9th ANNUAL CHFR SYMPOSIUM

PROGRAM AND ABSTRACTS

SEPTEMBER 15–16, 2011 HOLMENKOLLEN PARK HOTEL RICA, OSLO, NORWAY

Center for
Heart Failure Research

CONTENT

Center for Heart Failure Research – Program

UiO – Celebrates 200th anniversary

www.ewgcce2011.no

Cover photography: The Heart Nebula © Matthew T. Russell (www.telescopes.cc)
The Heart Nebula, IC 1805, Sh2-190, lies some 7500 light years away from Earth and is located in the Perseus arm of the Galaxy in the constellation Cassiopeia. This is an emission nebula showing glowing gas and darker dust lanes. The nebula is formed by plasma of ionized hydrogen and free electrons. Source: Wikipedia.

DEAR PARTICIPANT

We are very pleased to welcome you to the 9th Annual CHFR Symposium. We look forward to a very exciting meeting, fruitful discussions and scientific interactions.

The Center for Heart Failure Research constitutes a branch of medical research within the Faculty of Medicine at the University of Oslo, Norway. It is financially supported by the University and the South-Eastern Norway Regional Health Authority (Helse Sør-Øst). The Center represents the concerted action of groups with complementary expertise combining state-of-the-art gene technology and capabilities to investigate protein function in experimental systems. The systems range from isolated cells and multicellular preparations to integrative physiology in pathophysiological models of heart failure. The clinical research groups of the Center for Heart Failure Research allow for testing of hypotheses in prospective clinical studies.

The Center also organizes the PhD School of Heart Research that provides a high quality program specifically aimed at qualifying PhD students for future careers in heart research. The School hosts an annual introductory course as well as workshops for ongoing projects, and it provides a network for collaborations and exchange of methods and ideas within the Center. The Center also organizes the required mid-term evaluation (midtveisevaluering) of the PhD candidates in the field of heart research.

The meeting is arranged back-to-back with the ESC Working Group on Cardiac Cellular Electrophysiology (EWGCCE) which takes place in Oslo September 17–19, 2011.

The meeting is also part of the celebration of the 200th year anniversary of the University of Oslo.

Our main aim is to promote and integrate high quality research from bench to bedside in the field of heart failure.

Steering committee, Center of Heart Failure Research
Geir Øystein Andersen, Harald Arnesen, Dan Atar, Håvard Attramadal, Reidar Bjørnerheim, Thor Edvardsen, Lars Gullestad, John Kjekshus, Finn Olav Levy, Torbjørn Omland, Jan-Bjørn Osnes, Helge Røsjø, Ole M. Sejersted, Ingebjørg Seljeflot, Ivar Sjaastad, Tor Skomedal, Otto Smiseth, Petter Andreas Steen, Guro Valen and Geir Christensen

Organizers: Fredrik Swift, Mathis Stokke, Anne Wæhre

GENERAL INFORMATION

VENUE

All events take place at Holmenkollen Park Hotel Rica, Oslo (www.holmenkollenparkhotel.no). The hotel is nicely located 350 m above sea level, overlooking Oslo. The scientific sessions are held in Saga Hall.

REGISTRATION

On the first day of the meeting please collect your badge and program at the registration desk as soon as possible upon arrival. The registration desk is located near Saga Hall.

HOW TO GET THERE?

By car: E18 South-west (from Drammen/Sandvika): Follow the signs to Ring 3 and Smestad. At Smestad, follow the signs to Holmenkollen.

E6/E18 South-east (from Gothenburg/Stockholm): Follow the signs to Drammen, through Oslo city centre. Then follow the signs to Ring 3 and Smestad. At Smestad, follow the signs to Holmenkollen.

E6 North (Oslo Airport, Gardermoen): After passing the toll booths, keep to the right and head towards Ring 3 – Sinsen and Smestad. At Smestad, follow the signs to Holmenkollen.

Parking: The hotel offers free parking in designated parking spots before the final approach to the hotel, in addition to indoor parking for a fee in the hotel's parking garage.

From the airport: Upon arrival at Oslo Airport, Gardermoen, you can take the Airport Train directly to Oslo Central Station (Oslo S); trains depart every 10 minutes. Travel time is approximately 20 minutes, and the cost is NOK 170.00

From the Central Station (Oslo S): Take underground #1 "Frognerseteren" and get off at the Holmenkollen Station. The ride takes approximately 25 minutes. Follow the road uphill towards the Holmenkollen National Ski Stadium. It is a 10 minute walk, and slightly uphill.
Taxi from the Central Station (Oslo S): The taxi journey takes approx 20 minutes, and the cost is NOK 150–250, depending on what time you will be travelling and number of passengers.

