vulnerable plaque I: from biomarkers to biological mechanisms
- 📄 Vulnerable plaque II: from biomarkers to biological mechanisms
- 📄 Vulnerable plaque morphology: new insights
- 📄 Pre-clinical Molecular Targeting

## DAY 2

### Mechanisms and Imaging

- 📄 Intravascular Imaging
- 📄 **TECHNICAL CORNER:** Emerging intravascular imaging in preclinical phase
- 📄 Big Data Approaches to Identify Vulnerable Patients/ Plaques in the Cath Lab
- 📄 Biomechanical modeling
- 📄 Clinical I
- 📄 Clinical II
- 📄 Making the fantasy into reality? Commercial developments

## DAY 3

### Treatment

- 📄 Non-invasive imaging for detection of vulnerable plaque
- 📄 Therapeutic approach to Vulnerable Plaque
- 📄 Trial Corner I - Plaque imaging studies
- 📄 Trial corner II - Clinical studies assessing the efficacy of emerging therapies in preventing atherosclerotic evolution and local therapy
- 📄 Final Debate

**08:00**

**Welcome remarks**

**Prof. Patrick W. Serruys** and  
guest director **Prof. Panos Vardas**

**08:10**

**Sudden death and vulnerable patient**

**Chairmen: Panos Vardas and Patrick W. Serruys**

08:10

What do we know about sudden death? Presentation of vulnerable patient

**Vasim Farooq (UK)**

08:23

Sudden cardiac death: rupture of vulnerable plaque without preceding episode and pathophysiology of acute ischemia related arrhythmia

**Panos Vardas (GR)**

08:36

Extrinsic factors related to sudden coronary death and myocardial infarction with emphasis on cigarette smoking

**John Ambrose (USA)**

08:49

Impact of intravenous DAPT on outcomes in comatose patients after acute myocardial infarction

**Vasim Farooq (UK)**

09:02

New approach to phenotyping patients at risk of sudden death by MRI imaging

**Ranil De Silva (UK)**

09:15

**Discussion**

09:35

Vulnerable time: ECG monitoring to shorten a symptom-to-balloon time

**Amir Lerman (USA)**

09:48

Cooling and bioresorption of thieropyridine after myocardial infarction

**Marko Noč (SL)**

10:01

Futuristic view on management/treatment of patient at risk of sudden death

**Panos Vardas (GR)**

10:11

**Discussion**

**10:26**

**Coffee break**

# DAY 1

Sunday **June 18, 2017** / 4

## **10:56** Vulnerable Plaque I: from biomarkers to biological mechanisms Chairmen: Ranil De Silva and Wolfgang Koenig

- 10:56 Immunoglobulin as a risk predictors in coronary heart disease  
**Ramzi Khamis (UK)**
- 11:09 Oxidative stress and cardiovascular events  
**Riyaz Patel (UK)**
- 11:22 Association between diet and the stability of human coronary plaque as studied with radio-decay  
**Isabel Gonçaves (UK)**
- 11:35 Transcriptional control of vascular stability  
**Anna Randi (UK)**
- 11:48 **Discussion**

## **12:08** Lunch

## **13:38** Vulnerable Plaque II: from biomarkers to biological mechanisms Chairmen: Ranil De Silva and Wolfgang Koenig

- 13:38 Inflammatory transcriptional networks in endothelial cells and plaque vulnerability  
**Rob Krams (UK)**
- 13:51 Ageing and the biology of atherosclerosis  
**Martin Bennett (UK)**
- 14:04 Vulnerable microcirculation  
**Javier Escaned (SP)**
- 14:17 Uric acid: is it of any relevance to cardiologists?  
**Dorian Haskard (UK)**
- 14:40 Coronary plaque angiogenesis: new insights  
**Michael Joner (DE)**
- 14:53 **Discussion**

## **15:13** Break

**15:43**

**Vulnerable plaque morphology: new insights**

**Chairmen: Dorian Haskard and Wolfgang Koenig**

15:43

Sphingolipids as novel targets of plaque inflammation  
**Isabel Gonçalves (UK)**

15:56

Vasospasm and plaque instability  
**Takashi Akasaka (JP)**

16:09

MRI plaque characterisation  
**Michelle Williams (UK)**

16:22

<sup>18</sup>F-sodium fluoride positron emission tomography  
**Michelle Williams (UK)**

16:35

**Discussion**

**16:55**

**Pre-clinical Molecular Targeting**

**Chairmen: Jim Muller and Christos Bourantas**

16:55

Molecular targeting of oxidized LDL in coronary atherosclerosis  
**Ramzi Khamis (UK)**

