KHRS 2020 - VIRTUAL

CONTENTS

02 Welcome Message
03 Organizing Committee
04 International Faculty Members
06 Virtual Site Information
08 Program at a Glance
14 Program Details
  14 - Day 1 | Nov 20 (Fri)
  26 - Day 2 | Nov 21 (Sat)
  41 - Learning Center
Dear Friends and Colleagues,

It is our great pleasure to invite you to our upcoming KHRS 2020: The 12th Annual Scientific Session of the Korean Heart Rhythm Society, which will be held virtually from November 20(Fri.) to 21(Sat.).

With the coronavirus crisis forcing us to defer KHRS 2020 to a later date, the Organizing Committee has made a decision to run a virtual conference this year since participants’ health and safety are our top priorities. In order to satisfy your keen interest and continued support, KHRS 2020 will provide plenty of scientific programs, which will be joined by a number of experts in various fields.

KHRS 2020 is the one and only conference in South Korea that deals with all about arrhythmia from basic research to clinical content related to diagnosis and treatment. You will be able to meet up with globally renowned invited speakers through online, which will be a meaningful chance to share knowledge including the latest research trends in this field.

This year’s KHRS will include live presentations and discussions with world-renowned scholars such as Dr. Gregory Lip, Dr. Akihiko Nogami, Dr. Shih-Ann Chen, and Dr. Kyoko Soejima. In particular, it will be held in conjunction with TTS 2020 (Tokyo-Taipei-Seoul Arrhythmia Joint Conference), providing a golden opportunity to interact with great scholars from Japan and Taiwan.

Especially, our invited speaker Dr. Warren Jackman will give a live presentation about ‘Accessory Pathway’. Also the Scientific Session will feature a diverse array of lectures about AF, SPAF, VT, SCD, CIED, etc.

At a time when the COVID-19 pandemic has also had an impact on your research/academic activities, the Organizing Committee of KHRS 2020 has tried its best to provide an online platform for you to gain practical knowledge. Therefore, we cordially invite all of you to participate actively in the upcoming conference. We strongly believe that your active participation will make our 12th conference even more vibrant and fruitful.

Thank you.
<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Affiliation</th>
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</thead>
<tbody>
<tr>
<td>President</td>
<td><strong>Eun-Jung Bae</strong>, Seoul National University College of Medicine</td>
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<tr>
<td>Chairman</td>
<td><strong>Yong Seog Oh</strong>, College of Medicine, The Catholic University of Korea</td>
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<td><strong>Moon Hyoung Lee</strong>, Yonsei University College of Medicine</td>
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<td><strong>Dan Hu</strong>, Renmin Hospital of Wuhan University</td>
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<td><strong>Joseph YS Chan</strong>, The Chinese University of Hong Kong</td>
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<td><strong>Ngai-Yin Chan</strong>, Princess Margaret Hospital</td>
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<td><strong>Koichiro Ejima</strong>, Tokyo Women’s Medical University *</td>
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<td><strong>Miyako Igarashi</strong>, University of Tsukuba *</td>
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<td><strong>Koichi Inoue</strong>, Sakurabashi Watanabe Hospital *</td>
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<td>Japan</td>
<td><strong>Seiko Ohno</strong>, National Cerebral and Cardiovascular Center</td>
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<td><strong>Tetsuo Sasano</strong>, Tokyo Medical and Dental University</td>
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<td><strong>Kyoko Soejima</strong>, Kyorin University</td>
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<td>Sung Woo Lee</td>
<td>Georgetown University</td>
</tr>
</tbody>
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* TTS Faculty Member
VIRTUAL SITE INFORMATION

· Virtual Site  www.khrs-scientific.kr
· Streaming Date  11/20(Fri.) - 21(Sat.)

계정  ID  Your Email  PW  Your ID of Email
예시  ID  khrs2020@khrs.com  PW  khrs2020

※최초 접속 후, 보안을 위해 비밀번호를 변경해주시기 바랍니다.

VIRTUAL 사이트 평점 부여 기준

- 11/20(금) – 11/21(토)에만 평점 부여 가능
- 서버에 기록된 하루 실강의 수강시간 최소 1시간 이상

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VIRTUAL 강의 수강 방법

STEP 1 로그인
위 내용 참고 ※세션룸에서 동일한 ID로 중복 로그인 시, 기존 화면은 자동 로그아웃 됩니다.

STEP 2 PROGRAM 클릭
수강을 원하는 세션의 시간 및 장소 확인 후 해당 세션룸에 입장합니다.

STEP 3 [ENTER] 버튼 클릭
세션룸 접속시작 시간이 기록됩니다. ※정규 세션시간만 이수시간으로 인정됩니다.(Break Time 포함X)

STEP 4 [EXIT] 버튼 클릭
세션룸 접속종료 시간이 기록됩니다.

STEP 5 My Page 확인
기록된 접속시간은 VIRTUAL 사이트의 ‘My Page’에서 확인 가능합니다.
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<tbody>
<tr>
<td>08:30-10:00</td>
<td>Accessory Pathway</td>
<td>Artificial Intelligence and Signal Data Analysis</td>
<td>Ventricular Tachycardia 1</td>
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<td>Break</td>
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<tr>
<td>10:15-11:45</td>
<td>CIED 1</td>
<td>Clinical Application of Wearable Devices</td>
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<td>Break</td>
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<tr>
<td>12:00-13:00</td>
<td><strong>Scientific Session</strong> <em>(Pfizer Korea / BMS Korea)</em></td>
<td><strong>Scientific Session</strong> <em>(Bayer)</em></td>
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**LEARNING CENTER**

- **SANOFI**
  - 09:45-10:15
- **Johnson & Johnson Medical Korea**
  - 11:30-12:00
- **SAMJIN PHARM**
  - 12:45-13:15
- **Medtronic Korea Ltd.**
  - 14:30-15:00

