

# Letna skupščina Slovenske sekcije IEEE

4. 2. 2021@Zoom



# Dobrodošli na skupščini Slovenske sekcije IEEE



## Welcome to IEEE Slovenia Section Assembly



Moderator: Jože Guna, Secretary

Special Guest: Antonio Luque, IEEE R8 Director

# Dnevni red / Schedule

1. Poročila predsednika in blagajnika za 2020  
Chair and Treasurer reports for 2020
2. Poročila predstavnikov odborov in sekcij  
Chapter and Group reports
3. Pobude za praznovanje 50-letnice Slovenske  
sekcije IEEE  
Discussion about 50-years celebration
4. Razno  
Others

Andrej Trost

# **POROČILO PREDSEDNIKA**

# IEEE Slovenia Section



**R**egion 8 was created when the American Institute of Electrical Engineers (AIEE) and the Institute of Electrical and Electronic Engineers (IEEE) merged in January 1963 (see the article "Our First 100 Years" in the November 1963 issue of the IEEE Spectrum). However, its seeds were planted by the IRE which, unlike the AIEE, was a transnational organization outside the U.S.A.

The IRE initially had seven Regions in the U.S.A. and one in Europe.

The following Sections now in Region 8 were founded before Region 8 was created (the Chairman is given in brackets):

October	1954	Israel (F. Ollendorf)	October	1961	France (J. R. Pernice)
September	1955	Egypt (H. M. Mahmoud)	July	1962	United Kingdom & Republic of Ireland (UKRI)
May	1959	Benelux (H. Rinia)			(R. C. G. Williams)
May	1959	North Italy (A. Marino)			
December	1960	Switzerland (G. C. Gross)			

The following Sections were formed after the creation of Region 8:

March	1963	Norway (not recorded)	June	1972	Finland (M. E. Tiuri)
April	1963	Germany (not recorded)	December	1972	Poland (A. K. Smolinski)
March	1965	Sweden (not recorded)	August	1977	South Africa (P. A. Calvert)
May	1966	Middle & South Italy (not recorded)	January	1978	Nigeria (F. S. Atiya)
April	1968	Spain (R. T. Segovia)	December	1979	Austria (K. R. Richter)
August	1968	Denmark (G. Bruun)	June	1981	Saudi Arabia (R. B. Tucker)
February	1970	Iran (A. Tchamram)	December	1981	Portugal (M. de Medeiros Silva)
March	1970	Greece (J. D. Flambourias)	November	1982	Kenya (D. D. Patel)
June	1971	Yugoslavia (M. Gruden)			

**1884 AIEE**

**1963 IEEE = AIEE+IRE**

The world's largest technical professional organization  
> 400k members worldwide

- 1971 Section formation**
- 1992 Slovenia Section**
- 2005-6 R8 Director: B. Zajc**

