

# CRO RHYTHM 2023

31 OŽUJKA - 1 TRAVNJA 2023, OPATIJA, HRVATSKA

MARCH 31 - APRIL 1 2023, OPATIJA, CROATIA



## 20. SIMPOZIJ RADNE SKUPINE ZA ARITMIJE I ELEKTROSTIMULACIJU HRVATSKOG KARDIOLOŠKOG DRUŠTVA

20<sup>th</sup> CROATIAN SYMPOSIUM ON ARRHYTHMIAS  
AND CARDIAC PACING OF THE CROATIAN  
SOCIETY OF CARDIOLOGY



Poštovane kolegice, poštovani kolege,

Zadovoljstvo mi je pozvati Vas da nam se pridružite na tradicionalni, jubilarni **20. simpozij Radne skupine za aritmije i elektrostimulaciju Hrvatskog kardiološkog društva** s međunarodnim sudjelovanjem koji će se održati **31. ožujka – 1. travnja 2023. u Opatiji, hotelu 4 opatijska cvijeta, Hrvatska.**

“CroRhythm” započeo je 1999. godine, kao simpozij Radne skupine za aritmije i elektrostimulaciju Hrvatskog kardiološkog društva. Dosadašnji simpoziji privukli su vrlo ugledne članove europske i svjetske aritmološke zajednice s vrlo jasnom tendencijom povećanja kvalitete i kvantitete programa kao i praćenja trenutnih smjernica i trendova u aritmologiji.

Zbog pandemije koronavirusa i nepovoljne epidemiološke situacije 2020. godine morali smo otkazati održavanje našeg simpozija, a 2021. godine CroRhythm održan je vrlo uspješan simpozij u virtualnom obliku.

Od prošlog izdanja održanog 2018. godine i virtualnog izdanja 2021. došlo do značajnog napretka u području aritmologije, objavljeno je nekoliko smjernica te su se pojavile nove tehnologije za liječenje aritmija. Stoga je 20. simpozij 2023. godine klinički dizajniran za aritmologe, kardiologe, specijalizante kardiologije, specijaliste i specijalizante hitne medicine te interniste, a nadamo se da će stručnjaci drugih grana medicine, prvenstveno neurolozi, radiolozi i anesteziolozi, pronaći zanimljive teme i naslove.

Glavni cilj je pružiti uvid u sveobuhvatno stanje suvremene kliničke aritmologije s posebnim naglaskom na najnovije tehnologije te nove smjernice koje nam otvaraju nove i naprednije mogućnosti liječenja bolesnika sa srčanim aritmijama.

U prvom danu imamo organizirane dvije radionice u prijedpodnevnim satima: o osnovama elektrostimulacije te EKG radionicu namijenjene specijalizantima, kardiolozima, internistima te specijalistima hitne medicine. U poslijepodnevnim satima organizirane su međunarodne sesije koje pokrivaju ciljane aritmološke teme koje će prezentirati ugledni članovi europske i svjetske aritmološke zajednice, dok će drugoga dana članovi Radne skupine za aritmije prezentirati novosti iz područja aritmologije.

Zbog svega navedenog, želio bih vas srdačno pozvati da se prijavite i uživate u 20. izdanju CroRhythm-a u Opatiji.

Uz srdačne pozdrave i uz najbolje želje,

S poštovanjem,

**Nikola Pavlović**

Direktor Simpozija

**Šime Manola**

Predsjednik Radne skupine za aritmije i elektrostimulaciju Hrvatskog kardiološkog društva.

Dear colleagues,

It is my pleasure to invite you to join us at the traditional **20th symposium of the Working Group for Arrhythmias and Cardiac Pacing of the Croatian Cardiology Society** with international participation, which will be held on **March 31 - April 1, 2023 in Opatija, Hotel 4 Opatijska Cvijeta, Croatia.**

“CroRhythm” began in 1999, as a symposium of the Working Group for Arrhythmias and Cardiac Pacing of the Croatian Society of Cardiology. The symposia so far have attracted highly respected members of the European and world arrhythmology community with a very clear tendency to increase the quality and quantity of the program as well as follow the current guidelines and trends in arrhythmology.