**ABSTRACT**

- **2020 개원의 및 전공의 NOAC 연수교육 1**
  - 13:00-14:00
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**LEARNING CENTER**

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**2020 개원의 및 전공의 NOAC 연수교육 2**

2020 개원의 및 전공의 NOAC 연수교육 2

13:00-14:00
KHRS 2020
PROGRAM DETAILS

NOV 20 (Fri)
NOV 21 (Sat)
PROGRAM DETAILS

Accessory Pathway

08:30-10:00 | Room 1

Chairs  Eun-Jung Bae, Seoul National University College of Medicine
        Yong Seog Oh, College of Medicine, The Catholic University of Korea

Speaker  Techniques for Recording and Validating Accessory Pathway Potentials
         Warren Jackman, OU Medical Center, United States

Artificial Intelligence and Signal Data Analysis

08:30-10:00 | Room 3

Chair  June Soo Kim, School of Medicine, Sungkyunkwan University

Speakers  Basic Concept of Artificial Intelligence (AI)
           Hyeonseung Im, Kangwon National University

           Clinical Research in Medical Field
           Junbeom Park, Ewha Womans University School of Medicine

           Vital Sign Signal and AI
           Segyeong Joo, University of Ulsan College of Medicine

Corporates  Presentation
            AliveCor
            ATsens Co., Ltd.
            DREAMTECH Co., Ltd.
            Huinno Co., Ltd.
            MEZOO Co., Ltd.
            Sky Labs

Panels  Discussion
       Dae Hyeok Kim, Inha University School of Medicine
       Seung-Jung Park, School of Medicine, Sungkyunkwan University
       Yong Soo Baek, Inha University School of Medicine
       Namsik Yoon, Chonnam National University Medical School
## PROGRAM DETAILS

### Ventricular Tachycardia 1

**08:30-10:00 | Room 4**

| Chairs | Dae-Woo Hyun, Andong Medical Group Hospital  
|        | Hyung Wook Park, Chonnam National University Medical School |

| Speakers | VT Ablation in Epicardial VT (Tips & Trick)  
|          | Chin-Yu Lin, Taipei Veterans General Hospital, Taiwan |

**Fever and Brugada Syndrome**

- Dan Hu, Renmin Hospital of Wuhan University, China

**Useful Tips for Successful Ablation of LVVT**

- Seung-Young Roh, Korea University College of Medicine

**PVC-induced Cardiomyopathy**

- Kyoung-Min Park, School of Medicine, Sungkyunkwan University

**Useful Tips for Successful Ablation of OTVT**

- Hyung Wook Park, Chonnam National University Medical School

### SCD 1

**08:30-10:00 | Room 5**

| Chairs | Dong Jin Oh, College of Medicine, Hallym University  
|        | Gi-Byoung Nam, University of Ulsan College of Medicine |

| Speakers | Epidemiology of Out of Hospital Arrest in Korea (The Struggle against SCD)  
|          | Dong Jin Oh, College of Medicine, Hallym University |

**Long QT Syndrome**

- Yongkeun Cho, Kyungpook National University School of Medicine

**Sudden Cardiac Death in Hypertrophic Cardiomyopathy**

- Yae Min Park, Gachon University School of Medicine

**Arrhythmias in Infiltrative Cardiomyopathy - Focusing on Cardiac Amyloidosis**

- Jongmin Hwang, Keimyung University School of Medicine

**An Update on the Diagnosis and Management of Catecholaminergic Polymorphic Ventricular Tachycardia**

- Seiko Ohno, National Cerebral and Cardiovascular Center, Japan
What’s New About the Management of AF in 2020

**08:30-10:00 | Room 6**

**Chairs**
Choong Hwan Kwak, Gyeongsang National University College of Medicine
Nam Ho Kim, Wonkwang University School of Medicine

**Speakers**

- **Structured Characterization of AF, and Optimal Anticoagulation Therapy**
  Jung Myung Lee, School of Medicine, Kyung Hee University

- **Updated Recommendation on AF Ablation in New Guideline**
  Jin-Kyu Park, Hanyang University College of Medicine

- **How to Manage Cardiovascular Risk Factors in AF**
  Pil-Sung Yang, CHA University

- **Paradigm Shift in Rhythm Control Therapy of AF**
  Jaemin Shim, Korea University College of Medicine

- **What is the Optimal Management for Extremely Fragile Patients?**
  Tae-Hoon Kim, Yonsei University College of Medicine

CIED 1

**10:15-11:45 | Room 1**

**Chairs**
Myung-Yong Lee, Dankook University College of Medicine
Dae Kyeong Kim, Inje University College of Medicine

**Speakers**

- **Leadless Pacemakers: A Contemporary Review**
  Joseph YS Chan, The Chinese University of Hong Kong, Hong Kong

- **Lead Extraction (Preparation, Laser Cases)**
  Sirin Apiyasawat, Ramathibodi Hospital, Thailand

- **Asian Experience on SICD**
  Hung-Fat Tse, The University of Hong Kong, Hong Kong
Clinical Application of Wearable Devices

**Chair**
Dong-Gu Shin, Yeungnam University College of Medicine

**Speakers**
- **Clinical Research of Wearable Device**
  Yoo Ri Kim, Dongguk University School of Medicine
- **It is Proper to Use Wearable Device in Real Practice - Pro**
  Dong-Hyeok Kim, Ewha Womans University School of Medicine
- **It is Proper to Use Wearable Device in Real Practice - Con**
  Seung-Young Roh, Korea University College of Medicine

**Panels Discussion**
Young Soo Lee, Daegu Catholic University College of Medicine
Nam Ho Kim, Wonkwang University School of Medicine
June Namgung, Inje University College of Medicine
Gyo-Seung Hwang, Ajou University School of Medicine