R8 Centennial Review



Chairman  
Andrej Trost



Vice Chairman  
Aleš Zamuda



Secretary  
Jože Guna



Treasurer  
Urban Burnik



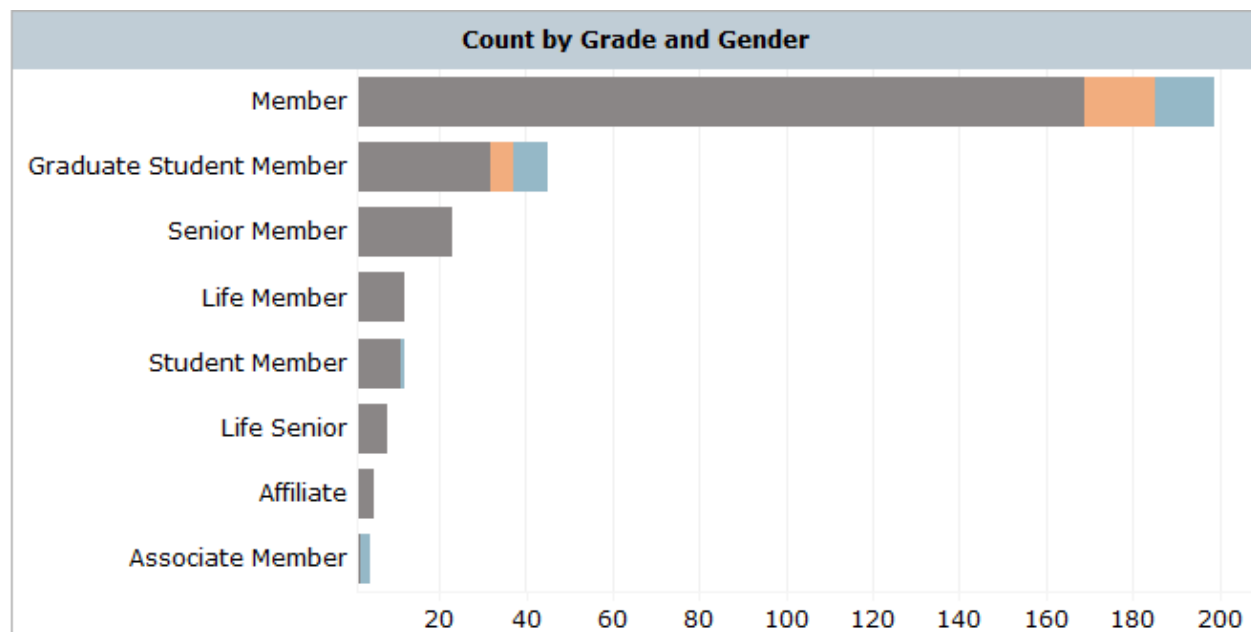
Memb. develop.  
Andrej Žemva

8 Chapters

3 Affinity groups

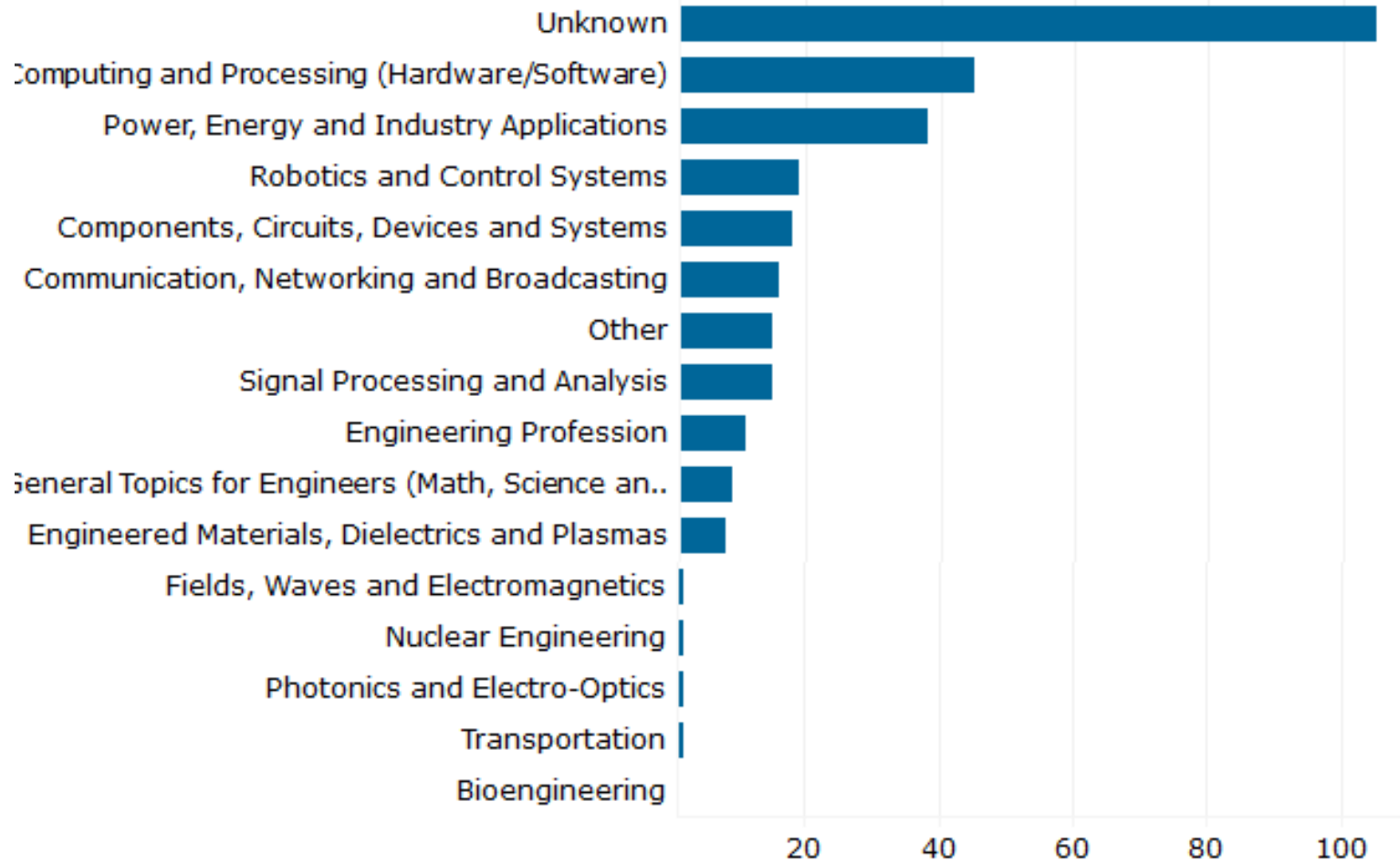
2 Student branches

IEEE Grades	Associate Member	4
	Graduate Student Member	42
	Life Member	12
	Life Senior	8
	Member	199
	Senior Member	23
	Student Member	12
Other Grades	Affiliate	5
<b>Total</b>		<b>305</b>



# Tehnološka področja / Societies

Count by Technology Focus Area



# Odbori / Chapters



JAN JERIHA

*Power Engineering*



ANTON KOS

*Communications*



ANDREJ BRODNIK

*Computer*



MATEJ ZAJC

*Education*



ALEŠ ZAMUDA

*Computational Intelligence*



PETER PLANINŠIČ

*Geoscience and Remote Sensing*



MARKO MEŽA

*Signal Processing / Circuits and Systems*



VANJA AMBROŽIČ

*Industrial Electronics / Industrial Applications*



# Skupine / Groups

## AFFINITY GROUPS



BALDOMIR ZAJC



BLAŽ BERTALANIČ



LUCIJA BREZOČNIK

*Women in Engineering*

## STUDENT BRANCHES



TIMOTEJ GRUDEN

*Student Representative  
and Student Counselor Lj*



*Univerza v Ljubljani*



MATEJ GRMEK

*Student Branch Ljubljana*



JANI DUGONIK

*Student Branch Maribor*



*Univerza v Mariboru*



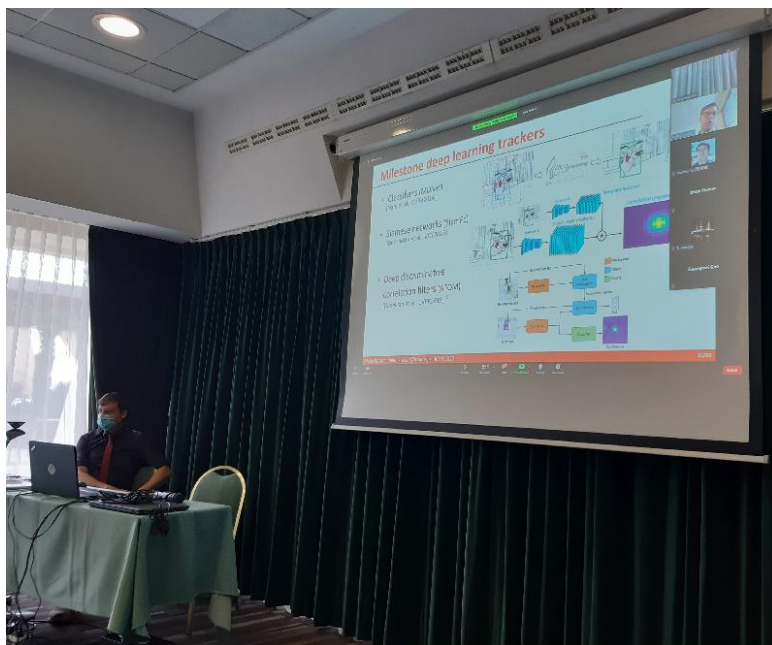
PETER PLANINŠIČ

*Student Counselor Mb*









# Aktivnosti sekcije / Section Activity


## 2020

- skupščina v Vranskem
- regijski sestanki
  - marec in oktober 2020
- ERK 2020



**IEEE Slovenia Section**

<p>IEEE in Slovenia since 1971</p>  <p>8 local chapters</p> <table border="1" style="font-size: small;"> <tr><td>Power &amp; Energy</td><td>42</td></tr> <tr><td>Computer</td><td>36</td></tr> <tr><td>Communications</td><td>31</td></tr> <tr><td>Signal Processing</td><td>24</td></tr> <tr><td>Industrial Electronics</td><td>18</td></tr> <tr><td>Computational Intelligence</td><td>14</td></tr> <tr><td>Subsystems &amp; Service Learning</td><td>11</td></tr> <tr><td>Education</td><td>11</td></tr> </table> <p>320 members</p>	Power & Energy	42	Computer	36	Communications	31	Signal Processing	24	Industrial Electronics	18	Computational Intelligence	14	Subsystems & Service Learning	11	Education	11	<p>Slovenia Section formed 3 new chapters in 2019</p> <ul style="list-style-type: none"> <li>• joined IES/IAS chapter (Vanja Ambrožič)</li> <li>• CIS (Aleš Zamuda)</li> <li>• GRSS (Peter Planinšič)</li> </ul>  <p>Quadripartite Joint Workshop of the IEEE Slovenia Section University of Ljubljana, IEEE Industry Applications Society (IAS), Budapest University of Technology and Economics IEEE SB PES/IAS Chapter</p>
Power & Energy	42																
Computer	36																
Communications	31																
Signal Processing	24																
Industrial Electronics	18																
Computational Intelligence	14																
Subsystems & Service Learning	11																
Education	11																
<p>Section meetings</p> <ul style="list-style-type: none"> <li>• Annual assembly (spring)</li> <li>• ERK conference (autumn)</li> </ul>  <p>2019 Outstanding Section Membership Recruitment Performance Slovenia Section</p>	<p>Events with industry</p> <p>ELES, IBM Innovation Center, ABC Accelerator</p>  <p>PLC+ Challenge 2019</p>	<p>IES/IAS invited lecture Gabriele Grandi, Uni Bologna</p>  <p>Education</p> <p>Half-day workshop on planning and writing learning outcomes for educators from the western-balkan region</p>  <p>ACM Slovenia &amp; IEEE Competitions in computer and information science</p>  <p>UPM – University Programming Marathon 2019: 48 teams, 136 competitors</p>															
<p>Attracting new members at IEEE day</p> 																	



# Plan 2021



- praznovanje obletnice sekcije
- ERK 2021  
20. - 21. September 2021  
Hotel Bernardin, Portorož
- povezovanje aktivnosti odborov in skupin
- povezava z industrijo
- volitve za 2022/23

Urban Burnik

# **POROČILO BLAGAJNIKA**

# Poročilo blagajnika: Urban Burnik

## ■ **Prihodki: 5.542,33 €**

- Obresti: 248,25 €
- IEEE Rebate 4.676,00 €
- ComSoc 460,74 €
- 2 SB Rebates 184,83 €
- SPC DICK POORTVLIET AWARD SB MB 220,75 €

## ■ **Odhodki: 1.033,55 €**

- Skupščina 701,50 €
- Stroški ERK 220,00 €
- Bančni stroški 112,05 €

# Viri sredstev

- Letno US\$2,000
  - US\$3/člana \$4/SM
  - US\$200/odbor/AfG
  
  - + 10% hitro poročanje.
  - + US\$200/sekcijo za 10 dogodkov (5 tehničnih)
  - + US\$75/odbor >6 TM.
  