Due to the coronavirus pandemic and the unfavorable epidemiological situation in 2020, we had to cancel our symposium, and in 2021 CroRhythm held a very successful symposium in virtual form.

Since the last edition held in 2018 and the virtual edition in 2021, significant progress has been made in the field of arrhythmology, several guidelines have been published and new technologies have emerged for the treatment of arrhythmias. Therefore, the 20th symposium in 2023 is clinically designed for arrhythmologists, cardiologists, cardiology residents, emergency medicine specialists and residents, and internists, and we hope that experts in other branches of medicine, primarily neurologists, radiologists and anesthesiologists, will find interesting topics and titles.

The main goal is to provide insight into the comprehensive state of contemporary clinical arrhythmology with special emphasis on the latest technologies and new guidelines that open up new and more advanced treatment options for patients with cardiac arrhythmias.

On the first day, we have organized two workshops in the morning hours: on the basics of electrostimulation and an EKG workshop intended for residents, cardiologists, internists and emergency medicine specialists. In the afternoon, international sessions covering targeted arrhythmological topics will be presented by prominent members of the European and global arrhythmological community, while on the second day members of the Working Group for Arrhythmias will present news from the field of arrhythmology.

Because of all the above, I would like to cordially invite you to register and enjoy the 20th edition of CroRhythm in Opatija.

With warm regards and best wishes,

With respect,

**Nikola Pavlović**

Director of the Symposium

**Šime Manola**

President of the Working Group for Arrhythmias and Cardiac Pacing of the Croatian Cardiology Society.

**PROGRAM SIMPOZIJA**  
**SYMPOSIUM PROGRAM**

[www.crorhythm.com](http://www.crorhythm.com)

<b>11:00-13:00</b>	<b>Workshops</b>
11.00-12:00	<b>Cardiac pacing basics – all you need to know in emergency department</b> <i>S.Brusich, D.Židan</i>
12:00-13:00	<b>ECG workshop-Wide QRS tachycardias; ECG in acute coronary syndrome</b> <i>Š.Manola, V. Radeljić</i>
	Coffee will be served during the workshops
<b>13:00-14:00</b>	<b>Ručak / Lunch</b>
<b>14:00-15:30</b>	<b>Session 1</b> <i>Chairs: Nikola Pavlović, Sandro Brusich, Borka Pezo Nikolić, Zoran Bakotić</i>
14:00-14:30	<b>Should ablation be the first line treatment in patients with paroxysmal AF</b> <i>W. Saliba (US)</i>
14:30-15:00	<b>Novel techniques and technologies for AF ablation</b> <i>T. Reichlin (CH)</i>
15:00-15:30	<b>Cardioneuroablation: in whom and how?</b> <i>T. Aksu (TUR)</i>
<b>15:30-16:00</b>	<b>Pauza za kavu / Coffee break</b>
<b>16:00-17:30</b>	<b>Session 2 - EHRA Joint Session</b> <i>Chairs: Šime Manola, Ante Anić, Vedran Velagić, Janko Szavits Nossan</i>
16:00-16:30	<b>How to ablate persistent AF</b> <i>S. Tzeis (GR)</i>
16:30-17:00	<b>Current and future roles of left atrial appendage occlusion in patients with atrial fibrillation</b> <i>J.E. Nielsen-Kudsk (DK)</i>
17:00-17.30	<b>Should ablation be the first line treatment in patients with ventricular tachycardia?</b> <i>D. Scherr (AU)T</i>
<b>17:45-18:00</b>	<b>Opening words/welcome</b> <i>Nikola Pavlović- programme chair</i> <i>Šime Manola - President of the Working group</i> <i>Daniel Scherr - CoChair EHRA NCS Committee</i>
<b>18:00-18:30</b>	<b>State of the art: Role of imaging in guiding structural VT ablation</b> <i>F. Sacher (FRA)</i>
<b>20:00</b>	<b>Večera / Dinner</b>