Smart Health Care & AI 1

**Chairs**
Choong Hwan Kwak, Gyeongsang National University College of Medicine
Joong Wha Chung, Chosun University College of Medicine

**Speakers**
- **Novel Wearable Devices in Cardiovascular Fields for Monitoring Arrhythmia**
  Jumsuk Ko, Wonkwang University School of Medicine
- **Clinical Implication of Mobile Web Based/Wearable Cardiac Rhythm Monitoring**
  Jinhee Ahn, Pusan National University School of Medicine
- **The 4th Industrial Revolution and Future Medicine**
  Joong Wha Chung, Chosun University College of Medicine
- **Clinical Application of Artificial Intelligence in Arrhythmia**
  Yong Soo Baek, Inha University School of Medicine
- **Artificial Intelligence and Arrhythmia**
  Junbeom Park, Ewha Womans University School of Medicine
**Pediatric & Congenital**

**Chairs**
Jaekon Ko, University of Ulsan College of Medicine  
Myung Chul Hyun, Kyungpook National University School of Medicine

**Speakers**
- **Risk Analysis of SCD in Pediatric HCMP**  
  Mi Kyoung Song, Seoul National University College of Medicine
- **Noninvasive Radioablation for Ventricular Tachycardia in Children**  
  Jae-Sun Uhm, Yonsei University College of Medicine
- **Role of RFCA for Prevention of Pediatric SCD**  
  Naokata Sumitomo, Saitama Medical University International Medical Center, Japan
- **Technical Aspects of ICD in Congenital Heart Disease**  
  June Huh, School of Medicine, Sungkyunkwan University
- **Device Therapy and Heart Failure in Congenital Heart Disease**  
  Ji-Eun Ban, Ewha Womans University School of Medicine

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**Atrial Fibrillation 1**

**Chairs**
Kee-Joon Choi, University of Ulsan College of Medicine  
Eun Sun Jin, School of Medicine, Kyung Hee University

**Speakers**
- **Gap between RCT and Real World Data in AF Ablation**  
  Boyoung Joung, Yonsei University College of Medicine
- **PV Isolation: Shorter Burning or Longer Freezing?**  
  Hui-Nam Pak, Yonsei University College of Medicine
- **Substrate of AF: Insight into Catheter Ablation**  
  Jong-Il Choi, Korea University College of Medicine
- **Neural Modulation for AF**  
  Seil Oh, Seoul National University College of Medicine
- **Multielectrode/Omnipolar Mapping Technology to Address the Limitation of Traditional Bipolar Mapping**  
  Li-Wei Lo, Taipei Veterans General Hospital, Taiwan
**Program Details**

### Scientific Session (Pfizer Korea / BMS Korea)

**Chair**
Hui-Nam Pak, Yonsei University College of Medicine

**Speakers**
- **Recent Update on Eliquis for NVAF Patients with Renal Impairment**
  Sean Pokorney, Duke University, United States
- **How to Manage Anticoagulation Therapy in Elderly NVAF Patients: Key Updates from Eliquis Data**
  Eue Keun Choi, Seoul National University College of Medicine

12:00-13:00 | Room 1

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### Scientific Session (Bayer):

**Chairs**
- Nam Ho Kim, Wonkwang University School of Medicine
- Young Keun On, School of Medicine, Sungkyunkwan University

**Speakers**
- **What is the Optimal NOAC for Korean NVAF Patients with Specific Considerations?**
  Tae-Hoon Kim, Yonsei University College of Medicine
- **New Perspective in the Management of NVAF Patients with DM**
  Ki Hong Lee, Chonnam National University Medical School

12:00-13:00 | Room 2
**Scientific Session (ABBOTT):**

Arrhythmia Management Session: Breakthrough Technologies and Approaches

12:00-13:00 | Room 3

**Speakers**

- **Isochronal Late Activation Mapping in Atrial Fibrillation and Atypical Flutter Ablation**
  Byung-Chun Jung, Daegu Fatima Hospital  
  Dae Kyeong Kim, Inje University College of Medicine

- **Next Generation High Voltage with Bluetooth Remote Monitoring**
  Kartikeya Bhargava, Medanta Heart Institute, India

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**2020 개원의 및 전공의 NOAC 연수교육 1**

13:00-14:00 | 개원의 연수교육

**Chairs**

- Byung-Chun Jung, Daegu Fatima Hospital  
  Dae Kyeong Kim, Inje University College of Medicine

**Speakers**

- 심방세동 환자에서 뇌졸중 예방을 위한 항응고 치료  
  Namsik Yoon, Chonnam National University Medical School

- 일반적인 항응고제의 제형 및 특성  
  Dongmin Kim, Dankook University College of Medicine
**Program Details**

### SPAF

**Chairs**
- June Soo Kim, School of Medicine, Sungkyunkwan University
- Yong Seog Oh, College of Medicine, The Catholic University of Korea

**Speakers**
- **Obstructive Sleep Apnoea and Atrial Fibrillation: A Sleepy Issue?**
  - Gregory Lip, University of Liverpool, United Kingdom
- **Update on Anticoagulation Therapy for Subclinical AF**
  - Chi Keong Ching, National Heart Centre Singapore, Singapore
- **Integrated Care for Patients - From Trial to Clinical Practice**
  - Boyoung Joung, Yonsei University College of Medicine

### Atrial Fibrillation 2

**Chairs**
- Man Young Lee, College of Medicine, The Catholic University of Korea
- Dae Hyeok Kim, Inha University School of Medicine