  - Bonusi znotraj združenj
- Section Eligibility
  - 5 sestankov in 25 ne-študentskih članov
  
  - Chapter Eligibility
  - 2 TC dogodka in 10 članov.
  
  - Affinity Group Eligibility
  - 2 dogodka, 6 neštudentskih članov

# Poročila Odborov/Chapters

- **Signal Proc. (SP-01)/Circ. and Syst. (CAS-23):** Marko Meža
- **Computer (C-16):** Andrej Brodnik
- **Communications (COM-19):** Anton Kos
- **Education (E-25):** Matej Zajc
- **Power Engineering (PE-031):** Jan Jeriha
- **Industrial Electronics / Industrial Applications:** Vanja Ambrožič
- **Computational Intelligence:** Aleš Zamuda
- **Geoscience and Remote Sensing:** Peter Planinšič

# Poročila Affinity Groups/SB

- **Women in Engineering:** Lucija Brezočnik
- **Life Members:** Baldomir Zajc
- **YP:** Blaž Bertalanič
  
- **SB LJ:** Matej Germek
- **SB MB:** Jani Dugonik



Marko Meža

**SIGNAL PROC. (SP-01)/  
CIRC. AND SYST. (CAS-04)**

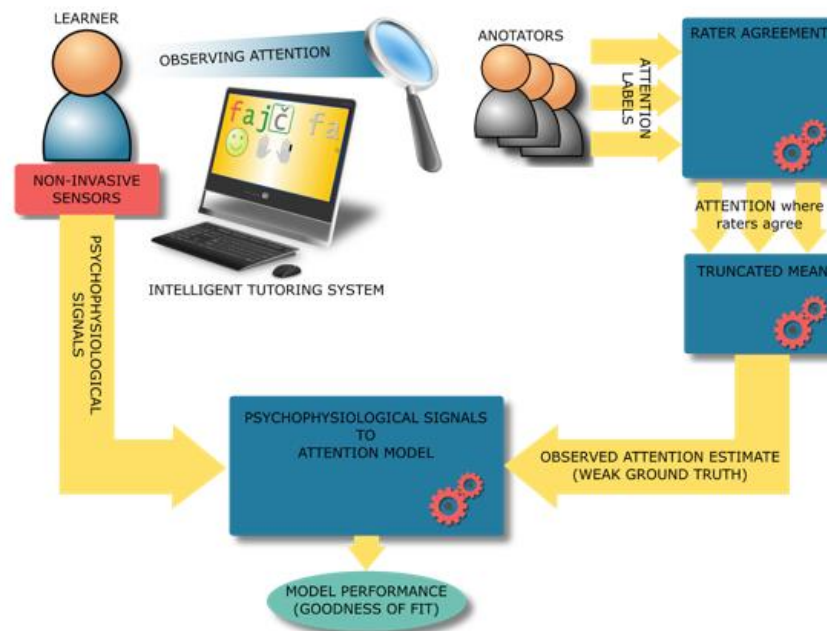
# Pretekli dogodki

- ▣ 22. 9. 2020 ISAIR ICMI predavanje

# ISAIR ICMI 2020

ISAIR2020

Modeling perceived attention toward the task



# Načrtovane aktivnosti v 2021

- Zagotoviti vsaj 2 tehnična dogodka
  - Že v postopku dogovarjanja: Predavanje iz industrije o polnilnicah za avtomobile
- sodelovanje na skupnih dogodkih (ERK)

Andrej Brodnik

# **POROČILO RAČUNALNIŠTVO IN INFORMATIKA / COMPUTER SCIENCE**

# Pretekli dogodki

- Tekmovanja iz računalništva in informatike so izvedena s strani ACM Slovenija in sodelovanjem IEEE: Bober, RTK in UPM
- Ostali dogodki

# Ostali dogodki

- Veliko nepovezane dejavnosti
- Sesterske organizacije
- **Povezovanje**

# Tekmovanja – ACM Bober

- Namenjeno osnovnošolcem in srednješolcem
- Sodelujoči: UL FRI, UM FERi in UL PeF
- Tekmovalno okolje: <https://bober.acm.si>
- Šolsko tekmovanje še v 2019, državno v 2020 (januar)
- **Programski svet dobil**  
**Nagrado IS za tekoče delo**  
[https://is.ijs.si/?page\\_id=40](https://is.ijs.si/?page_id=40)



# Tekmovanja – ACM RTK

- Namenjeno srednješolcem
- Sodelujoči: IJS, UL FRI, UM FERi in UL FMF
- Tekmovalno okolje: <https://putka-rtk.acm.si/>
- Šolsko tekmovanje in državno v 2020 – preko Spleta
- Sodelovanje na CEOI – preko Spleta

# Tekmovanja – ACM RTK

- Priprave na olimpijade iz računalništva in informatike
- V strokovnem odboru *EGOI 2021 – 1st European Girls' Olympiad in Informatic* – <https://egoi.ch/en/>

# Tekmovanja – ACM UPM

- Namenjeno študentom in srednješolcem
- Sodelujoči: UL FRI, UP FAMNIT in UM FERİ
- Tekmovalno okolje: <https://putka-upm.acm.si/>
- Predkolo, tri tekmovalna kola in finale
  - finale preko Spleta
- CERC (še) ni bil izveden

# Načrtovane aktivnosti v 2021

## ■ Tekmovanja:

- Bober: šolsko 1. - 12. marec (po potrebi po spletu); državno odpade
- Pišek: šolsko 1. - 12. februar (po spletu); državnega ni
- RTK: šolsko 22. - 29. januar; državno 27. marec (po potrebi po spletu)
- ACM UPM: po veljavnem koledarju

## ■ Ostalo

- sodelovanje

# Poučevanje računalništva in informatike

- EU: *Digital Education 2027*
  - strateški cilj – RIN (vključno z računalniškim mišljenjem)

- Slovenija: *RINOS, 11. 10. 2019:*

**Sklep 1: Zavod za šolstvo RS in Center za poklicno izobraževanje, do 12.11. pripravita terminski načrt s postopkovnikom, ki bo usklajen z Direktorati na MIZŠ.**

**Sklep 2: MIZŠ, do 12.11. skliče delovni sestanek na katerem se preuči različne možnosti za umestitev novega predmeta v predmetnike OŠ in SŠ.**

Anton Kos

# **COMMUNICATIONS (COM-19)**

# Izbrani dogodki 2020

## 24th Seminar on Radio Communications (75/8)

### ***Strokovni seminar***

Organizator: doc. dr. Boštjan Batagelj

## Application of sensors for measurement of swimming performance: the past and the future (23/9)

### ***Vabljeno predavanje***

prof. dr. Milivoj Dopsaj,

Faculty of Sport and Physical Education, University of Belgrade, Belgrade, Serbia

Organizator: doc. dr. Anton Kos

## LabVIEW for student projects and final thesis (4/4)

### ***Strokovni seminar***

Predavatelj: Mitja Gliha, Versarum d.o.o.