**EHRA**  
European Heart  
Rhythm Association

## Subota / Saturday, 1.4.2023.

**08:30-10:00**

### **Session 3**

*Chairs: Vjekoslav Radeljić, Mislav Puljević, Zrinka Jurišić, Samed Djedović*

08:30-08:45

**Najvažnije studije iz područja elektrofiziologije u 2022. godini**  
*A. Pernat (SLO)*

08:45-09:00

**Najvažnije studije iz područja elektrostimulacije u 2022. godini**  
*D. Kojić (SRB)*

09:00-09:15

**„When AFib goes low, we go long and hard“: trebamo li tražiti subkliničku fibrilaciju atriya**  
*R. Bernat (GER)*

09:15-09:30

**ESC smjernice za elektrostimulaciju I srčanu resinkronizaciju – najvažnije poruke**  
*Z. Jurišić (CRO)*

09:30-09:45

**Ekstrakcije elektroda I uređaja – kada, kome I kako**  
*E. Avdović (CRO)*

**10:00-10:30**

**Pauza za kavu / Coffee break**

**10:30-12:00**

### **Session 4**

*Chairs: Ante Lisičić, Toni Brešković, Kristijan Đula, Hrvoje Roguljić*

10:30-10:45

**4F – fast forward to fluoroless future**  
*V. Velagić (CRO)*

10:45-11:00

**Analiza izloženosti RTG zračenju u pedijatrijskoj elektrofiziologiji**  
*N. Krmek (CRO)*

11:00-11:15

**Pristup bolesnicima s recidivima fibrilacije atriya i postojanom izolacijom plućnih vena - što dalje?**  
*Z. Bakotić (CRO)*

11:15-11:30

**Image integration guided catheter ablation in scar-related VT – our initial experience**  
*Š. Manola (CRO)*

11:30-11:45

**Ablation of left-sided accessory pathways using focal field pulses - our first experience (case series)**  
*T. Brešković (CRO)*

**12:00-12:30**

**Pauza za kavu / Coffee break**

12:30-13:30

**EHRA Young EP Session – interesting cases  
in cardiac pacing and electrophysiology**

*Chairs: I. Zeljković, K. Malaczynska-Rajpold,  
N. Pavlović, Š. Manola, S. Brusich*



**EHRA**  
European Heart  
Rhythm Association

12:30-12:40

**Cardioneuroablation**

*P. Krisai (CH)*

12:40-12:50

**A stubborn pathway**

*K. Malaczynska-Rajpold (UK)*

12:50-13:00

**Non-contact mapping: a solution for non-sustained arrhythmias**

*I. Zeljković (CRO)*

13:00-13:10

**Chasing flutters after PVI + left atrial posterior box isolation**

*I. Sikirić (CRO)*

13:10-13:20

**Atrial flutter in a patient with VAD**

*V. Pašara (CRO)*

13:20-13:30

**Discussion**

13:30-14:30

**Ručak / Lunch**

14:30-16:00

**Session 5**

*Chairs: Zlatko Čubranić, Marin Bištirlić, Ivica Premužić Meštrović, Ivan  
Zeljko*

14:30-14:45

**Ablacija perzistentne fibrilacije atrija prema MARSHALL PLAN  
protokolu – iskustva I izazovi**

*A. Lisičić (CRO)*

14:45-15:00

**Komplikacije elektrofizioloških postupaka u slikama**

*I. Premužić Meštrović (CRO)*

15:00-15:15

**Association of immunoglobulin G and total plasma protein  
glycosylation with atrial fibrillation and left atrial fibrotic  
substrate - a prospective clinical study of 114 patients  
undergoing PVI**