**Speakers**
- **Principles of Antiarrhythmic Drugs**
  - Seil Oh, Seoul National University College of Medicine
- **Computational Modeling of AAD Responsiveness to AF**
  - Hui-Nam Pak, Yonsei University College of Medicine
- **AF Ablation Using High-Density Mapping: Comparison of Different 3D Navigation System**
  - Hyoung-Seob Park, Keimyung University School of Medicine
- **The Role of Epicardial Conduction in Persistent AF**
  - Jin-Bae Kim, School of Medicine, Kyung Hee University
- **Efficacy and Safety of Current Cryoballoon Ablation for Atrial Fibrillation**
  - Shinsuke Miyazaki, Fukui University, Japan
## Policy & New Technology

### Chairs
- Sang Weon Park, Sejong General Hospital
- Dae-Woo Hyun, Andong Medical Group Hospital

### Speakers
- **New CIED Technologies Not Available in Korea**
  - Jung Hoon Sung, CHA University
- **Ablation**
  - Sung-Won Jang, College of Medicine, The Catholic University of Korea
- **Antiarrhythmic Medications**
  - Chang Hee Kwon, Konkuk University Professional Graduate School of Medicine
- **Remote Monitoring of CIED in Korea**
  - Sang Weon Park, Sejong General Hospital

## Basic

### Chair
- June Namgung, Inje University College of Medicine

### Speakers
- **Arrhythmias Related to PM-2.5 Exposure**
  - Li-Wei Lo, Taipei Veterans General Hospital, Taiwan
- **Gap Junction and Ventricular Arrhythmia during Therapeutic Hypothermia**
  - Yu-Cheng Hsieh, Taichung Veterans General Hospital, Taiwan
- **Depolarization and Repolarization Abnormality of J Wave Syndrome**
  - Namsik Yoon, Chonnam National University Medical School
- **Fibrosis as a Mechanism of Atrial Fibrillation**
  - Jong-Il Choi, Korea University College of Medicine
- **COVID-19 and Cardiovascular Disease**
  - Myung-Jin Cha, Seoul National University College of Medicine
PROGRAM DETAILS

EGM Tracing 1

13:15-14:45 | Room 6

Chair
Seongwook Han, Keimyung University School of Medicine

Speaker
Case 1-4
Chun Hwang, Revere Health, United States

Atrial Fibrillation 3

15:00-16:30 | Room 1

Chairs
June Soo Kim, School of Medicine, Sungkyunkwan University
Kee-Joon Choi, University of Ulsan College of Medicine

Speakers
Can We Drop Aspirin Immediately after Hospital Discharge in Atrial Fibrillation Patients Undergoing PCI?
Gregory Lip, University of Liverpool, United Kingdom

Fluoroscopy Only Guided LAA Closure
Yoga Yuniadi, University of Indonesia, Indonesia

Real World Data of NOAC
Eue Keun Choi, Seoul National University College of Medicine
Ventricular Tachycardia 2  
**15:00-16:30 | Room 3**

**Chairs**
Nam Ho Kim, Wonkwang University School of Medicine  
Kyoung-Min Park, School of Medicine, Sungkyunkwan University

**Speakers**

**Neural Modulation in Patients with VT Refractory to RF Ablation**  
Ki-Woon Kang, Eulji University School of Medicine

**The Feasibility of Magnetic Navigation System for VT Ablation**  
Yong Seog Oh, College of Medicine, The Catholic University of Korea

**Wide QRS Tachycardia**  
Gi-Byoung Nam, University of Ulsan College of Medicine

**Localization of VT**  
Seongwook Han, Keimyung University School of Medicine

**VT Ablation in Hemodynamic Unstable Patients**  
Kwang-No Lee, Ajou University School of Medicine

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MR Education  
**15:00-16:30 | Room 4**

**Chair**
Byung-Chun Jung, Daegu Fatima Hospital

**Speakers**

부정맥 치료 방법  
Jun-Hyung Kim, Chungnam National University College of Medicine

심방세동이란 (원인, 치료)  
Jin Bae Lee, Daegu Catholic University College of Medicine

부정맥 질환의 심각성  
Hye Bin Gwag, School of Medicine, Sungkyunkwan University

심방세동 항응고요법  
Young Ah Park, Inje University College of Medicine
## PROGRAM DETAILS

### YIA Competition

**15:00-16:30 | Room 5**

**Chair**  
Boyoung Joung, Yonsei University College of Medicine

**Judges**  
- Jung Hoon Sung, CHA University  
- Eun Sun Jin, School of Medicine, Kyung Hee University  
- Hong Euy Lim, College of Medicine, Hallym University  
- Yae Min Park, Gachon University School of Medicine  
- Jaemin Shim, Korea University College of Medicine  
- Sung-Hwan Kim, College of Medicine, The Catholic University of Korea

**Speakers**  
- **New Algorithm for Accessory Pathway Localization Focused on Screening Septal Pathways in Pediatric Patients with Wolff-Parkinson-White Syndrome**  
  Seung Min Baek, Seoul National University Children’s Hospital
- **The Correlation between Left Atrial Appendage Adipose Tissue and Clinical Recurrence of Atrial Fibrillation after Modified Cox-Maze III Operation from Human Tissue Pathologic Analysis**  
  Hyo-Hyun Kim, Severance Cardiovascular Hospital, Yonsei University College of Medicine
- **Blood Flow Volume of Left Atrial Appendage Measured by Magnetic Resonance Imaging is Improved after Radiofrequency Catheter Ablation of Atrial Fibrillation**  
  Kyongjin Min, Korea University Anam Hospital
- **Co-Delivery of Curcumin and miR-144-3p by Heart-Targeted Extracellular Vesicles Facilitate Treatment of Arrhythmias after Myocardial Infarction in Mice**  
  Ji-Young Kang, Yonsei University College of Medicine
- **Exercise Habits and the Risk of Stroke, Heart Failure, and Mortality in Patients with Incident Atrial Fibrillation: A Nationwide Population-Based Cohort Study**  
  Hyo-Jeong Ahn, Seoul National University Hospital
- **Prognostic Significance of 24 Hours Ambulatory Blood Pressure Monitoring in Patients without Atrial Fibrillation**  
  Sojeong Park, Ewha Womans University School of Medicine