Organizator: doc. dr. Anton Kos

# Zaradi COVID-19 nerealizirani dogodki 2020

**Vabljeni predavanja več tujih strokovnjakov**

**Strokovna ekskurzija študentov elektrotehnike in multimedije**

## ***Strokovna ekskurzija***

Organizator: doc. dr. Anton Kos  
v sodelovanju z IEEE Slovenija, ComSoc

(slike iz leta 2019)





# Plan 2021 (optimističen)

- **Izvedba več vabljenih predavanj v okviru IEEE ComSoc**
- **Izvedba seminarjev za domačo strokovno javnost**
- **Sodelovanje na konferenci ERK**
- **Izvedba ekskurzije študentov elektrotehnike v tujino**
  - znižana kotizacija za študentske člane IEEE Slovenija
  - predstavitveni video

Matej Zajc

# **EDUCATION (E-25)**

# Pretekli dogodki

- ICT engineering study programs to meet modern society needs
  - Vlado Delić et al -Teaching Methodologies Adopted at the BENEFIT Project for ICT Engineering Education Before and During Covid-19
  - Dušanka Bošković et al - Stimulating Entrepreneurship in Teaching Human Computer Interaction
- ERK 2020 Sekcija Didaktika: projekt Erasmus+ Benefit

# ERK 2020 - Didaktika

## 1. ICT engineering study programs to meet modern society needs:

### Erasmus+ project BENEFIT

*Zajc Matej*, FE, Uni Lj

*Mujčić Aljo*, FEE, Uni Tuzla

*Tonello Andrea*, UNI-KLU, Uni Klagenfurt

*Delić Vlado*, FTS, Uni Novi Sad

*Koprivica Mladen*, SEE, Uni Beograd

*Rimac Drlje Snježana*, FERIT, Uni Osijek

*Burnik Urban*, FE, Uni Lj

*Suljanović Nermin*, FEE, Uni Tuzla

## 2. Quality management of Erasmus+ BENEFIT project

*Burnik Urban*, FE, Uni Lj

*Marcuzzi Francesco*, NES, Uni Klagenfurt

*Bošković Dušanka*, FEE, Uni Sarajevo

*Žagar Drago*, FEECSIT, Uni Osijek

*Maleš-Ilić Nataša P.*, FEE, Uni Niš

*Huljenić Darko*, Ericsson Nikola Tesla d.d., Zagreb

*Zajc Matej*, FE, Uni Lj

## 3. BENEFIT Industry information portal - a service for better cooperation between universities and companies in the teaching process

*Rimac-Drlje Snježana*, FEECSIT, Uni Osijek

*Žagar Drago*, FEECSIT, Uni Osijek

## 4. Teaching Methodologies Adopted at the BENEFIT Project for ICT Engineering Education Before and During Covid-19

*Delić Vlado*, FTS, Uni Novi Sad

*Mujčić Aljo*, FEE, Uni Tuzla

*Babić Zdenka*, FEE, Uni Banja Luka

*Bošković Dušanka*, FEE, Uni Sarajevo

*Maleš-Ilić Nataša*, FEE, Uni Niš

*Koprivica Mladen*, SEE, Uni Beograd

*Žagar Drago*, FEECSIT, Uni Osijek

*Zajc Matej*, FE, Uni Lj

*Suljanović Nermin*, FEE, Uni Tuzla

*Tonello Andrea*, UNI-KLU, Uni Klagenfurt

## 5. Role of M2M communications laboratory formed within BENEFIT project in education processes at FEE-UNI

*Milić Dejan*, FEE, Uni Niš

*Maleš-Ilić Nataša*, FEE, Uni Niš

*Čirić Dejan*, FEE, Uni Niš

*Atanasković Aleksandar*, FEE, Uni Niš

## 6. Experimental Performance Evaluation of IEEE 802.15.4g Applications Using OpenMote-B Devices

*Lekić Milica*, FEE, Uni Banja Luka

*Gardašević Gordana*, FEE, Uni Banja Luka

## 7. Stimulating Entrepreneurship in Teaching Human Computer Interaction

*Bošković Dušanka*, FEE, Uni Sarajevo

*Borovina Nihad*, BH Telecom d.d., Sarajevo

*Zukić Merima*, FP, Uni Sarajevo

## 8. An Overview of Open Source Environments for 5G Internet of Things Experimentation

*Sobot Srdjan*, FTN, Uni Novi Sad

*Gavric Nikola*, FTN, Uni Novi Sad

*Bojovic Zivko*, FTN, Uni Novi Sad

*Vukobratovic Dejan*, FTN, Uni Novi Sad

## 9. Multi-subject Project Based Learning: Two Semester Pilot Study

*B. Marković Goran*, SEE, Uni Beograd

*D. Čertić Jelena*, SEE, Uni Beograd

*Božić Marija*, FEST, Santiago

*Koprivica Mladen*, SEE, Uni Beograd

## 10. Sodobne učne strategije in tehnologije: lažna obrnjena učilnica s proizvodovnim učenjem in 3D tiskom

*Kosec Špela*, PF, Uni Lj

*Rozman Tanja*, PF, Uni Lj

*Jamšek Janez*, PF, Uni Lj

## 11. Virtualni laboratorij za poučevanje digitalnih sistemov

*Perš Janez*, FE, Uni Lj

*Trost Andrej*, FE, Uni Lj

## 12. Učenje na daljavo: spletno učenje v osnovnošolskem tehniškem izobraževanju - pedagoška praksa

*Urankar Bernarda*, PF, Uni Lj

*Jamšek Janez*, PF, Uni Lj

# Načrtovane aktivnosti v 2021

- ERK 2021 - Organizacija sekcije Didaktika
- Poplava online predavanj na teme izobraževanja - poudarek na dogodkih v živo...

Jan Jeriha

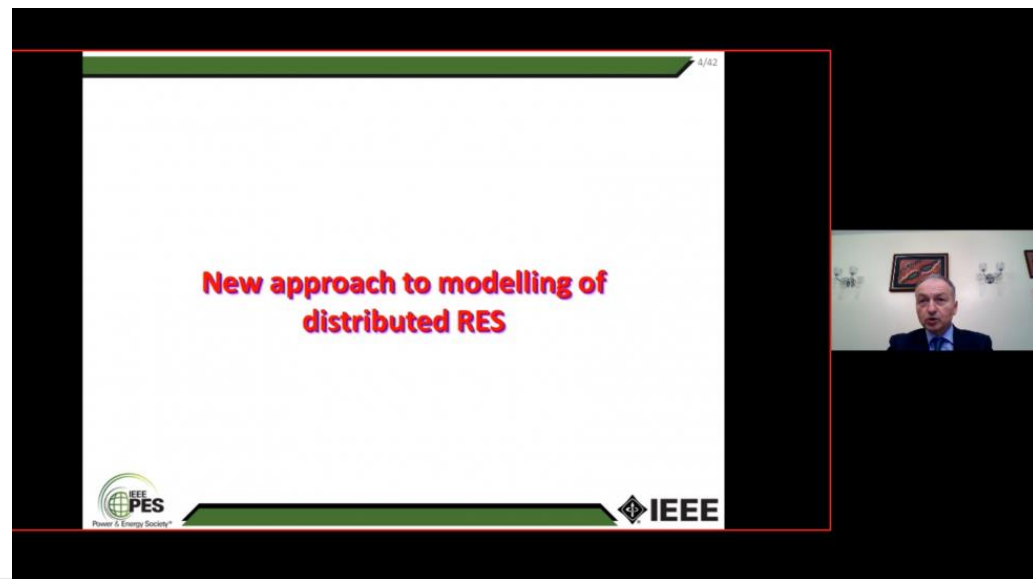
# **POROČILO POWER & ENERGY SOCIETY**

# Pretekli dogodki

- Soorganizacija vabljenega predavanja **Distinguished Lecturer Programme (DLP):** prof. Jovica Milanović (IEEE PES HR)
- Delno ohranjeno sodelovanje študentov z industrijo s ciljem magistrskih nalog/nadaljnega sodelovanja
- Družabni dogodki