17:08

Nanoparticles for molecular targeting  
**Rob Krams (UK)**

17:21

Collagen-4 targeting nanoparticles  
**Nazila Kamaly (DK)**

17:34

Molecular imaging of thrombosis  
**Farouc Jaffer (USA)**

17:47

**Discussion**

**18:07**

**Adjourn**

# DAY 2

Monday **June 19, 2017** / 6

**08:00**

## **Intravascular Imaging**

**Chairmen: Jim Muller and Chris Bourantas**

08:00

Introduction

**Jim Muller (USA)**

08:05

Introduction of OCT atlas for detecting vulnerable plaque

**Yoshinobu Onuma (NL)**

08:15

Strength and Weakness of IVUS in detecting vulnerable plaques:  
A critical appraisal

**Akiko Maehara (USA)**

08:25

Strength and weakness of IVUS-NIRS in detecting vulnerable  
plaques: a critical appraisal

**David Erlinge (SE)**

08:35

**Discussion**

**08:50**

## **TECHNICAL CORNER: Emerging intravascular imaging in preclinical phase**

**Chairmen: Ton van der Steen and Christos Bourantas**

08:50

Ultra-high speed ECG triggered OCT

**Jin Won Kim (KR)**

08:57

IVUS-OCT - Terumo

**Yoshinobu Onuma (NL)**

09:04

NIRF-IVUS/-OCT-NIRAF OCT-NIRF

**Farouc Jaffer (USA)**

09:11

IVUS-TRFS

**Laura Marcu (USA)**

09:18

IVUS-IVPA

**Ton van der Steen (NL)**

09:25

Other commercially available technologies

**Akiko Maehara (USA)**

09:32

**Discussion**

Clinical value and future application of the existing intravascular  
imaging

**10:02**

**Break**

**10:32** **Big data approaches to identify vulnerable patients/plaques in the cath lab**

**Chairmen: Wolfgang Koenig and Ranil de Silva**

- 10:32 Can neural networks enable virtual histology IVOCT?  
**Vik Baruah (USA)**
- 10:45 Leveraging machine learning techniques to forecast patient prognosis after percutaneous coronary intervention  
**Amir Lerman (USA)**
- 10:58 Machine learning to identify biomechanical signatures of advanced coronary plaque formation  
**Ranil de Silva (UK)**
- 11:11 **Discussion**

**11:26** **Biomechanical modeling**

**Chairmen: Jolanda Wentzel and Rob Krams**

- 11:26 Keynote lecture: summary of shear stress meeting in Rotterdam on April 4-5, 2017  
**Jolanda Wentzel (NL)**
- 11:49 Fluid shear stress and mechanotransduction in vascular health and disease  
**Paul Evans (UK)**
- 11:59 Progression imaging and shear stress using micro-CT in preclinical models  
**Kim van der Heiden (NL)**
- 12:09 Fluid structure interaction modelling of coronary plaque – from mouse to man  
**Rob Krams (UK)**
- 12:19 Combined non-invasive assessment of endothelial shear stress and molecular imaging of inflammation for the prediction of inflamed plaque in hyperlipidaemic rabbit aortas  
**Gitsios Gitsioudis (DE)**
- 12:29 **Panel discussion: Lessons learnt from preclinical modelling which parameter should be measured for predicting i) plaque progression, or ii) plaque vulnerability?**

**12:49**

**Lunch**

# DAY 2

Monday June 19, 2017 / 8

**14:19**

## Clinical I

**Chairmen: Jim Muller and Ton van der Steen**

- 14:19 Development and validation of OCT software for light property analysis  
**Yoshinobu Onuma (NL)**
- 14:32 Shear stress and plaque development - update of preclinical and clinical studies from Rotterdam experience  
**Jolanda Wenzel (NL)**
- 14:45 Coronary artery axial plaque stress and its relationship with plaque rupture and clinical presentation  
**Charles Taylor (USA)**
- 14:58 Which is better or worse - high or low shear stress? Insights from analysis of culprit of PROSPECT  
**Peter Stone (USA)**
- 15:11 Solid wall mechanics for prediction of future events - insights from PROSPECT  
**Martin Bennett (UK)**
- 15:24 **Discussion**


**15:39**

## Break

**16:09**

## Clinical II

**Chairmen: Jim Muller and Ton van der Steen**

- 16:09 Is high shear stress a physiologic marker of plaque vulnerability?  
 **Habib Samady (USA)**
- 16:22 Does functional assessment of epicardial coronary artery stenosis severity predict future coronary events? If so, why?  
**Javier Escaned (SP)**
- 16:35 Shear stress analysis in multi-modality imaging: a subanalysis of the IBIS 4 study  
**Christos Bourantas (UK)**
- 16:48 Serruys fantasy: non-newtonian, pulsatile flow simulation, online ESS computation and 4D shear stress  
**Patrick Serruys (UK)**
- 17:01 **Panel discussion:** What is needed to bring shear stress in clinical practice ?  
Why is not yet shear stress used in clinical practice? What is needed from clinical point? How could we get more data to found the basis of clinical use of shear stress?