### EGM Tracing 2

**15:00-16:30 | Room 6**

**Chair**  
Sung-Won Jang, College of Medicine, The Catholic University of Korea

**Speaker**  
**Case 1-4**  
Akihiko Nogami, University of Tsukuba, Japan
**Atrial Fibrillation 4**  
08:30-10:00 | Room 1

**Chairs**  
Yong Seog Oh, College of Medicine, The Catholic University of Korea  
Hui-Nam Pak, Yonsei University College of Medicine

**Speakers**  
**How to Use Anticoagulants in Cases of Absence of LAA**  
Yong Seog Oh, College of Medicine, The Catholic University of Korea

**Atrial Fibrillation Ablation with Balloon Technologies, Cryo Balloon vs RF Balloon**  
Sung Woo Lee, Georgetown University, United States

**Leadless Pacemaker**  
Sung Woo Lee, Georgetown University, United States

**Gene Expression Profiles in the Left Atria of Patients with Valvular Atrial Fibrillation**  
Yung-Hsin Yeh, Chang-Gung Memorial Hospital, Taiwan

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**TTS 2020: Welcome Address/Opening Remarks**

**Welcome Address**  
Yong Seog Oh, College of Medicine, The Catholic University of Korea

**Opening Remarks**  
Young-Hoon Kim, Korea University College of Medicine  
Akihiko Nogami, University of Tsukuba, Japan  
Shih-Ann Chen, Taipei Veterans General Hospital, Taiwan

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**TTS 1: Advancement in Brugada Syndrome**  
08:30-10:00 | Room 2

**Chairs**  
Gi-Byoung Nam, University of Ulsan College of Medicine  
Akiko Ueda, Kyorin University School of Medicine, Japan

**Speakers**  
**Novel Electrophysiology of Brugada Syndrome**  
Fa-Po Chung, Taipei Veterans General Hospital, Taiwan

**Use of Deep Learning Technique in Analyzing ECG Pattern for Diagnosis of Brugada Syndrome**  
Yu-Feng Hu, Taipei Veterans General Hospital, Taiwan

**Early Repolarization Pattern in University Athletes: Insight from the 2015 Gwangju Summer Universiade**  
Namsik Yoon, Chonnam National University Medical School
Atrial Fibrillation 5  
08:30-10:00 | Room 3

Chairs  
Young Keun On, School of Medicine, Sungkyunkwan University  
Doosang Kim, Veterans Health Service Medical Center

Speakers  
Complication Rate and Annual Trend of AF Ablation  
Pil-Sung Yang, CHA University

Ablation of Persistent AF: Comparison of Different Ablation Techniques Beyond PVI  
Young-Hoon Kim, Korea University College of Medicine

Modifiable Risk Factors for Incident Atrial Fibrillation in Korea  
(e.g. Insulin Resistance, Inflammation, Smoking)  
Jin-Kyu Park, Hanyang University College of Medicine

Hybrid Approach of AF Treatment: Thoracoscopic and Catheter Ablation  
Young Keun On, School of Medicine, Sungkyunkwan University

CIED & VT  
08:30-10:00 | Room 4

Chair  
Dong-Gu Shin, Yeungnam University College of Medicine

Speakers  
Current Status of Cardiac Device Therapy for Primary Prevention of Sudden Arrhythmic Death in Busan, Ulsan, and Gyeong-nam Areas  
Jong Sung Park, Dong-A University College of Medicine

Is Not Defibrillation Threshold Testing Really Necessary during ICD Implantation?  
Myung Hwan Bae, Kyungpook National University School of Medicine

Difference of Korean CIEDs Indications from AHA/ACC/HRS CIEDs Indications  
Dong-Hyeok Kim, Ewha Womans University School of Medicine

Noninvasive Cardiac Radiation for Ablation of Ventricular Tachycardia  
Myung-Jin Cha, Seoul National University College of Medicine
**CIED 2**

**Chairs**
Moon Hyoung Lee, Yonsei University College of Medicine
June Huh, School of Medicine, Sungkyunkwan University

**Speakers**
- **Efficacy and Safety of His Bundle Pacing**
  Kieu Ngoc Dung, Cho Ray Hospital, Vietnam
- **The Role of Physiological Pacing in Pacemaker Dependent Patients:**
  - RV Septal Pacing, His Bundle Pacing
  Jung Hoon Sung, CHA University
- **Feasibility and Clinical Outcomes of LBB Pacing**
  Tae-Hoon Kim, Yonsei University College of Medicine
- **Tip of SICD Implantation**
  Sang Weon Park, Sejong General Hospital
- **How to Perform His-Purkinje System Pacing in Patients with Bradycardia?**
  Ngai-Yin Chan, Princess Margaret Hospital, Hong Kong

**Arrhythmia Review Course 1:**
**Basic Interpretation of Arrhythmia**

**Program Director**
Man Young Lee, College of Medicine, The Catholic University of Korea

**Speakers**
- Ji Hyun Lee, Seoul National University College of Medicine
- Young Jun Park, Yonsei University College of Medicine
- Hancheol Lee, National Health Insurance Service Ilsan Hospital
Arrhythmia Review Course 2: Basic Bradycardia and Pacemaker

Program Director
Gyo-Seung Hwang, Ajou University School of Medicine

Speakers
- Chan Hee Lee, Yeungnam University College of Medicine
- In Geol Song, Baekje General Hospital
- Hyun Jun Cho, Daegu Fatima Hospital

SCD 2

Chairs
Yongkeun Cho, Kyungpook National University School of Medicine
Gi-Byoung Nam, University of Ulsan College of Medicine