# DLP Predavanje

- Predavatelj: prof. Jovica Milanović
- Naslov: **New approach to modelling of distributed RES**
- Naše prvo DLP predavanje je bilo uspešno, člani IEEE PES Slovenija so bili s predavanjem zadovoljni in v prihodnosti bomo organizirali še kakšnega





# Načrtovane aktivnosti v 2021

- Nadaljevanje IEEE vabljenih predavanj s pomočjo partnerjev iz industrije (do zdaj smo imeli 3 predavanja, letos 0)
- Ponovna prijava za zanimiva predavanja v sklopu DLP
- Sodelovanje s študenti in industrijo
- Aktivno posodabljanje spletne strani z novimi dogodki in zanimivimi predavanji

Vanja Ambrožič

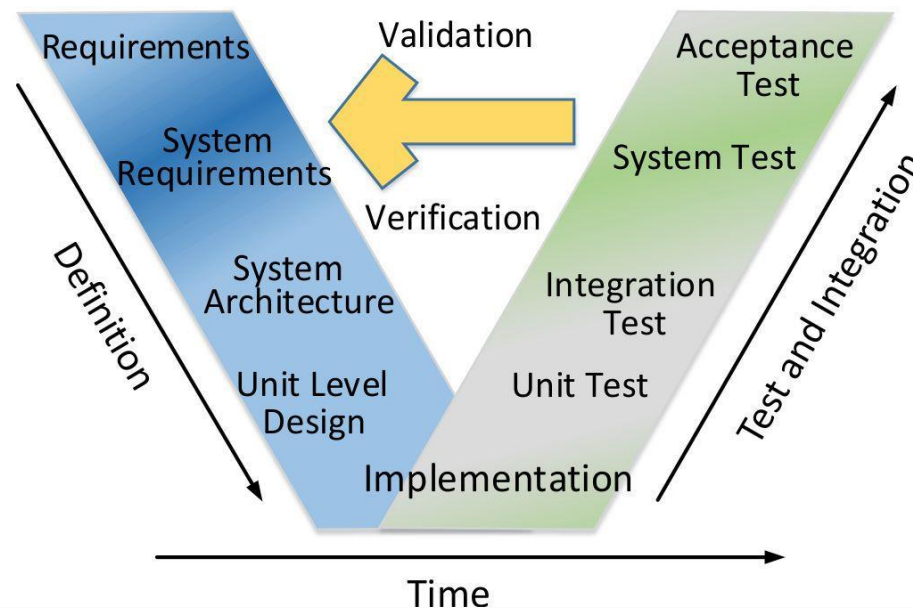
# **POROČILO ZDRUŽENEGA ODBORA INDUSTRIAL ELECTRONICS/ INDUSTRY APPLICATIONS**

# Pretekli dogodki

- Letno srečanje Združenega odbora IAS/IES 23.9.2020, Portorož
- Vabljeni predavanja: doc. Miran Rodič „Funkcionalna varnost za sisteme cestnih vozil“, 19 Dec 2020, on-line

# Vabljeno predavanje: doc. Miran Rodič, UM FERl „Funkcionalna varnost za sisteme cestnih vozil“, 19 Dec 2020

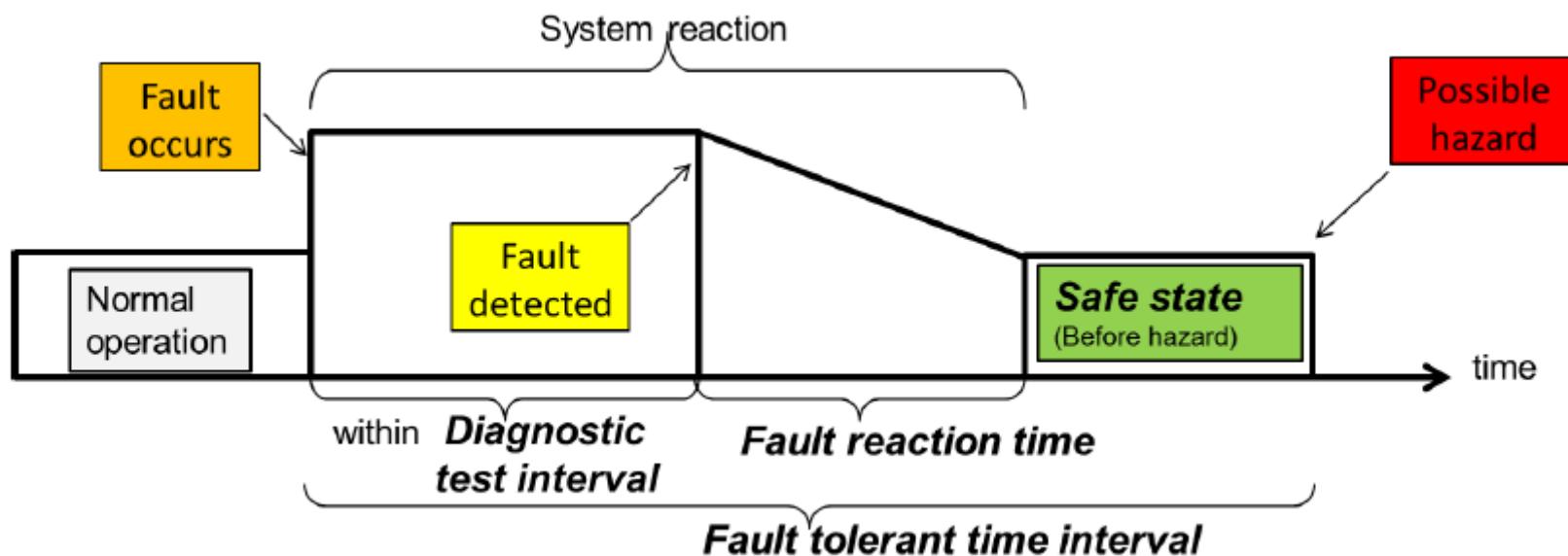
On-line predavanje prek platforme MStTeams – 32 udeležencev (člani odbora, vabljeni iz industrije in obeh univerz)



Funkcionalna varnost elektronskih in elektromehanskih komponent in podsestavov je zanimiva tema za slovensko znanost, visoko šolstvo in industrijo.

Slovenija ima zelo močno zelo močno industrijo avtomobilskih elektrotehniških podsestavov.

Zelo zahtevni standardi narekujejo prilagoditev proizvodnje izredno konkurenčnemu tujemu trgu. Z njimi se želi minimizirati tveganje za havarijo zaradi odpovedi podsestavov različnih proizvajalcev.