Airport Taxi: To get special prices by taxi from the Gardermoen Airport directly to the Holmenkollen Park Hotel Rica, just contact the Airport Taxi stand, next to the arrival gate inside or pre-order at: +47 02323.

COFFEE

Coffee, tea and soft drinks will be available in the lobby during breaks.

LUNCH

Lunch is offered on both days of the meeting in "Galleriet" close to the main entrance.

INFORMATION FOR SPEAKERS AND POSTERS PRESENTERS

ORAL PRESENTATIONS

Please leave no less than 5 min at the end of your talk for discussion.

We ask you to prepare your presentation in PowerPoint. A Windows computer with PowerPoint 2007 installed will be on-site. You must bring your presentation on a USB memory stick or CD at least one hour before your presentation starts. Alternatively, you can e-mail your presentation to fredrik.swift@medisin.uio.no before September 14, at 18:00 (Central European Time).

If you have any questions regarding the electronic presentations, or if you wish to verify the compatibility of your presentation, please contact:

Fredrik Swift
fredrik.swift@medisin.uio.no
Phone: +47 48244250

POSTER PRESENTATIONS

Posters will be mounted with push-pins, which will be available on-site. Please mount your posters on Thursday morning and according to the number assigned in the program. After the moderated poster sessions, the poster boards will be transferred to the area close to Saga Hall. Please leave your posters mounted until the end of the meeting.

The poster should be presented orally in maximally 3 minutes followed by 4–5 minutes discussion. Please do not exceed this time in your presentation since there is only a limited time available for the moderated poster sessions. We encourage you to continue the discussion of the posters in Saga Hall during the breaks of the meeting.

A prize of NOK 5000,- will be awarded to the author of the best poster in each session. The criteria are:
1) Novelty of conclusions.
2) Quality of data.
3) Clarity of presentation (purpose, results, conclusions).

POSTER CATEGORIES:

I: Inflammatory mediators and heart failure
II: Cellular signaling; myocardial hypertrophy and ischemia
III: Myocardial function during heart failure and exercise training
IV: Cellular signaling; myocardial function
V: Markers of cardiovascular disease

RECOMMENDED POSTER SIZE:

120x90 cm

PROGRAM

THURSDAY SEPTEMBER 15, 2011

08:00–08:30	Registration
08:30–08:45	Bente Mikkelsen, *President & Chief Executive Officer, South-Eastern Norway Regional Health Authority* Opening remarks
Session A:	**Opening session** Chairs: Lars Gullestad, *OUSR* and Kenneth Dickstein, *UoB and SUH*
08:45–09:25	Gary Francis, *University of Minnesota, USA* The last ten years in heart failure research; what will the future bring?
09:25–09:40	Break
Session B:	**Moderated poster sessions (09:40–11:30)** I: Inflammatory mediators and heart failure Moderators: Ingebjørg Seljeflot, *OUHU*, Truls Myrmel, *UNN and UoT* and Arne Yndestad, *OUSR* II: Cellular signaling; myocardial hypertrophy and ischemia Moderators: Kirsti Ytrehus, *UoT* and Terje Larsen, *UoT* III: Myocardial function during heart failure and exercise training Moderators: Ulrik Wisløff, *NTNU* , Dana Cramariuc, *HUS* and Øyvind Ellingsen, *NTNU* IV: Cellular signaling; myocardial function Moderators: Jan-Bjørn Osnes, *UoO* and Arnljot Tveit, *Vestre Viken Hospital Trust* V: Markers of cardiovascular disease Moderators: Helge Røsjø, *AUH* and Erik Øie, *Diakonhjemmet Hospital*
11:30–12:30	Lunch
Session C:	**New therepeutic strategies I** Chairs: Leif Erik Vinge, *OUSR* and Guro Valen, *UoO*
12:30–13:10	Kenneth Dickstein, *Stavanger University Hospital and University of Bergen* Cardiac resynchronization therapy in heart failure; what we know and what we don't know
13:10–13:50	Patrick Most, *University of Heidelberg, Germany* Molecular therapies targeting calcium handling in cardiomyocytes: Innovations on the verge of clinical trials
13:50–14:15	Finn Olav Levy, *UoO* Transition to heart failure – Ongoing research at KG Jebsen Cardiac Research Center
14:15–14:40	Break
Session D:	**Markers of cardiac disease** Chairs: Torbjørn Omland, *AUH* and Dan Atar, *OUSU*
14:40–15:20	Jennifer van Eyk, *Johns Hopkins University, Baltimore, USA* Cell environment interface as potential biomarker
15:20–16:00	Marc S. Sabatine, *Brigham and Women's Hospital, Boston, USA* Biomarker discovery using omics-based approaches