Speakers
- Mechanisms of Electrical Storm: Rotors Anchored by Enhanced NaV1.8 Dependent Late Sodium Current as a Driver of Torsades de Pointes
  Yukiomi Tsuji, Nagasaki University, Japan
- Calcium Handling Abnormalities Underlying SCD
  Yung-Hsin Yeh, Chang-Gung Memorial Hospital, Taiwan
- Inherited Arrhythmia Syndrome Predisposing to SCD
  Jong-Il Choi, Korea University College of Medicine
TTS 2: How to Improve Clinical Outcome of Catheter Ablation of AF

**10:15-11:45 | Room 2**

**Chairs**
Seil Oh, Seoul National University College of Medicine
Ming-Hsiung Hsieh, Wan-Fang Hospital, Taipei Medical University, Taiwan

**Speakers**
- **Ten-Year Outcome of Catheter Ablation in Patients with Persistent Atrial Fibrillation**
  Li-Wei Lo, Taipei Veterans General Hospital, Taiwan
- **High-Power Radiofrequency Ablation Guided by Unipolar Signal Modification for Pulmonary Vein Isolation**
  Koichiro Ejima, Tokyo Women's Medical University, Japan
- **Importance of Atrial Substrate in Catheter Ablation of Atrial Fibrillation**
  Yong Soo Baek, Inha University School of Medicine

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Atrial Fibrillation 6

**10:15-11:45 | Room 3**

**Chairs**
Jae-Jin Kwak, Inje University College of Medicine
Jun-Hyung Kim, Chungnam National University College of Medicine

**Speakers**
- **Risk Factor for AF (HTN, DM, Alcohol, Sex)**
  Yun Gi Kim, Korea University College of Medicine
- **Weight Change and Obesity**
  Yeong-Min Lim, St. Carollo Hospital
- **Physical Activity**
  Moo Nyun Jin, Inje University College of Medicine
- **The Role of Posterior Wall Isolation in Patients with Persistent Atrial Fibrillation**
  Jaemin Shim, Korea University College of Medicine
- **Does Myocardial Infarction Beget Atrial Fibrillation and Atrial Fibrillation Beget Myocardial Infarction?**
  Hye Young Lee, Inje University College of Medicine
**PSVT 1**

**Chairs**
Choong Hwan Kwak, Gyeongsang National University College of Medicine
Jung Hoon Sung, CHA University

**Speakers**
- Localization and Ablation of Focal Atrial Tachycardia
  Jin-Kyu Park, Hanyang University College of Medicine
- Functional Anatomy of AV Node
  Il-Young Oh, Seoul National University College of Medicine
- RFCA in Ebstein’s Anomaly
  Sung-Hwan Kim, College of Medicine, The Catholic University of Korea
- How to Ablate AVRT and WPW Syndrome
  Jung Myung Lee, School of Medicine, Kyung Hee University

**Atrial Fibrillation 7**

**Chairs**
Dae Kyeong Kim, Inje University College of Medicine
Sang-Jin Han, College of Medicine, Hallym University

**Speakers**
- Recent Updates of Treatment with Antiarrhythmic Drugs in AF
  So-Ryoung Lee, Seoul National University College of Medicine
- Circulating Nucleotides: Their Contribution to the Pathogenesis of Atrial Fibrillation and the Possibility of Biomarkers
  Tetsuo Sasano, Tokyo Medical and Dental University, Japan
- PFO Closure for Stroke Prevention: An Excellent Guard or a Trouble Maker?
  Eun Sun Jin, School of Medicine, Kyung Hee University
- LAA Occlusion (New Imaging Techniques & Update)
  Seung Yong Shin, Chung Ang University College of Medicine
Arrhythmia Review Course 3: Narrow QRS Tachycardia

Program Director: Myung-Yong Lee, Dankook University College of Medicine

Speakers:
- Won-Seok Choe, Sejong General Hospital
- Jin Kyung Hwang, Veterans Health Service Medical Center
- Euijae Lee, Sejong General Hospital

10:15-11:00 | Room 6

Arrhythmia Review Course 4: Wide QRS Tachycardia

Program Director: Hong Euy Lim, College of Medicine, Hallym University

Speakers:
- Sung Ho Lee, School of Medicine, Sungkyunkwan University
- Min Soo Cho, University of Ulsan College of Medicine
- Sung Soo Kim, Chosun University College of Medicine

11:00-11:45 | Room 6
Scientific Session (Chonng Kun Dang)  
12:00-13:00 | Room 2

Chair  
Seongwook Han, Keimyung University School of Medicine

Speakers  
Wearable Devices in Cardiology: Reality, Not a Dream  
Eue Keun Choi, Seoul National University College of Medicine

Recent Update in Oral Anticoagulation Therapy & SPIRE Studies  
Jong-Il Choi, Korea University College of Medicine

Anti-Arrhythmic Effect of Carvedilol on Suppressing PVC/VT from OT  
Jongmin Hwang, Keimyung University School of Medicine
Program Details

2020 개원의 및 전공의
NOAC 연수교육 2
13:00-14:00 | 개원의 연수교육 KOR

Chairs
Byung-Chun Jung, Daegu Fatima Hospital
Dae Kyeong Kim, Inje University College of Medicine

Speakers
시술 혹은 수술 전후에 따른 항응고제의 용법 및 주의사항
Young Soo Lee, Daegu Catholic University College of Medicine

환자의 특성에 따른 항응고제 사용의 주의사항
Tae-Hoon Kim, Yonsei University College of Medicine

Ventricular Tachycardia 3
13:15-14:45 | Room 1 ENG

Chairs
Young-Hoon Kim, Korea University College of Medicine
Eun-Jung Bae, Seoul National University College of Medicine

Speakers
My Favourite Approach for Haemodynamically Unstable Ischaemic and Non-ischaemic Ventricular Tachycardia Ablation
Kyoko Soejima, Kyorin University, Japan