Vsebina predavanja:

V okviru predavanja so bile predstavljene zahteve in razvoj sistemov, uporabljenih v cestnih vozilih.

Poudarek je bil na procesih in metodah, ki jih je potrebno upoštevati pri razvoju varnostno kritičnih sistemov v vozilih.

Predstavljen je bil standard ISO 26262, ki predpisuje postopek snovanja električnih, elektronskih in programirljivih elektronskih sistemov v cestnih vozilih.

# Načrtovane aktivnosti v 2021

*(Aktivnosti so odvisne od epidemioloških razmer)*

- Letno srečanje in izbira predsednika odbora
- Sodelovanje na skupnih dogodkih (ERK)
- Vabljeni predavanja s temami, ki so zanimive za člane ter zunanje goste in študente

Aleš Zamuda, SMIEEE

# **POROČILO ODBORA CIS11: COMPUTATIONAL INTELLIGENCE**



# Pretekli dogodki

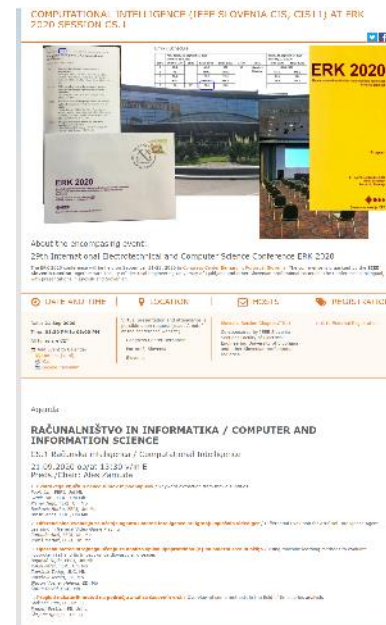
- vTools: **3 tehnični dogodki**, 5 ExCom srečanj
  - DLP: Randomization-Based Deep and Shallow Neural Networks (PN Suganthan, FIEEE)
    - Številni udeleženci (on-site), veliko zanimanja
    - Profesionalno snemanje, video objavljen poleg FB še na IEEE.TV s podporo krovnega združenja IEEE CIS
  - ERK 2020, CS.1: Computational Intelligence
  - Dan IEEE (CIS, GRSS, YP, WiE, SB MB z gosti)

- Spletna stran (integrira vTools)



- Novice: e-poštni seznam, Facebook, Twitter

- IEEE CIS Chapter Reward for 2019 activities

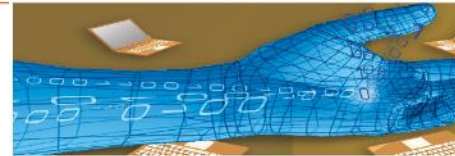


# RANDOMIZATION-BASED DEEP AND SHALLOW NEURAL NETWORKS

<https://events.vtools.ieee.org/m/217866>



IEEE.tv



**About IEEE CIS (Mission/Vision/Field of Interest - FOI):** The IEEE Computational and Electronics Engineers (IEEE) focusing on "the theory, design, application, and paradigms emphasizing neural networks, connectionist systems, genetic algorithms, which these paradigms are contained". Source: [Wikipedia \[IEEE\\_Computational\\_Intelligence\]](#)  
**IEEE CIS Mission Statement:** Advancing nature-inspired computational paradigms  
**IEEE CIS Vision:** Be the international leader in innovative interdisciplinary research Computational Intelligence.  
**IEEE CIS Field of Interest (FOI):** The Field of Interest of the Computational Intelligence development of biologically and linguistically motivated computational paradigms and evolutionary programming, fuzzy systems, and hybrid intelligent systems in which the  
**About IEEE and IEEE Slovenia:** The **Institute of Electrical and Electronics Engineers**, New York City and its operations center in Piscataway, New Jersey. It was formed in 1963 by the Institute of Radio Engineers. IEEE Slovenia section is part of the world's largest technical professional organization for the advancement of technology. Source: [IEEE Slovenia \(https://www.ieee.si/\)](https://www.ieee.si/)  
**About IEEE Slovenia CIS Chapter:** The mission of IEEE Slovenia CIS chapter (Geo-code CH08873) is advancing nature-inspired computational paradigms in science and engineering to foster technological innovation and excellence for the benefit of humanity. More information about IEEE Slovenia CIS Chapter at the website: <https://rs.ieee.org/slovenia-cis/>.



## Randomization-Based Deep & Shallow Neural Networks

Published on August 19, 2020

Download Share

IEEE Xplore IEEE Computational Intelligence Society IEEE CIS IEEE Knowledge Center

This talk will first introduce the main randomization-based feedforward neural networks with closed-form solutions. The popular instantiation of the feedforward type called random vector functional link neural network (RVFL) originated in the early 1990s. RVFL variants will be empirically evaluated. Subsequently, deep versions of RVFL will be presented as a single and ensemble classifiers.

### DATE AND TIME | LOCATION | HOSTS | REGISTRATION

Date: 27 Jan 2020

Time: 02:00 PM to 03:00 PM

All times are CET

Add Event to Calendar  
Outlook (vCal)  
iCal  
Google Calendar

Koroška cesta 46

Maribor, Slovenia

Slovenia 2000

Building: G2

Room Number: G2-P01

Slovenia Section Chapter, CIS11

IEEE Slovenia CIS Chair: asst. prof. dr. Aleš Zamuda

Invitation on behalf of cosponsor: prof. dr. Aleš Holobar, Head of Institute of Computer Science, UM FER

Co-sponsored by Institute of Computer Science, Faculty of Electrical Engineering and Computer Science, University of Maribor, Slovenia

Starts 20 January 2020 06:00 PM

Ends 27 January 2020 03:00 PM

All times are CET

No Admission Charge

Register

## DISTINGUISHED LECTURERS PROGRAM (DLP)

Speaker: DLP 19-15 P. N. Suganthan

Date: January 27, 2020

Location: Maribor, Slovenia

Chapter: IEEE Slovenia Section (Aleš Zamuda)

Title of Talks: Randomization-Based Deep and Shallow Neural Networks

Click here for list of current IEEE CIS DLP Talks

Slides from the lecture are available at: [Randomized Deep-Shallow-ANN](#)

Photos: <https://www.facebook.com/IEEESloveniaCIS/photos/>

Video filming of the lecture: <https://www.facebook.com/events/186758829390381/permalink/198935101506087/>

## ABSTRACT (DLP TALK)

This talk will first introduce the main randomization-based feedforward neural networks with closed-form solutions. The popular instantiation of the feedforward type called random vector functional link neural network (RVFL) originated in early 1990s. RVFL variants will be empirically evaluated. Subsequently, deep versions of RVFL will be presented as a single and ensemble classifiers. The talk will also present extensive benchmarking studies using classification and forecasting datasets. If time permits, oblique random forest and kernel ridge regression will also be briefly discussed.

**Acknowledgement:** Sponsored by the Computational Intelligence Society under its Distinguished Lecturer Program. Prof. Suganthan is a CIS Distinguished Lecturer.