FRIDAY SEPTEMBER 16, 2011

Session E:	**Imaging of cardiac disease** Chairs: Otto Smiseth, *OUSR* and Ivar Sjaastad, *OUSU*
08:00–08:40	Sherif F. Nagueh, *Methodist DeBakey Heart and Vascular Center, Houston, USA* Cardiac function in diastolic heart failure
08:40–09:05	Thor Edvardsen, *OUSR* Prediction of ventricular arrhythmias by echocardiography – Ongoing research at Centre for Cardiological Innovation (SFI)
09:05–09:45	Jurgen E. Schneider, *University of Oxford, UK* Making the heart transparent – Cardiac magnetic resonance in the mouse heart
09:45–10:10	Break
Session F:	**New therapeutic strategies II** Chairs: Harald Arnesen, *OUSU* and Theis Tønnessen, *OUHU*
10:10–10:50	Doris Taylor, *University of Minnesota, USA* Building solutions for heart failure: cells, genes, and organs
10:50–11:30	Raffaele De Caterina, *University of Chieti and Pescara, Italy* Basic research on stem cells aiming at improved myocardial function
11:30–12:30	Lunch
Session G:	**Cardiomyocyte remodeling and function** Chairs: Ole M. Sejersted, *OUSU* and Mathis K. Stokke, *OUSU*
12:30–13:10	Donald M. Bers, *University of California Davis, School of Medicine, USA* CaM kinase – an important regulator of cardiac function
13:10–13:50	Karin Sipido, *Katholieke Universiteit Leuven, Belgium* Heterogeneity of cellular remodeling in ischemic cardiomyopathy
13:50–14:00	Charlotte B. Ingul, *NTNU* UNIKARD; a new national cardiovascular research initiative
14:00–14:20	Break
Session H:	**New therapeutic strategies III** Chairs: Geir Øystein Andersen, *OUSU* and Havard Attramadal, *OUHR*
14:20–15:00	Samuel C. Dudley, *University of Illinois at Chicago, USA* New treatments for heart failure with preserved left ventricular function
15:00–15:40	Derek M. Yellon, *University College London Hospital & Medical School, UK* New strategies to protect the ischaemic and reperfused heart: from bench to bedside
15:40–16:00	Presentation of poster prize winners

OUSR: Oslo University Hospital Rikshospitalet, **OUSU:** Oslo University Hospital Ullevål, **NTNU:** Norwegian University of Science and Technology, **SUH:** Stavanger University Hospital, **UoO:** University of Oslo, **AUH:** Akershus University Hospital, **UoT:** University of Tromsø, **UNN:** University Hospital of North Norway, **HUS:** Haukeland University Hospital, **UoB:** (University of Bergen)

POSTER SESSION I

INFLAMMATORY MEDIATORS AND HEART FAILURE

Moderators: Ingebjørg Seljeflot, *OUHU*, Truls Myrmel, *UNN* and Arne Yndestad, *OUSR*

P01 **Chemokines regulate small leucine-rich proteins in the extracellular matrix of the pressure overloaded right ventricle**
Waehre A, Vistnes M, Sjaastad I, Nygård S, Husberg C, Lunde IG, Behmen D, Neukamm C, Brun H, Thaulow E, Christensen G

P02 **Activation of cardiac Liver X Receptors (LXR) leads to intracellular lipid accumulation and attenuates ischemia reperfusion damage in isolated hearts**
Lei P, Baysa A, Nebb H, Valen G, and Haugen F

P03 **Mitochondrial DNA (mtDNA) damage during myocardial ischemia – marker or maker of injury?**
Bliksøen M, Mariero LH, Ohm IK, Yndestad A, Eide L, Haugen F, Ranheim T, Aukrust P, Vaage J, Valen G, Vinge LE

P04 **The DNA glycosylase Neil3 regulates stem cell recruitment, cell proliferation and DNA repair following myocardial infarction**
Finsen AV, Hildrestrand GA, Sjaastad I, Vinge LE, Louch W, Sandanger Ø, Neurater CG, Luna L, Gullestad L, Christensen G, Aukrust P, Yndestad A and Bjørås M

