# Translational Non-invasive Cardiovascular Imaging

A research continuum from biomedical science to clinical practice and a new patient-centered paradigm

January 25<sup>th</sup>-27<sup>th</sup>, 2018 - Pisa (Italy) Polo Didattico Fibonacci University of Pisa - Aula Magna Fratelli Pontecorvo Largo Bruno Pontecorvo

PROMOTED BY

NTERNAZIONALE MENARINI

## Translational Non-invasive Cardiovascular Imaging

Despite the numerous therapeutical improvements and technological ad-vancements, cardiac pathologies still represent major determinants of global patients' morbidity and mortality and of overall sanitary expenditures.

In this respect, in the last decades, non-invasive cardiac imaging has reached a major role in the characterization of Cardio-Vascular Disease, aiding clinical decisionmaking and guiding clinicians' diagnostic, pharmacologic and invasive therapeutic strategies.

Accordingly, the relevant advances in this field, prompted by constant technical developments, claim for attention and continuous updating.

In particular, recent evidences have underscored the relevance of a multi-modality imaging approach for a better characterization of cardiac mechanics, offering the unique opportunity to evaluate cardiac dynamics in a completely non-invasive manner.

In the present Symposium will be presented a new global approach to cardiovascular imaging: from biological to clinical practice. In particular it will be the occasion to discuss about the translational cardiology, that represents the future development of non invasive cardiovascular imaging.

The present Symposium is intended for Imaging Specialists but also clinicians, dealing, in their daily routine, with questions arising from instrumental and biomarkers findings. In particular, the Symposium aims at providing a clinical update to the most relevant advancement in the different non-invasive cardiac imaging modalities with a special interest to the additive role of Translational Non-invasive Cardiovascular Imaging (comprehensive of biomedical and instrumental approaches ) in the evaluation of the distinct cardiac disease phenotypes.

Each "Hot" Topic of the Symposium, including Cardiomyopathies, Ischemic Heart Disease, Valvular and Vascular Disease, Devices and Masses, includes sessions dedicated to each Imaging modality (Echocardiography, Magnetic Resonance Imaging, CT, Nuclear and Hybrid Imaging and biomarkers) with extended and comprehensive lectures held by the major experts in that field.

Discussions, with a clear integrated approach, will summarize and focus the attention on the key points for clinical practice and major improvements in cardio-vascular patients's management.

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## Thursday, January 25<sup>th</sup>, 2018

- 02.30 p.m. Authorities welcome
- 03.00 p.m. Introduction to congress topics

## First Session - Cardiomyopathies: up-to-date

Chairmen	<b>Paolo Marino</b> (Novara, I) <b>Francesco Fedele</b> (Rome, I)
03.30 p.m.	ECHOCARDIOGRAPHY Echocardiography: always the first imaging tool for diagnosis of cardiomyopathy. Strenght and weakness Speaker: <i>Iacopo Olivotto</i> ( <i>Florence</i> , <i>I</i> ) Discussant: <i>Silvia Pradella</i> ( <i>Florence</i> , <i>I</i> )
04.00 p.m.	MRI The value of MRI in diagnosis of cardiomyopathy: second-step tool or simply the gold standard? Speaker: <i>Giovanni Aquaro</i> ( <i>Pisa, I</i> ) Discussant: <i>Filippo Cademartiri</i> (Montreal, Ca)
04.30 p.m.	NUCLEAR Incremental value of nuclear imaging in diagnosis of cardiomyopathy: focus on sarcoidosis and amyloidosis Speaker: <i>Riemer Slart</i> ( <i>Groningen, NL</i> ) Discussant: <i>Assuero Giorgetti</i> ( <i>Pisa, I</i> )
05.00 p.m.	CT Cardiac computer tomography and cardiomyopathies: simply the shadow of MRI? Speaker: <i>Gianluca Pontone</i> ( <i>Milan</i> , <i>I</i> ) Discussant: <i>Lorenzo Faggioni</i> ( <i>Pisa</i> , <i>I</i> )



05.30 p.m.	BIOMARKERS
	Which biomarker(s) for cardiomyopathy?
	Speaker: Michele Emdin (Pisa, I)
	Discussant: Giuseppe Vergaro (Pisa, I)
06.00 p.m.	MULTIMODALITY
	Using multi-imaging for the detection or verification of technical issues during the utilization of left ventricular assist devices in patients with advanced heart failure Speaker: <i>Massimo Maccherini</i> (Siena, I) Discussant: <i>Ketty Savino</i> (Perugia, I)
06.30 p.m.	BIOMARKERS
1	Heart failure: the arena of biomarkers
	Speaker: <i>Marco Metra</i> (Brescia, I)
	Discussant: Roberto Pedrinelli (Pisa, I)
07.00 p.m.	Opening Ceremony