*J. Szavits Nossan (CRO)*

15:15-15:30

**Ablacije aritmija- trebamo li se striktno držati smjernica**

*M. Marković (CRO)*

15:30-15:45

**Beskontaktno mapiranje nepostojanih aritmija**

*V. Radeljić (CRO)*

16:00-16:30

**Pauza za kavu / Coffee break**

**16:30-18:00**

**Session 6**

*Chairs: Katica Cvitkušić-Lukenda, Matija Marković, David Židan, Sanda Sokol Tomić*

16:30-16:45

**EKG u elektrostimulaciji provodnog sustava srca**

*K. Đula (CRO)*

16:45-17:00

**Procjena rizika iznenadne srčane smrti s kongenitalnim greškama I mjesto SCD-a**

*M. Krpan (CRO)*

17:00-17:15

**The optimal timing of primary prevention implantable cardioverter defibrillator in addition to optimal medical therapy**

*J. Kedžo (CRO)*

17:15-17:30

**Izolacija plućnih vena upotrebom kriobalona kao prva metoda za centre malog volumena - retrospektivna analiza"**

*K.Cvitkušić Lukenda (CRO)*

17:30-17:45

**Usporedba oštećenja miokarda nakon implantacije elektrostimulatora srca s pasivnim i aktivnim elektrodama**

*J. Ferri-Certić (CRO)*

**18:30**

**Closing remarks**

*N. Pavlović (CRO)*





## **4. sastanak medicinskih sestara i pridruženih profesija o aritmijama i elektrostimulaciji srca**

### **4<sup>th</sup> Meeting of Cardiology Nurses and Allied Professions on Arrhythmias and Cardiac Pacing**

**Subota / Saturday, 1.4.2023.**

**08:30-08:45**

**Session 1**

*Chair: Ivica Benko, Zvonimir Katić, Ante Borovina, Miroslav Geček*

**Otvaranje simpozija | Opening words**

*Ana Ljubas, CACN*

*Ivica Benko, CACN*

08.45 – 09.00

Očekivanja prema EP osoblju pri uvođenju novih tehnologija | Expectations for EP staff when implementing new technologies

*I.Benko | CACN*

09.00 – 09.15

Holter EKG/implantabilni srčani monitor (ILR) kao instrument u dijagnostici kardiogenih uzroka sinkopa i pojavnosti srčanih aritmija | Holter ECG/implantable heart monitor (ILR) as an instrument in the diagnosis of cardiogenic causes of syncope and occurrence of cardiac arrhythmias

*Marija Peremin, Glorija Gočin Vuković, Danijela Krnjić, Richard Matasić | Zagreb, HR*

09.15 – 09.30

Implantacija bezelektrodnog srčanog elektrostimulatora nakon ekstrakcije dvokomornog pacemakera uslijed dekubitusa ležišta uređaja – prikaz slučaja | Leadless pacemaker implantation after extraction of a two-chamber pacemaker due to generator decubitus - case report

*Zvonimir Katić, Matija Mlinar, Domagoj Kardum, Glorija Gočin, Marijana Gavran Zovko, Danijela Krnjić, Dubravka Milača, Tomislav Šanjug, Rozalija Hunjed | Zagreb, HR*

09.30 – 09.45

Hitna ugradnja bezelektrodnog srčanog elektrostimulatora – prikaz slučaja | Emergency implantation of leadless pacemaker – case report

*Mateja Lovrić, Marina Budetić, Mirela Adamović, Marina Žanić, Marija Grlić, Mario Tomašević, Ivan Horvat, Ivica Benko | Zagreb, HR*

09.45 – 10.00

Osobitosti u implantaciji S-ICD nasuprot klasičnom transvenskom pristupu | Peculiarities in S-ICD implantation versus classic transvenous approach

*Glorija Gočin Vuković, Danijela Krnjić, Marija Peremin, Richard Matasić | Zagreb, HR*