P05 **The NLRP3 inflammasome mediates myocardial ischemia-reperfusion injury**
Ranheim T; Sandanger Ø; Bliksøen M; Vinge LE; Valen G; Aukrust P; Yndestad A

P06 **Extracellular mitochondrial DNA is a putative Toll-like receptor 9 agonist on cardiac fibroblasts during myocardial infarction**
Ohm IK, Sandanger Ø, Nymo SH, Finsen AV, Bliksøen M, Mariero LH, Valen G, Seljeflot I, Solheim S, Aukrust P, Yndestad A, Vinge LE

P07 **Krill oil attenuates left ventricular dilatation and hypertrophy after myocardial infarction in rats**
Fosshaug LE, Berge RK, Beitnes JO, Berge K, Vik H, Aukrust P, Gullestad L, Vinge LE, Øie E

P08 **Increased levels of MCP-1 and eotaxin are associated with cardiac dysfunction in juvenile dermatomyositis**
Schwartz T, Sanner H, Vistnes M, Christensen G, Flatø B, Sjaastad I

P09 **The influence of the IL-18 + 183 A/G polymorphism on gene- and protein expression in stable CAD patients**
Opstad TB, Pettersen AÅ, Åkra S, Arnesen H, Seljeflot I

P10 **The L-arginine/asymmetric dimethylarginine (ADMA) ratio is improved during anti-Tumor Necrosis Factor –α therapy in patients with inflammatory arthropathies. Association with aortic stiffness.**
Angel K, Provan SA, Seljeflot I, Kvien TK, Atar D

POSTER SESSION II

CELLULAR SIGNALING; MYOCARDIAL HYPERTROPHY AND ISCHEMIA

Moderators: Kirsti Ytrehus, *UoT* and Terje Larsen, *UoT*

P11 **CCN2/CTGF exerts direct cytoprotective actions in adult cardiac myocytes by activation of the PI3-Kinase/Akt/GSK-3β signaling pathway**
Moe IT, Pham TA, Hagelin EMV, Ahmed MS, and Attramadal H

P12 **The Z-disc proteoglycan syndecan-4 regulates mechanical stress-induced calcineurin-NFAT signaling in cardiomyocytes**
Lunde IG, Florholmen G, Finsen AV, Skrbic B, Kvaløy H, Austbø B, Jarstadmarken H, Hasic A, Nygård S, Sjaastad I, Tønnessen T, Wilcox-Adelman SA, Carlson CR, Christensen G

P13 **Syndecan-4 signaling regulates myofibroblast differentiation in response to mechanical stress**
Herum KM, Lunde IG, Behmen D, Skrbic B, Sjaastad I, Florholmen G, Carlson CR, Christensen G

P14 **Correction of left ventricular pressure overload leads to altered myocardial expression of small leucine rich proteoglycans**
Engebretsen KVT, Bjørnstad JL, Skrbic B, Marstein H, Sjaastad I, Wæhre A, Christensen G, Tønnessen T

P15 **Reduction in collagen type 8 might be involved in transition from compensated hypertrophy to left ventricular dilatation and overt heart failure in pressure overload**
Skrbic B, Bjørnstad JL, Marstein HS, Sjaastad I, Nygård S, Christensen G, Tønnessen T

P16 **Cardiac aquaporin-1: regulation by cardioplegia, hypoxia and ischemia.**
Rutkovskiy A, Mariero LH, Stensløkken K-O, Hillestad V, Amin M, Valen G, Vaage J

P17 **Activation of the retinoic acid receptors in acute myocardial ischemia and post ischemic remodelling of the failing heart**
Bilbija D, Haugen F, Bastani N, Blomhoff R, Valen G

P18 **The role of p66Shc adaptor protein in postinfarction cardiac remodeling**
Baysa A, Bilbija D, Giorgio M, Carpi A, Di Lisa F, Vaage J, Valen G

P19 **Disruption of Ca^{2+} homeostasis induces activation of heat shock proteins and a shift in cytoskeleton composition**
Husberg C, Agnetti G, Nygård S, Andersson KB, Christensen G, Van Eyk JE

P20 **Enhanced expression of versican, aggrecan and ADAMTS versicanases and aggrecanases during development of myocardial hypertrophy and heart failure**
Vistnes M, Lunde IG, Aronsen JM, Sjaastad I, Carlson C, Tønnessen T, Christensen G