# Friday, January 26<sup>th</sup>, 2018

## Second Session - Valvular disease

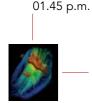
Chairmen	Francesco Romeo (Rome, I)
	<b>Maria Penco</b> (L'Aquila, I)
08.30 a.m.	Aortic valve stenosis: check velocity but don't forget the engine. The role of echocardiography Speaker: <i>Marie-Annick Clavel</i> ( <i>Laval, Ca</i> ) Discussant: <i>Lorenzo Conte</i> ( <i>Barga, I</i> )
09.00 a.m.	Ischemic mitral regurgitation: the lost island. Do we need an integrated imaging to find the route? Speaker: Francesco Grigioni (Rochester, Usa) Discussant: Pompilio Faggiano (Brescia, I)
09.30 a.m.	Percutaneous mitral valve repair between dream and the real world. Could the integrated imaging change the future? Speaker: <b>Fabio Guarracino</b> ( <i>Pisa, I</i> ) Discussants: <b>Cristina Giannini</b> ( <i>Pisa, I</i> )
10.00 a.m.	Transcatheter aortic valve implantation: how to integrate computed tomography and echocardiography Speaker: <b>Anna Sonia Petronio</b> ( <i>Pisa</i> , <i>I</i> ) Discussant: <b>Marco De Carlo</b> ( <i>Pisa</i> , <i>I</i> )
10.30 a.m.	Micro-RNA and valvular heart disease-pathophysiological and clinical insights Speaker: <b>Iacopo Fabiani</b> (Pisa, I) Discussant: <b>Chiara Maria Mazzanti</b> (Pisa, I)

11.00 a.m. Coffee break



## Third Session - Ischemic heart disease

Chairmen	Dante Luigi Chiappino (Massa, I) Filippo Crea (Rome, I)
11.15 a.m.	ECHO Looking for specificity: novel evidences on the role of stress echo in IHD Speaker: <i>Lauro Cortigiani</i> ( <i>Lucca, I</i> ) Discussant: <i>Emilio Pasanisi</i> ( <i>Pisa, I</i> )
11.45 a.m.	MRI Multi-parametric evaluation of CAD: cardiac MRI as the one-stop-shop for IHD Speaker: <b>Massimo Lombardi</b> (Milan, I) Discussant: <b>Gianluca Di Bella</b> (Messina, I)
12.15 a.m.	NUCLEAR The evolution of cardiac nuclear diagnosis of myocardial ischemia in the 21 <sup>st</sup> century Speaker: <i>Hein J. Verberne</i> ( <i>Amsterdam, NL</i> ) Discussant: <i>Alessia Gimelli</i> ( <i>Pisa, I</i> )
12.45 a.m.	CT And HYBRID IMAGING Coronary anatomy and myocardial perfusion: time to reconcile the two sides of the coin Speaker: <i>Leonardo Bolognese</i> (Arezzo, I) Discussant: <i>Duccio Volterrani</i> (Pisa, I)
01.15 p.m.	BIOMARKERS Acute myocardial infarction-biomarkers from a novel perspective Speaker: <i>Filippo Ottani</i> (Forlì, I) Discussant: <i>Claudio Passino</i> (Pisa, I)
01.45 p.m.	Lunch



## 02.30-05.00 p.m. YOUNG RESEARCH CORNER

#### Presentations and Posters

1)

	Davide Caramella (Pisa, I)
	Vitantonio Di Bello (Pisa, I)
Chairmen	Michele Emdin (Pisa, I)
	lacopo Fabiani (Pisa, I)
	Nicola Riccardo Pugliese (Pisa,
	-

#### AORTIC VALVE

MicroRNAs distribution in different phenotypes of Aortic Stenosis Veronica Santini - Pisa

Left ventricular rotational and strain analysis Using Real-Time 3D Speckle Tracking Echocardiography in Aortic Stenosis Patients Presenting with Left Ventricle Hypertrophy

#### Francesco Bandera - Milan

The integrated value of sST2 and global longitudinal strain in the early stratification of patients with severe aortic valve stenosis: a translational imaging approach Ilaria Ambrosini - Pisa