Ablation of Ventricular Fibrillation Associated with Brugada Syndrome
Shih-Ann Chen, Taipei Veterans General Hospital, Taiwan

Iatrogenic Aortic Regurgitation after Radiofrequency Ablation of Idiopathic Ventricular Arrhythmias Originating from the Aortic Valvular Region
Akihiko Nogami, University of Tsukuba, Japan
**TTS 3: Therapeutic Innovations in Arrhythmia**  
13:15-14:45 | Room 2 | ENG

**Chairs**  
Boyoung Joung, Yonsei University College of Medicine  
Hsuan-Ming Tsao, National Yang Ming University Hospital, Taiwan

**Speakers**  
**Acute and Long-Term Results of Bipolar Radiofrequency Catheter Ablation of Refractory Ventricular Arrhythmias of Deep Intramural Origin**  
Miyako Igarashi, University of Tsukuba, Japan

**Noninvasive Cardiac Radioablation for Ventricular Tachycardia**  
Myung-Jin Cha, Seoul National University College of Medicine

**RFCA and Ischemic Stroke in AF Patients**  
Yun Gi Kim, Korea University College of Medicine

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**Atrial Fibrillation 8**  
13:15-14:45 | Room 3 | ENG

**Chair**  
Seongwook Han, Keimyung University School of Medicine

**Speakers**  
**Cardiac Image (Cardiac MRI) and Arrhythmia**  
Junbeom Park, Ewha Womans University School of Medicine

**Device-Detected AF and Its Proper Management for Stroke Prevention**  
Kwang-No Lee, Ajou University School of Medicine

**Clinical Outcome after Cryoballoon AF Ablation**  
Young Keun On, School of Medicine, Sungkyunkwan University

**The Endpoint of Catheter Ablation for Persistent Atrial Fibrillation**  
Hyoung-Seob Park, Keimyung University School of Medicine

**New Technologies for AF Ablation: Energy Sources and Delivery Strategies**  
Eue Keun Choi, Seoul National University College of Medicine
**Smart Health Care & AI 2**

**Chairs**
Jin-Seok Kim, Korea University College of Medicine
Yae Min Park, Gachon University School of Medicine

**Speakers**
- **AI-ECG Interpretation**
  Il-Young Oh, Seoul National University College of Medicine

- **The Usefulness of Brain Imaging in Cryptogenic Stroke Adjunct to Machine Learning**
  Dae In Lee, Chungbuk National University College of Medicine

- **Mobile Web Based ECG Reading Platform by Collective Intelligence**
  Yoo Ri Kim, Dongguk University School of Medicine

- **Continuous Home-Based Monitoring with Mobile Health Devices for AF Detection**
  Chi Keong Ching, National Heart Centre Singapore, Singapore

- **Clinical Implication of TWA/HRT/fQRS/QTc Dispersion**
  Jae-Jin Kwak, Inje University College of Medicine

**CIED 3**

**Chairs**
Dong-Gu Shin, Yeungnam University College of Medicine
Gyo-Seung Hwang, Ajou University School of Medicine

**Speakers**
- **Predictors of CRT Responders (ECG, Echocardiogram, MRI)**
  Lae-Young Jung, Chonbuk National University Medical School

- **Should DFT Testing be Required in S-ICD?**
  Hee Tae Yu, Yonsei University College of Medicine

- **Management of Complication of CIED Implantation; Based on the New Guidelines**
  Young Soo Lee, Daegu Catholic University College of Medicine

- **Lead Extraction Using TightRail™ –Indications & Real Cases-**
  Seung-Jung Park, School of Medicine, Sungkyunkwan University

- **How and Where to Implant LV Lead for CRT?**
  Jae-Sun Uhm, Yonsei University College of Medicine
**SCD 3**

**Chairs**
Jin-Bae Kim, School of Medicine, Kyung Hee University  
Tae-Seok Kim, College of Medicine, The Catholic University of Korea

**Speakers**

Telecommunicator CPR  
Yih Yng Ng, Tan Tock Seng Hospital, Singapore

The Risk of SCD in Athlete  
Jin-Bae Kim, School of Medicine, Kyung Hee University

Medical Therapy for SCD Prevention: Focusing on ARNI (Recent ACC/ESC Consensus Update)  
Woo-Hyun Lim, SMG-SNU Boramae Medical Center

The Application of Noninvasive Signal-Averaged Electrocardiogram Analysis in Patients with Arrhythmogenic Right Ventricular Cardiomyopathy  
Chin-Yu Lin, Taipei Veterans General Hospital, Taiwan

Risk Stratification & Treatment for J Wave Syndrome  
Namsik Yoon, Chonnam National University Medical School

**PSVT 2**

**Chairs**
Eun-Jung Bae, Seoul National University College of Medicine  
Man Young Lee, College of Medicine, The Catholic University of Korea

**Speakers**

Ablation of Atypical Flutters  
Kelvin Chua, National Heart Centre Singapore, Singapore

Atypical AVNRT Using Variants of Slow Pathway Extending to the Right Atrial Free Wall  
Yoshiaki Kaneko, Gunma University Graduate School of Medicine, Japan

How to Differentiate Ventricular or Supraventricular Tachycardia?  
Sung-Won Jang, College of Medicine, The Catholic University of Korea
**TTS 4: Evolution of Treatment: Insight into Ablation and Device**

**Chairs**
Hui-Nam Pak, Yonsei University College of Medicine
Koichi Inoue, Sakurabashi Watanabe Hospital, Japan

**Speakers**
- **Electrical Isolation of the Marshall Bundle by Radiofrequency Catheter Ablation in Patients with Atrial Fibrillation**
  Seiji Takatsuki, Keio University School of Medicine, Japan
- **Novel Algorithm Facilitate Catheter Ablation of Atypical Flutter**
  Cheng-Hung Li, Taichung Veterans General Hospital, Taiwan
- **Virtual Computer Simulation Modeling for Cardiac Resynchronization Therapy in Patients with Heart Failure**
  Jae-Sun Uhm, Yonsei University College of Medicine