P21 **Identifying pathogenic signaling and regulatory networks by integrating microarray data with prior knowledge**
Nygård S, Reitan T, Clancy T, Nygaard V, Bjørnstad J , Skrbic B, Tønnessen T, Christensen G, Hovig E

POSTER SESSION III

MYOCARDIAL FUNCTION DURING HEART FAILURE AND EXERCISE TRAINING

Moderators: Ulrik Wisløff, *NTNU*, Dana Cramariuc, HUS and Øyvind Ellingsen, *NTNU*

P22 **Cardiovascular fitness and venous compliance**
Leinan IM, Wisløff U, Støylen A, Grønnevik Ø, Karlsen T

P23 **Circulating levels of choline and phosphatidylcholine are associated with maximal aerobic capacity and risk factors of cardiovascular disease**
Bye A, Vettukattil R, Aspenes ST, Gribbestad IS, Wisløff U, Bathen TF

P24 **Inborn aerobic fitness determines susceptibility to ventricular fibrillation**
Høydal MA, Stølen TO, Johnsen AB, Alvez M, Catalucci D, Smith GL, Condorelli G, Koch LG, Britton SL, Wisløff U

P25 **Temporal development of autonomic dysfunction in heart failure**
Horn MA, Richards MA, Borland SJ, Bode EF, Briston SJ, Hall MCS, Eisner DA, Dibb KM & Trafford AW

P26 **Improved left ventricular function in Serca2 knock-out after levosimendan treatment**
Hillestad V, Kramer F, Golz S, Christensen G

P27 **Causes and consequences of cardiomyocyte Na^+ loading following SERCA2 knockout.**
Louch WE, Li L, Swift F, Stokke MK, Niederer SA, Sossalla S, Wagner S, Maier L, Sjaastad I, Christensen G, Smith NP, Sejersted OM

P28 **Structural remodelling and decreased SERCA function desynchronize Ca^{2+} release in failing cardiomyocytes**
Øyehaug L, Jølle GF, Stokke MK, Sejersted OM, Sjaastad I and Louch WE

P29 **Ca^{2+} wave velocity in cardiomyocytes is regulated by ryanodine receptor Ca^{2+} sensitivity and SR Ca^{2+} content.**
Loose KO, Sadredini MN, Sejersted OM, Stokke MK, Louch WE

P30 **Low and high extracellular potassium induce Ca^{2+} waves in cardiomyocytes**
Skogestad J, Aronsen JM, Tovsrud N, Hougen K, Sejersted OM, Sjaastad I

P31 **The Norwegian cardio-respiratory arrest study – NORCAST**
Nakstad ER

P32 **MRI phase contrast velocimetry utilizing a nine-point balanced motion encoding scheme for increased accuracy and reduction in acquisition time**
Espe E, Zhang L, Aronsen JM, Skrbic B, Schneider JE, Sejersted OM, Sjaastad I

P33 **Patients with significant coronary artery stenoses can be identified by echocardiographic layer-specific myocardial deformation**
Sarvari SI, Haugaa KH, Zahid W, Bendz B, Aaberge L, Aakhus S, and Edvardsen T

POSTER SESSION IV

CELLULAR SIGNALING; MYOCARDIAL FUNCTION

Moderators: Jan-Bjørn Osnes, *UoO* and Arnljot Tveit, *Vestre Viken Hospital Trust*

P34 **Secretoneurin, a Peptide Associated with Mortality in Heart Failure, Modulates Cardiomyocyte Calcium Homeostasis**
Ottesen AH, Louch WE, Carlson C, Landsverk OJB, Høiseth AD, Stridsberg S, Øie E, Omland T, Christensen G, Røsjø H

P35 **Increased calpain-mediated cleavage of the cardiac Na^+- Ca^{2+} exchanger 1 (NCX1) in the heart failure**
Wanichawan P, Lunde IG, Aronsen JM, Cederkvist FH , Austbø B, Lunde M, Sjaastad I, Bjorås M, Sejersted OM, Carlson CR

P36 **Ageing produces a distinct molecular fingerprint in the failing ovine ventricular myocardium**
Caldwell JL, Horn MA, Eisner DA, Dibb KM & Trafford AW

P37 **Unraveling tight spatiotemporal regulation of cAMP-mediated inotropic effects using targeted FRET-based cAMP sensors**
Andressen KW, Dugstad KS, Aronsen JM, Sjaastad I, Zaccolo M and Levy FO