**10.00 – 10.30**

**Coffee Break**

- 10.30 – 12.00**      **Session 2**  
*Chair: Krešimir Librenjak, Marina Klasan, Marina Budetić, Matija Mlinar*
- 10.30 – 10.45      Najčešće komplikacije ugradnje elektrostimulatora srca u KBC Rijeka | The most common complications during pacemaker implantation at the UHC Rijeka  
*Ivana Hodanić, Klasan Marina, Saša Bura, Katarina Matković | Rijeka, HR*
- 10.45 – 11.00      Uloga medicinske sestre kod prevencije i prepoznavanja komplikacija prilikom izvođenja elektrofizioloških procedura | Nursing role in the prevention and recognition of complications when performing electrophysiology procedures  
*Glorija Gočin, Matija Mlinar | Zagreb, HR*
- 11.00 – 11.15      Ablacija AF po Marshall protokolu | The Marshall-plan AF ablation  
*Marina Budetić, Mateja Lovrić, Mirela Adamović, Marina Žanić, Marija Grlić, Mario Tomašević, Ivan Horvat, Ivica Benko | Zagreb, HR*
- 11.15 – 11.30      Razvoj single shot ablacije plućnih vena pomoću cryo energije na KBC-u Zagreb | Development of single shot pulmonary vein ablation using cryo energy at UHC Zagreb  
*Zvonimir Katić | Zagreb, HR*
- 11.30 – 11.45      Primjena single shoot tehnike sa puls field ablacijom za izolaciju plućnih vena | Application of single shoot technique with pulse field ablation for pulmonary vein isolation  
*Ante Borovina | Split, HR*
- 11.45 – 12.00      Naša iskustva u sedaciji propofolom za vrijeme pulsne ablacije | Our experiences with propofol sedation during pulse field ablation  
*Nela Lemo, Nikolina Lovrić | Split, HR*
- 12.00 – 12.15      High-power, short-duration radiofrekventa ablacija u liječenju AF – naša iskustva | High-power, Short-duration Radiofrequency Ablation for the Treatment of AF – our experience  
*Ivica Benko, Marina Budetić, Mateja Lovrić, Mirela Adamović, Marina Žanić, Marija Grlić, Mario Tomašević, Ivan Horvat | Zagreb, HR*
- 12.15 – 12.30**      **Coffee Break**
- 12.30 – 13.30**      **Session 3**  
*Chair: Glorija Gočin, Mateja Lovrić, Sara Milanović Litre, Tomislav Pijetlović*
- 12.30 – 12.45      Fokalna krioablacija u pedijatrijskoj populaciji uz korištenje 3D mapping sustava | Focal cryoablation in pediatric patients using 3D mapping system  
*Miroslav Geček | Zagreb, HR*
- 12.45 – 13.00      Alergijske reakcije u invazivnom laboratoriju – prikaz slučaja | Allergic reactions in an invasive laboratory - case report  
*Sara Milanović Litre | Split, HR*
- 13.00 – 13.15      Biofizika ablacije - osnove | Biophysics of ablation – basics  
*Krešimir Librenjak | Zadar, HR*

- 13.15 – 13.30 Odabir i mjerenja pri ugradnji okludera | Selection and measurements in occluder implantation  
*Igor Visković, Ante Borovina | Split, HR*
- 13.30 – 14.30 Lunch**
- 14.30 – 16.00 Session 4 – My favourite three maps – A very short case reports**  
*Chair: Ivica Benko, Krešimir Librenjak*
- 14.30 – 14.40 University Hospital Center Rijeka
- 14.40 – 14.50 University Hospital Center Sestre Milosrdnice Zagreb
- 14.50 – 15.00 University Hospital Center Split
- 15.00 – 15.10 University Hospital Center Zagreb
- 15.10 – 15.20 University Hospital Center Ljubljana
- 15.20 – 15.30 Dubrava University Hospital Zagreb
- 15.30 – 15.40 General Hospital Zadar
- 15.40 – 15.50 Magdalena Clinic
- 15.50 – 16.00 Closing remarks**