## About DLP (Distinguished Lecturers Programs):

The IEEE CIS Distinguished Lecturer Program (DLP) aims at serving the Computational Intelligence community by providing stimulating lectures given by distinguished IEEE CIS professionals and scholars. It also aims at helping young researchers (masters and doctoral students) providing suggestions/guidance on their research problems as well as promoting computational intelligence tools and techniques among undergraduate students to make them interested in CIS fields of interest. Distinguished Lecturers present novel basic and/or applied research results in their CIS sub-field. Their lectures offer insights into the trends and challenges of their CIS sub-field and their vision for the given sub-field. In any given year, selected IEEE CIS Distinguished Lecturers (DLs) have a balanced representation of CIS sub-fields and include representatives from academia, industry and government while spanning different IEEE regions. The program supports local CIS chapters by enabling a major chapter event which can considerably improve a chapter's visibility to their existing IEEE CIS members, other IEEE society members and the wider CIS community in their area. It is expected that DLP events actively seek to recruit new CIS professionals to both the CIS field and to IEEE CIS. Source: <https://cis.ieee.org/professional-development/dlp>.

It should be noted that this program is NOT intended as a means to finance speakers for conferences/workshops or symposia.

## SPEAKERS



Ponnuthurai Nagarathnam Suganthan of Nanyang Technological University

Topic: Randomization-Based Deep and Shallow Neural Networks

### DLP TALK ABSTRACT:

This talk will first introduce the main randomization-based feedforward neural networks with closed-form solutions. The popular instantiation of the feedforward type called random vector functional link neural network (RVFL) originated in early 1990s. RVFL variants will be empirically evaluated. Subsequently, deep versions of RVFL will be presented as a single and ensemble classifiers. The talk will also present extensive benchmarking studies using classification and forecasting datasets. If time permits, oblique random forest and kernel ridge regression will also be briefly discussed.

### Related events:

2020-01-24 Prof. Suganthan will give a talk at IEEE Croatia Section (see [invitation newsitem](#)).

2020-01-27 Prof. Suganthan will receive a honorary PhD degree from [University of Maribor](#).

### Biography:

Ponnuthurai Nagarathnam Suganthan received the B.A. degree, Postgraduate Certificate and M.A. degree in Electrical and Information Engineering from the University of Cambridge, UK in 1990, 1992 and 1994, respectively. After completing his PhD research in 1995, he served as a pre-doctoral Research Assistant in the Dept. of Electrical Engineering, University of Sydney in 1995-96 and a lecturer in the Dept. of Computer Science and Electrical Engineering, University of Queensland in 1996-99. He moved to NTU in 1999. He was an Editorial Board Member of the *Evolutionary Computation Journal*, MIT Press (2013 - 2018) and an associate editor of the *IEEE Trans on Cybernetics* (2012 - 2018). He is an associate editor of *Applied Soft Computing* (Elsevier, 2018 -), *Neurocomputing* (Elsevier, 2018 -), *IEEE Trans on Evolutionary Computation* (2005 -), *Information Sciences* (Elsevier, 2009 -), *Pattern Recognition* (Elsevier, 2001 -) and *Int. J. of Swarm Intelligence Research* (2009 -) Journals. He is a founding co-editor-in-chief of *Swarm and Evolutionary Computation* (2010 -), an SCI Indexed Elsevier Journal. His co-authored SADE paper (published in April 2009) won the "IEEE Trans. on Evolutionary Computation outstanding paper award" in 2012. His former PhD student, Dr Jane Jing Liang, won the IEEE CIS Outstanding PhD dissertation award, in 2014. IEEE CIS Singapore Chapter won the best chapter award in Singapore in 2014 for its achievements in 2013 under his leadership. His research interests include swarm and evolutionary algorithms, pattern recognition, forecasting, randomized neural networks, deep learning and applications of swarm, evolutionary & machine learning algorithms. His publications have been well cited ([Google Scholar Citations](#) ~34k). His SCI indexed publications attracted over 1000 SCI citations in a calendar year since 2013. He was selected as one of the highly cited researchers by Thomson Reuters every year from 2015 to 2018 in computer science. He served as the General Chair of the IEEE SSC 2013. He is an IEEE CIS distinguished lecturer (DLP) in 2018-2020. He has been a member of the IEEE ('S'91, 'M'92, 'SM'00, Fellow'15) since 1991 and an elected AdCom member of the IEEE Computational Intelligence Society (CIS) in 2014 - 2016.

# Načrtovane aktivnosti v 2021

- Sodelovanje na ERK 2021
  - vabilo avtorjem
- Dogodek za CIS Chapter reward
- Gostovanje DLP (plan)
  
- Povečanje razpoznavnosti odbora
  - novice, pozivi organizatorjem, članstva
- Vključitev dodatnih prostovoljcev

Peter Planinšič, predsednik

# **ODBOR IEEE GRS 29**

**POROČILO**  
**ZA LETNO SKUPČINO SLOVNSKE SEKCIJE IEEE**  
**04.02.2021**

# Vodstvo odbora

- ▣ Peter Planinšič, predsednik
- ▣ Franc Dimc, podpredsednik

# Razvoj tehnologij

- Člani našega odbora so člani projekta uspešnega lansiranja prvega slovenskega nano-satelita TRISAT v novembru 2020. Vodja tega projekta, dr. Iztok Kramberger je član našega odbora.
- FERİ - Novinarska konferenca ob izstrelitvi satelita TRISAT (um.si)
- <https://www.trisat.um.si/>

# Sodelovanje in udeležba na pomembnih mednarodnih konferencah, podprtih od IEEE GRSS

- Člani našega odbora so se udeležili najpomembnejše konference IGARS 2020
- Služili so kot recenzenti te konference

# Tehniški dogodek 1

## **International CEEPUS and ERASMUS Workshop on Microwave Technologies, Radars, Remote Sensing and Communications , TU Graz, 6. do 9. julij, 2020**

- Delavnica je bila tehnično so-podprta s slovenskim odborom IEEE GRSS
- Soorganizacija in vodenje virtualne delavnice (okrog 10 udeležencev)

### Seje:

- General CEEPUS Special Session
- Special Session on Remote Sensing and Radars
- Special Session on Microwave Technologies and Communications.
- <https://www.cobcom.tugraz.at/wordpress/workshop/>



# Tehnični dogodek 2 (izpostavljen)

## Seja Daljinsko zaznavanje in elektronika v vesolju

na 29. mednarodni elektrotehniški in računalniški konferenci ERK 2020, September 21-22, 2020, Portorož, Slovenija

- So-organizacija in vodenje seje
- Dogodek se je izvajal na mestu konference v Portorožu (Okrog 15 udeležencev)  
Sekc./Sect. TC.1 21.09.2020 ob/at 10:00 v/in C  
Daljinsko zaznavanje in elektronika v vesolju /  
Remote Sensing and Space Electronics  
Preds./Chair: Peter Planinšič
- <https://erk.fe.uni-lj.si/erk20.html>
- <https://erk.fe.unilj.si/2020/program20.pdf>

# Tehniški dogodek 3

## Virtualni promocijski dogodek DAN IEEE

na Fakulteti za elektrotehniko, računalništvo in informatiko, Univerze v Mariboru, 09. 12. 2020

- So-organizaja in sovođenje virtualnega promocijskega dogodka
- Dogodek je bil posvečen promociji IEEE, zlasti odborov GRS in CIS ter afinitetnim skupinam kot so študentje, mladi profesionalci in ženske v inžinertvu.
- Predstavniki fakultet in laboratorijev, člani naših odborov so predstavili svoje aktivnosti in dosežke
- Vabljeni in udeleženci so bili tudi drugi gostje

# Dan IEEE

Event Host(s):

Slovenia Section

Slovenia Section Chapter, CIS11

Slovenia Section Chapter, GRS29

Maribor Univ Of

Slovenia Section Affinity Group,  
WIE

Slovenia Section Affinity Group,  
YP

Start time: **09 Dec 2020 06:30 PM**

End time: **09 Dec 2020 07:30 PM**

All times are CET

[Event Manage URL](#) ( [iee.vtools](#) )