P38 **Enhancement of β_1-adrenoceptor signaling by C-type natriuretic peptide through natriuretic peptide receptor B in normal and failing hearts: regulation by phosphodiesterases**
Meier S, Aronsen JM, Sjaastad I, Levy FO, Skomedal T, Osnes J-B, Qvigstad E

P39 **The role of inhibitory G protein upon beta-adrenoceptor-mediated signalling and inotropic responses in normal and failing rat heart left ventricle: Functional evidence of "tonic" G_i activation**
Melsom CB, Hussain RI, Aronsen JM, Sjaastad I, Osnes J-B, Skomedal T, Levy FO & Krobert KA

P40 **The negative inotropic and positive lusitropic responses to CNP are dependent on SERCA2 activity in failing rat ventricle**
Moltzau LR, Aronsen JM, Meier S, Nguyen C, Christensen G, Sjaastad I, Skomedal T, Osnes J-B, Levy FO, Qvigstad E

P41 **Prostaglandin E_1 Facilitates 5-HT_4 Serotonergic and Beta-adrenergic Receptor Mediated Inotropic Effects in Failing Human Heart**
Riise J, Ørstavik Ø, Qvigstad E, Dahl CP, Osnes JB, Skomedal T, Levy FO & Krobert KA

P42 **CCN2/CTGF attenuates β-adrenergic Responsiveness and cardiotoxicity by inducTION OF G Protein-coupled Receptor Kinase-5 (GRK5) IN CARDIAC mYOCYTES**
Gravning J, Ahmed MS, Qvigstad E, Krobert K, Edvardsen T, Moe IT, Hagelin EMV, Sagave J, Valen G, Osnes J-B, Skomedal T and Attramadal H

P43 **Duration of myocardial systolic lengthening at rest predicts the presence of significant coronary artery disease**
Smedsrud MK, Sarvari S, Haugaa KH, Gjesdal O, Aaberge L, Edvardsen T

POSTER SESSION V

MARKERS OF CARDIOVASCULAR DISEASE

Moderators: Helge Røsjø, *AUH* and Erik Øie, *Diakonhjemmet Hospital*

P44	**The influence of tissue factor and tissue factor pathway inhibitor polymorphisms on thrombin generation in stable CAD patients** Opstad TB, Pettersen AÅ, Bratseth V, Arnesen H, Seljeflot I
P45	**Mitochondrial DNA as a possible biomarker of myocardial infarction** Mariero LH, Bliksøen M, Ohm I, Haugen F, Yndestad A, Solheim S, Seljeflot I, Aukrust P, Vinge LE, Valen G
P46	**Glycoprotein 130 predicts fatal outcomes in chronic heart failure: analysis from the controlled rosuvastatin multinational trial in heart failure (CORONA)** Askevold ET, Nymo S, Kjekshus J, Cleland JGF, Yndestad A, McMurray JJV, Aukrust P, Ueland T and Gullestad L
P47	**The association between neutrophil gelatinase-associated lipocalin and clinical outcome in chronic heart failure: results from CORONA*** Nymo SH, Ueland T, Askevold ET, Flo TH , Kjekshus J, Hulthe J, Wikstrand J, McMurray J, Van Veldhuisen DJ,Gullestad L, Aukrust P, Yndestad A
P48	**Exercise stress testing is associated with an increase in cardiac troponin T levels in patients with suspected coronary artery disease** Røysland R, Kravdal G, Høiseth AD, Badr P, Omland P, Røsjø H
P49	**NT-proBNP predicts mortality after acute exacerbation of chronic obstructive pulmonary disease** Høiseth AD, Neukamm A, Hagve TA, Brekke PH, Omland T, Søyseth V
P50	**Obstructive sleep apnea is associated with increased high-sensitivity cardiac troponin T levels: the Akershus sleep apnea project** Randby A, Namtvedt SK, Einvik G, Hrubos-Strøm H, Hagve T and Omland T
P51	**Obstructive sleep apnea, endothelial function & obesity** Namtvedt SK, Hisdal J, Randby A, Agewall S, Stranden E, Somers VK, Røsjø H, Omland T
P52	**Circulating fractalkine (CX3CL1) in patients with stable coronary artery disease (CAD) with and without diabetes mellitus** Njerve IU, Pettersen AA, Bratseth V, Arnesen H, Seljeflot I
P53	**Changes in hospital evaluation and the diagnosis of myocardial infarction after introducing a new high-sensitivity cardiac troponin T assay** Hall TS, Hallen J, Agewall S, Atar D, Jensen T