**17:21**

**Making the fantasy into reality? Commercial developments**

**Chairmen: Patrick Serruys and Yoshinobu Onuma**

17:21

PIE medical: angiogram derived FFR and shear stress

**Jean Paul Aben (NL)**

17:34

MEDIS: application of CE-marked QFR software in a clinical trial assessing the efficacy of coronary stents

**Patrick Serruys (UK)**

17:47

HeartFlow

**Charles Taylor (USA)**

18:00

**Discussion**

**18:15**

**Adjourn**

# DAY 3

Tuesday **June 20, 2017** 10

**08:15**

## **Non-invasive imaging for detection of vulnerable plaque**

**Chairmen: Christos Bourantas and Jim Muller**

08:15

Ultrafast contrast enhanced ultrasound for improved cardiovascular

**Meng-Xing Tang (UK)**

08:28

MSCT beyond lumen assessment in clinical setting: plaque composition, syntax score and functional assessment

**Carlos Collet (VE)**

08:44

MSCT for detecting vulnerable plaque: biomarker and imaging correlation

**Daniele Andreini (IT)**

08:57

**Discussion**

**09:12**

## **Therapeutic approach to vulnerable plaque**

**Chairmen: Patrick W. Serruys and Gregg Stone**

09:12

Genotype and clinical outcomes dalGenE trial

**Wolfgang Koenig (DE)**

09:25

ABSORB II: glagovian appraisal of vessel remodelling

**Patrick Serruys (UK)**

09:38

PROSPECT II, ABSORB and PREVENT

**Gregg Stone (USA)**

09:51

GLAGOV and FOURIER

**Giovas Periklis (CH)**

10:04

**Panel discussion: Will imaging regain a central role in early clinical development?**

10:22

ORION-1: inclisiran in patients at high cardiovascular risk with elevated LDL cholesterol

**Wolfgang Koenig (DE)**

10:35

Is the PCSK-9 treatment cost effective in the european health system?

**Panos Vardas (GR)**

10:48

**Discussion**

**11:08**

**Break**

**11:38**

**Trial corner I – plaque imaging studies**

**Chairmen: Gregg Stone and Amir Lerman**

11:38 Lipid rich plaque trial (design/potential strength and weakness of the trial)

**Jim Muller (USA)**

11:51 IBIS-3 antibodies

**Ramzi Khamis (UK)**

12:04 IBIS-4

**Lorenz Räber (CH)**

12:17 Atheroremo (FP7 Project)

**Wolfgang Koenig (DE)**

12:30 **Discussion**

**12:50**

**Lunch**

**14:50**

**Trial corner II - Clinical studies assessing the efficacy of emerging therapies in preventing atherosclerotic evolution and local therapy**

**Chairmen: Gregg Stone and Amir Lerman**

14:50 CIRT / CANTOS

**Wolfgang Koenig (DE)**

15:03 HDL remodelling by CSL112 / AEGIS-1

**Samuel Wright (USA)**

15:16 Stent-based gene delivery

**Iliia Fishbein (USA)**

15:29 **Discussion**

**15:49**

**Final Debate**

**Chairmen: Jim Muller and Gregg Stone**

15:49 **Panel discussion:** Diagnosis and therapy of vulnerable plaque for precision medicine

**16:09**

**Adjourn**

## GENERAL INFORMATION

**DATES & PLACE** The Meeting will be held June 18, 19 and 20, 2017, at the Aquila Atlantis Hotel, in Heraklion Crete.

Heraklion is the largest city and port of Crete, has a history of many centuries, a history that gave to the city a unique character and an unmatched charm. A charm to be discovered at every step of yours, from the old Venetian town to the modern European capital. Heraklion is one of the Greek cities with the longer history. Here was developed the Minoan civilization. Heraklion is a mosaic of civilizations, an alloy of Arabic, Byzantine and Venetian influences!

**VENUE** AQUILA ATLANTIS HOTEL, HERAKLION  
2, Ygeias Str, Heraklion, Crete, GR - 71 202  
Tel: +30 2810 229 103 | Fax: +30 2810 226 265 | [www.aquilahotels.com](http://www.aquilahotels.com)  
**The Aquila Atlantis Hotel is located in the centre of Heraklion.**

**SCIENTIFIC PRESENTATIONS** The Meeting room will be equipped with Screen, Data Video Projector for Microsoft Power Point presentations, Note pads, pens and laser pointers.  
Please download your presentation at the meeting secretariat in advance (preferably the day before).

**TRANSFER SERVICES FROM/ TO AIRPORT** Transfer services will be available to/from Heraklion airport according to your flight itinerary.  
Kindly note, that there will be a transfer service arranged for you upon your arrival and departure. Pick-up time for your departure transfer will be 2hrs and 30mns prior your flight departure.

## SPECIAL THANKS TO



## MEETING SECRETARIAT & OFFICIAL TRAVEL AGENCY

The Meeting's Secretariat will operate during meeting hours.



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