# Načrtovane aktivnosti v 2021

- Sodelovanje z IEEE GRSS in sorodnimi IEEE oddelki sosednjih in drugih držav
- Organizacija specialne seje na mednarodni konferenci Contel 2021, Zagreb, julij, 2021
- Organizacija specialne seje na ERK 2020
- Vabljeni predavanja priznanih mednarodnih strokovnjakov znanstvenikov (on line ali v živo)

Lucija Brezočnik

# **WOMEN IN ENGINEERING**

# Pretekli dogodki – v živo

- Akademija FERİ - Razvoj mobilnih aplikacij za Android s programskim jezikom Kotlin (UM FERİ + Inova IT)
- Programiranje za dekleta (workshop) (UM FERİ)
- IEEE WiE sestanek na konferenci ERK (Portorož)

# Pretekli dogodki - online

- Job opportunity meetings with Lumentum
- IEEE WiE R8 letni sestanek
- EXCOM meeting
- Dan IEEE

# Delavnica: Programiranje za dekleta





# Načrtovane aktivnosti v 2021

- Akademija FERİ
- sestanek na konferenci ERK
- delavnice za študente
- pobude:
  - večja vključenost drugih fakultet,
  - organizacija skupnih (e-)dogodkov (delavnice, srečanja...)

Blaž Bertalanič

# **YOUNG PROFESSIONALS**

# Pretekli dogodki



IEEE

youngprofessionals

Slovenija

*Webinarji:*

ideja \* znanje == ∞

Peter Kmecl | Od igrače do samohodnega robota

*sreda, 17. 6. 2020, ob 18.00*

Blaž Bertalanič | Ko "protoboard" ni dovolj

*sreda, 1. 7. 2020, ob 18.00*

Domen Verber | Globoko učenje + računalniški vid == 42

*torek, 15. 9. 2020, ob 18.00*

Mladen Borovič | Računalnik, kaj mi priporočaš danes?

Jani Dugonik | Računalnik je lahko poliglot

*sreda, 23. 9. 2020, ob 18.00*

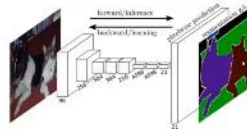
Več na:

[fb.com/IEEEYPSlovenija](https://fb.com/IEEEYPSlovenija)

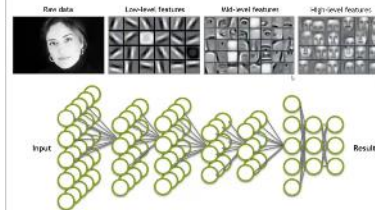
# Webinarji

## Fully Convolutional Networks (FCNs)

- All layers are convolutional
- Performs pixelwise classification

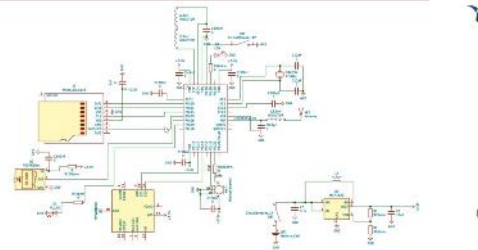
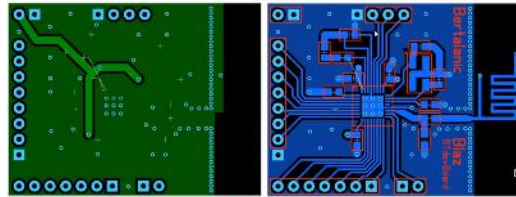


## Image Classification Network (CNN)

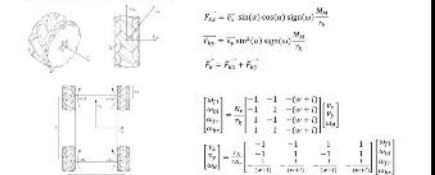


- Application components:**
- Task objective  
e.g. identify face
  - Training data  
10-100M images
  - Network architecture  
- 10s-100s of layers  
1B parameters
  - Learning algorithm  
- 3D ExaFlops  
1-30 GPU days

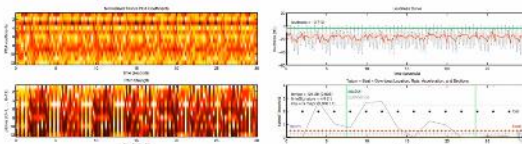
## Strojna oprema



## Kinematični model

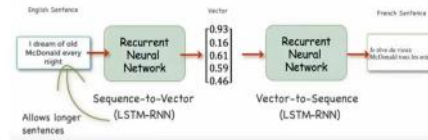


## Primer: Spotify



## Language Translation

### Encoder-Decoder Architecture



## Primer: priporočanje knjižnične klasifikacije



Dejanski vsililec: HDK za to delo: 004.777.004.93(043.2)  
<http://www.dk.uni-lj.si/>

# Načrtovane aktivnosti v 2021

- Predvideno več meetup-ov
- Nadaljevanje povezovanja LJ in MB in skupna organizacija dogodkov
- Sodelovanje ob 50 letnici IEEE Slovenija
- Prilagajanje načrtov glede na situacijo

Matej Germek, Chair  
Timotej Gruden, Counselor

# **POROČILO IEEE STUDENT BRANCH LJUBLJANA**

# Pretekli dogodki

- Volitve IEEE SB Chair – Januar 2020
- Sestanek in plani za 2020 – Februar 2020
- Pridružitve Webinarjem
- Uradna menjava vodstva – Oktober 2020
- IEEE day – December 2020

# Sestanek in planiranje 2020

- ▣ Predavanje Peter Florjančič
- ▣ SYP Congress 2020 Gothenburg





# Načrtovane aktivnosti v 2021

- Izvajanje dogodkov preko interneta
- HPC Nvidia delavnica
- Webinarji

Jani Dugonik

# **POROČILO MARIBORSKA ŠTUDENTSKA VEJA**

# Pretekli dogodki

- Sestanki s svetovalcem mariborske študentske veje (Peter Planinšič) in podpredsednikom IEEE SI (Aleš Zamuda)
- Pomoč pri organizaciji in udeležbi mariborskega dela za tri dogodke spletnih seminarjev skupaj z IEEE YP SI
- Organizacija spletnega dogodka "Dan IEEE" v Mariboru
- IEEEExtreme – član študentske veje je bil ambasador

# Dan IEEE

- Splošno in o slovenski sekciji IEEE (Aleš Zamuda)
- Pregled nekaterih organizacijskih enot IEEE Slovenija (CIS, YP, GRSS, WIE)
- Predstavitev mariborske in ljubljanske študentske veje
- Predstavitev nekaterih uspehov študentov mariborske študentske veje na ERK in SPCR8
- Novost - tekmovanje IEEEExtreme

# Načrtovane aktivnosti v 2021

- Volitve
- Delavnica za visoko zmogljivo računalništvo (februar)
- Delavnica za globoko učenje (junij)
- Sodelovanje na mednarodnih dogodkih (SPCR8) (poletje)
- Sodelovanje na skupnih dogodkih (ERK) (september)
- IEEEExtreme (oktober)
- Sestanki, srečanja

# 50-letnica Slovenske sekcije IEEE

**Pobude in predlogi**



# RAZNO

# Razno

- ▣ Pobude
- ▣ Kritike
- ▣ Komentarji
- ▣ Mednarodne priložnosti



# Hvala!