**TTS 2020: Closing Remarks**

**Closing Remarks**
Young-Hoon Kim, Korea University College of Medicine
Akihiko Nogami, University of Tsukuba, Japan
Shih-Ann Chen, Taipei Veterans General Hospital, Taiwan

**Atrial Fibrillation 9**

**Chair**
Jin-Seok Kim, Korea University College of Medicine

**Speakers**
- **The RFCA Outcomes of Redo Cases of AF Ablation: Differences between AF and AT/AFL**
  Hee Tae Yu, Yonsei University College of Medicine
- **Anticoagulation Strategy after PCI in AF Patients**
  YouMi Hwang, College of Medicine, The Catholic University of Korea
- **Anticoagulation Strategy after AF Ablation**
  June Namgung, Inje University College of Medicine
- **The Implications of Catheter Ablation for Atrial Flutter in Preventing Stroke Risk: A Nationwide Population-Based Cohort Study**
  Yung-Lung Chen, Kaohsiung Chang Gung Memorial Hospital, Taiwan
- **Air Pollution and Arrhythmia**
  In-Soo Kim, Yonsei University College of Medicine
## Noninvasive

### Chairs
Myung Chul Hyun, Kyungpook National University School of Medicine
Byung-Chun Jung, Daegu Fatima Hospital

### Speakers
- **Update of 2020 Syncope**
  Dong-Hyeok Kim, Ewha Womans University School of Medicine
- **Efficacy of Tilt Training for Recurrent Syncope**
  Kwang Jin Chun, Kangwon National University School of Medicine
- **HRT & TWA for Predicting CV Events in Patients with HF (K-REDEFINE Study)**
  June Soo Kim, School of Medicine, Sungkyunkwan University
- **Prediction of Arrhythmic Risk Using Exercise/Holter ECG Data**
  Young Soo Lee, Daegu Catholic University College of Medicine
- **AF Screening Update**
  Nam Ho Kim, Wonkwang University School of Medicine

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## SCD 4

### Chairs
Dong Jin Oh, College of Medicine, Hallym University
Yongkeun Cho, Kyungpook National University School of Medicine

### Speakers
- **ICD Implantation in Children**
  Naokata Sumitomo, Saitama Medical University International Medical Center, Japan
- **Autonomic Modulation and Analysis for Sudden Cardiac Death**
  Wei-Chung Tsai, Kaohsiung Medical University, Taiwan
- **COVID-19 and Sudden Cardiac Death**
  Young Choi, College of Medicine, The Catholic University of Korea
- **COVID-19 and Arrhythmia**
  Ju Youn Kim, College of Medicine, The Catholic University of Korea
EKG Educational Course

**Chairs**
Sang-Jin Han, College of Medicine, Hallym University
Dae Hyeok Kim, Inha University School of Medicine

**Speakers**
- **AV Block and Intraventricular Conduction Defects**
  Kyeongmin Byeon, Seoul Medical Center

- **ECG Interpretation of Patients with CIED**
  Sang-Jin Han, College of Medicine, Hallym University

- **Differential Diagnosis of Narrow QRS Tachycardia**
  Sung Soo Kim, Chosun University College of Medicine

**PROGRAM DETAILS**

15:00-16:30 | Room 6
# LEARNING CENTER

**Nov 20 (Fri)**

<table>
<thead>
<tr>
<th>Company</th>
<th>Topic</th>
<th>Time</th>
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<tbody>
<tr>
<td>SANOFI</td>
<td>RCTs and Real-World Evidence of MULTAQ: 10 Years of Experiences</td>
<td>09:45-10:15</td>
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<tr>
<td></td>
<td>Eue Keun Choi</td>
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<tr>
<td>Johnson &amp; Johnson Medical Korea</td>
<td>Systematic Approach to Persistent Atrial Fibrillation</td>
<td>11:30-12:00</td>
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<td>Matthew Hyman</td>
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<tr>
<td>SAMJIN PHARM</td>
<td>Wearable ECG Monitoring Analysis Solution - S-PATCH CARDIO</td>
<td>12:45-13:15</td>
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<tr>
<td>Medtronic Korea Ltd.</td>
<td>1. The Need for Devices that Detect, Reduce and Respond to AF</td>
<td>14:30-15:00</td>
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<td></td>
<td>2. The Future is Here: Leadless Pacemaker, from Indications to Clinical Results</td>
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**Nov 21 (Sat)**

<table>
<thead>
<tr>
<th>Company</th>
<th>Topic</th>
<th>Time</th>
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<tbody>
<tr>
<td>BORYUNG Pharmaceutical</td>
<td>Outcomes after Use of Low-Dose NOAC in Patients with AF</td>
<td>09:45-10:15</td>
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<tr>
<td></td>
<td>So-Ryoung Lee</td>
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<tr>
<td>ABBOTT</td>
<td>Ice Utilization in RA Cases</td>
<td>11:30-12:00</td>
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<td></td>
<td>Mansour Razminia</td>
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<tr>
<td>Bayer</td>
<td>TBD</td>
<td>12:45-13:15</td>
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<td>TBD</td>
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<tr>
<td>Pfizer Korea / BMS Korea</td>
<td>Choosing the Right OAC at the Right Dose for the Right Patient</td>
<td>14:30-15:00</td>
</tr>
<tr>
<td></td>
<td>John Eikelboom</td>
<td></td>
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</tbody>
</table>
심장의 건강한 리듬을 지키기 위해 끝임없이 도전하고 헌신한다
부정맥 극복을 위한 창의적 연구, 인재교육 및 국민인식개선을 통해 의료의 선진화를 주도해 나가는 학회