#### MITRAL VALVE

Left heart strain parameters in asymptomatic patients with mitral regurgitation *Giulia Elena Mandoli* - *Siena* 

RIGHT VENTRICLE FUNCTION Relative contribution of 3D radial and longitudinal endocardial contraction to right ventricle function

#### Francesco Bandera - Milan

LEFT VENTRICLE FUNCTION Three-dimensional full automated software in the evaluation of the left ventricle function: from theory to clinical practice **Valentina Barletta** - Pisa

LEFT VENTRICLE From electric to mechanic: left ventricle mechanical dispersion as a marker of arrhythmogenic risk after myocardial infarction *Roberto Bitto* - *Messina* 

HEART FAILURE Neurohormonal function across categories of systolic dysfunction in chronic heart failure *Giuseppe Vergaro* - *Pisa* 

Left ventricular ejection fraction and prognosis in chronic systolic heart failure *Alberto Aimo* - *Pisa* 

Left atrial function and quality of life in patients with chronic heart failure: the multicentric flash study

Matteo Cameli - Siena

Left atrial and ventricular longitudinal strain in the prediction of cardiovascular outcome in patients with heart failure and different ejection fraction *Giulia Elena Mandoli* - *Siena* 



Interactive role of Diastolic Dysfunction and Ventricular remodeling in Stage A and B Heart Failure *Lorenzo Conte* - *Pisa* 

Functional Evaluation of Heart Failure with Mid-Range vs Preserved Ejection Fraction by Exercise Gas Exchange Analysis and Stress Echocardiography

#### Francesco Bandera - Milan

Prognosis and risk stratification of patients with advanced heart failure by echocardiography: the probe score

#### Matteo Cameli - Siena

Haemodynamic changes associated with Cheyne-Stokes respiration in patients with heart failure: an echocardiographic study

#### Alberto Giannoni - Pisa

Predictors of discharge of defibrillators implanted for primary prevention in systolic heart failure: an echocardiographic and cardiac magnetic resonance study

#### Gianluca Mirizzi - Pisa

#### CARDIOMYOPATHY IMAGING

Gender related differences in dilated cardiomyopathy: insights from cardiac magnetic resonance **Andrea Barison** - Pisa

Clinical and Prognostic Correlates of Volume/Time Curve at Cardiac Magnetic Resonance in Patients with Non-Ischemic Dilated Cardiomyopathy and Left Bundle Branch Block

#### Alessandro Valleggi - Pisa

Diagnosis of acute coronary syndrome with normal coronary arteries revisited: final diagnosis arrhythmogenic right ventricular dysplasia requiring ablation and defibrillator implantation **Alberto Aimo** - Pisa

#### MR IMAGING

Unexpected extracardiac and non-ischaemic cardiac findings in a large cohort of patients undergoing stress perfusion cardiac magnetic resonance

#### Chrysanthos Grigoratos - Pisa

#### ECHO IMAGING

3D echocardiography modeling analysis of right ventricular curvature in left-sided cardiac diseases: implications on pulmonary hypertension severity

#### Francesco Bandera - Milan

Non-invasive right heart catheterization: can we really trust echocardiography? *Vladislav Chubuchny* - *Pisa* 

Left atrial function in patients undergoing chemotherapy: additional value of 2D speckle tracking imaging longitudinal strain *Luca Longobardo* - *Messina* 

#### VASCULAR IMAGING

One-year follow up assessment of chemotherapy-related vascular toxicity: an arterial stiffness study **Roberta Manganaro** - Messina

The role of vascular imaging in the assessment of cardiovascular risk in children: the need for an "early" preventive control

Pietro Scicchitano - Bari



# Saturday, January 27<sup>th</sup>, 2018

## Fourth Session - Vascular medicine imaging

Chairmen	Mauro Ferrari (Pisa, I) Marco Matteo Ciccone (Bari, I)
08.15 a.m.	The new ESC-ESVS 2017 Guidelines on peripheral artery disease: from imaging to clinical decision making Speaker: <b>Marco De Carlo</b> ( <i>Pisa</i> , <i>I</i> ) Discussant: <b>Giulio Illuminati</b> (Milan, I)
08.45 a.m.	Vasculitis: which news by the imaging Speaker: <b>Maria Lorenza Muiesan</b> (Brescia, I) Discussant: <b>Chiara Baldini</b> (Pisa, I)
09.15 a.m.	Deep vein thrombosis in different district: the challenge for a correct diagnosis Speaker: <b>Michelangelo Sartori</b> (Bologna, I) Discussant: <b>Danilo Giannini, Caterina Violo</b> (Pisa, I)
09.45 a.m.	Chronic and critical limb ischemia: imaging and diagnosis Speaker: <i>Flavio Buttitta (Pisa, I)</i> Discussant: <i>Roberto Cioni (Pisa, I)</i>



## ONE SHOT UPDATES part 1

Chairmen	Scipione Carerj (Messina, I) Frank Benedetto (Reggio Calabria, I)
10.15 a.m.	Pericardial disease Speaker: <b>Massimo Imazio</b> (Turin, I) Discussant: <b>Alfredo Posteraro</b> (Tivoli, I)
10.45 a.m.	Methodology: the incremental value of ergo spirometric exercise echocardiography in the evaluation of patients with heart failure Speaker: <b>Marco Guazzi</b> (Milan, I) Discussant: <b>Francesco Bandera</b> (Milan, I)
11.15 a.m.	Coffee break
11.30 a.m.	Cardiac masses Speaker: <b>Mauro Pepi</b> (Milan, I) Discussant: <b>Ketty Savino</b> (Perugia, I)
12.00 a.m.	Left atrial and ventricular function in different phisiopathologic conditions Speaker: <b>Matteo Cameli</b> (Siena, I) Discussant: <b>Enrico Calogero</b> (Pisa, I)
12.30 a.m.	Right atrial and ventricular function in different phisiopathologic and phisiologic conditions Speaker: <i>Flavio D'Ascenzi (Siena, I)</i> Discussant: <i>Nicola Riccardo Pugliese</i> ( <i>Pisa, I</i> )
04.00	

01.00 p.m. Lunch



## **ONE SHOT UPDATES**

part 2

Chairmen	Danilo Neglia (Pisa, I) Francesco Bovenzi (Lucca, I)
HEART FAILURE	
01.30 p.m.	ECHO The potential role of echo determinants of dyssynchrony for optimization of cardiac resynchronization therapy: the quest for predicting response to CRT Speaker: <i>Giovanni Di Salvo (London, UK)</i> Discussant: <i>Donato Mele (Ferrara, I)</i>
02.00 p.m.	NUCLEAR Clinical applications of myocardial innervation imaging: focus on implantable leads, ventricular assist devices, and transplant Speaker: <b>Arthur Scholte</b> (Leiden, NL) Discussant: <b>Wanda Acampa</b> (Naples, I)
02.30 p.m.	CMR Outcomes of Cardiac Resynchronization: the CMR role Speaker: <b>Alessia Pepe</b> (Pisa, I) Discussant: <b>Andrea Barison</b> (Pisa, I)
03.00 p.m.	CONCLUSIONS And CLOSING REMARKS



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## **GENERAL INFORMATION**

#### Meeting venue

Polo Didattico Fibonacci - Università degli Studi di Pisa Aula Magna Fratelli Pontecorvo Largo Bruno Pontecorvo - Pisa - Italy

#### Secretariat during the Meeting

The Secretariat will be open as follows: Thursday, from 02.00 p.m. to 07.30 p.m. Friday, from 07.30 a.m. to 05.30 p.m. Saturday, from 07.30 a.m. to 03.30 p.m.

#### Official language

The official language of the Congress will be English. Simoultaneous translation service will not be provided.

#### **CME** Accreditation

The application for CME accreditation has been submitted only for Italian physicians. The CME credits will be awarded only after full attendance of all sessions. Full registration form and learning & assessment questionnaires are compulsory.

#### Registration

The registration is free of charge.

#### **On-line registration**

www.datre.net/pisa18012527 or Contact the Organizing Secretariat Datre Provider n. 182 For Italian partecipants: Stefania Bracci e-mail: *s.bracci@datre.it*, mobile cell +39 388 1113486 For foreign partecipants: Benedetta Manetti e.mail: *b.manetti@datre.it*, mobile cell +39 340 1755098

#### **Technical facilities**

A business center with PC (Powerpoint for Windows) and Overhead will be at disposal to check presentations. It is essential that speakers bring their presentation to the business center at least one hour before the session starts. The center will be open as follows: Thursday, from 02.00 p.m. to 07.00 p.m., Friday from 07.30 a.m. to 05.30 p.m., Saturday, from 07.30 a.m. to 3.30 p.m.

#### Lunches and coffee breaks

Lunches and coffee breaks will be served in the Meeting area.

