

RAPORT DE ACTIVITATE CORESPUNZĂTOR PERIOADEI

1 ianuarie – 31 decembrie 2020

Date de autentificare Institutul de Cercetări pentru Inteligență Artificială „Mihai Drăgănescu”
(<http://www.racai.ro/>)

Statutul juridic: instituție cu personalitate juridică în subordinea Academiei Române

Actul de înființare:

H.G. 695/2002 privind înființarea Institutului de Cercetări pentru Inteligență Artificială;

H.G. 650/2012 privind modificarea numelui în Institutul de Cercetări pentru Inteligență Artificială „Mihai Drăgănescu”

Director: Acad. Ioan Dan Tufiș

Director Adjunct: Dr. Angela Ioniță

Adresa: Calea 13 Septembrie nr. 13, Casa Academiei, Aripa de Vest, Etaj 3,
050711 București Telefon, fax: +40-21-3188103, +40-21-3188142, e-
mail: office@racai.ro

Domeniul de specialitate

Conform clasificării UNESCO: 1203.04 – inteligență artificială

Conform clasificării CAEN: 7219 – cercetare-dezvoltare în alte științe naturale și inginerie

Personalul de cercetare științifică atestat (CS-CS1) 2020:

18 din care 14 cu doctorat, 3 conducători de doctorat

Doctoranzi: În 2020 erau înmatriculați 5 doctoranzi din care 1 a fost exmatriculat.

Infrastructura de cercetare nou achiziționată/completată în anul 2020:

Potrivit resurselor financiare alocate în contractele derulate de ICIA au fost achiziționate componente hardware și software în valoare de 16948.5 RON.

Institutul de Cercetări pentru Inteligență Artificială (ICIA) desfășoară activități de cercetare fundamentală și avansată în domeniile inteligenței artificiale (prelucrarea limbajului natural, învățare automată, modelare conceptuală și cognitivă, agenți inteligenți etc.) și societății cunoașterii (managementul cunoștințelor, modelarea infrastructurilor și a proceselor societății bazate pe cunoștințe, prelucrarea inteligentă a documentelor și achiziția de

cunoștințe). Institutul este un pol de competență internațională și un factor activ de diseminare a cunoștințelor.

Rezultatele cercetărilor efectuate în 2020 în cadrul celor trei PROGRAME DE CERCETARE (Resurse și tehnologii pentru limba română în context multilingv standardizat, Sisteme Inteligente și Inteligența Artificială și impactul (r)evoluției digitale asupra omului și societății) și a celor 5 subprograme de cercetare asociate au fost evidențiate într-un număr de 12 rapoarte de cercetare la care se adaugă rapoartele tehnico-științifice efectuate în cadrul fiecărui proiect derulat în ICIA, corespunzătoare etapelor din anul 2020.

Rezultatele cercetării desfășurate în ICIA în anul 2020 (conform Anexei 2)

Rezultatele cercetărilor desfășurate în institut sunt valorificate prin:

- publicarea a 4 lucrări în reviste de prestigiu (cotate ISI) din România:
 1. Avram, A.M., Păiș, V., Tufiș, D. (2020) Towards a Romanian end-to-end automatic speech recognition based on DeepSpeech2. In Proceedings of the Romanian Academy, Series A, Vol 21, No 4, in-print.
 2. Ariadna Ștefănescu, Sorina Postolea, Verginica Barbu Mititelu, The Romanian Discourse Markers *de altfel* and *de altminteri*. Patterns of Use and Core Functions. In RRL, LXV (2020), 3 (sub tipar) http://www.lingv.ro/index.php?option=com_content&view=article&id=365%3Aarhiva-2020&catid=36%3Areviste-ilb&Itemid=91
 3. Radu Ion, Valentin Gabriel Badea, George Cioroiu, Verginica Barbu Mititelu, Elena Irimia, Maria Mitrofan, Dan Tufiș, A Dialog Manager for Micro-Worlds. Studies in Informatics and Control, 29 (4), 401-410, ISBN 1220-1766
 4. Monica Dascalu, Mihaela Malita, Adrian Barbilian, Eduard Franti and Gheorghe M. Stefan, Enhanced Cellular Automata with Autonomous Agents for Covid-19 Pandemic Modeling, ROMJIST Volume 23, pp. S15–S27, Number S, 2020, <https://www.romjist.ro/abstract-651.html>
- publicarea a 5 lucrări la conferințe de prestigiu (cotate ISI):
 1. Tufiș, D., Mitrofan, M., Păiș, V., Ion, R. and Coman, A., 2020, Collection and Annotation of the Romanian Legal Corpus (pp. 2773-2777), <https://lrec2020.lrec-conf.org/en/conference-programme/> ISI Proceedings
 2. Tamás Váradi, Svetla Koeva, Martin Yamalov, Marko Tadić, Bálint Sass, Bartłomiej Nitoń, Maciej Ogrodniczuk, Piotr Pezik, Verginica Barbu Mititelu, Radu Ion, Elena Irimia, Maria Mitrofan, Vasile Păiș, Dan Tufiș, Radovan Garabík, Simon Krek, Andraz Repar, Matjaž Rihtar, Janez Brank. The MARCELL Legislative Corpus (pp. 3761-3768), <https://lrec2020.lrec-conf.org/en/conference-programme/accepted-papers/> ISI Proceedings
 3. Păiș, V., Ion, R., & Tufiș, D. (2020). A Processing Platform Relating Data and Tools for Romanian Language. In Proceedings of the 1st International Workshop on Language Technology Platforms pp. 81-88, ISI Proceedings
 4. C. Macovei, A. Vaduva, A. Vlad and B. Badea, "The autocorrelation function of the logistic map chaotic signal in relation with the statistical independence issue," 2020 13th International Conference on Communications (COMM), Bucharest, Romania, 2020, pp. 25-30, doi: 10.1109/COMM48946.2020.9142000, ISI Proceedings
 5. DINU, A. VLAD, B. HANU and A. MITREA, "The Statistical Independence for Words in Printed Romanian Language," 2020 13th International Conference on

Communications (COMM), Bucharest, Romania, 2020, pp. 319-324, doi: 10.1109/COMM48946.2020.9142045, ISI Proceedings

- publicarea a 3 articole în reviste cotate B+, din România:
 1. Razvan Paroiu, Stefan Trausan-Matu, 2020, Text generation and music composition by human, and neural network interaction, International Journal of User-System Interaction (IJUSI) Journal edited by RoCHI (ACM SIGCHI Romania), ISSN 2668-3245, (în curs de apariție), 2020, vol 13, nr.2, 2020
 1. Petre Gheorghe-Cosmin, Stefan Trausan-Matu, 2020, Automatic black and white image colorization using generative adversarial networks, International Journal of User-System Interaction (IJUSI) Journal edited by RoCHI (ACM SIGCHI Romania), ISSN 2668-3245, (în curs de apariție), 2020
 2. Tatiana-Andreea Petrache, Traian Rebedea, Stefan Trausan-Matu, Interactive language learning - How to explore complex environments using natural language?, International Journal of User-System Interaction (IJUSI) Journal edited by RoCHI (ACM SIGCHI Romania), ISSN 2668-3245, vol 13, nr.1, 2020

- publicarea unui număr special al revistei RRL, cotate ISI .(publicarea unui capitol într-o carte apărută în EAR:
 1. Ariadna Ștefănescu, Verginica Barbu Mititelu, Sorina Postolea (eds.), 2020, Approaches to Discourse-Relational Devices (DRDs): Textual Connectors, Discourse Markers, Modal Particles, Special issue of RRL, LXV, issue 3, ISSN: 0035-3957

- publicarea a 3 cărți/capitole apărute în tratate, cărți sau monografiile editate într-o editură din străinătate:
 1. Vișan M., Ionită A., Filip F. *Data Analysis in Setting Action Plans of Telecom Operators, Challenges and Applications*. Studies in Computational Intelligence. Springer, 2020, Vol. 869. Pg. 97 – 110, DOI: 10.1007/978-3-030-39250-5_6.
 2. Monica Dascalu, David Dragomir, Daniel Besnea, Lidia Dobrescu, Ana Maria Pascalu, Dragos Dobrescu, Eduard Franti, Edgar Moraru, Anca Plavitu, Mechatronic Structure for Forearm Prosthesis with Artificial Skin. In: Yadav S., Singh D., Arora P., Kumar H. (eds) Proceedings of International Conference in Mechanical and Energy Technology. Smart Innovation, Systems and Technologies, vol 174 (2020). Springer, Singapore. https://doi.org/10.1007/978-981-15-2647-3_42, Print ISBN: 978-981-15-2646-6, https://link.springer.com/chapter/10.1007/978-981-15-2647-3_42, <https://ieeexplore.ieee.org/document/9229697>
 3. Monica Dascalu, David Dragomir, Daniel Besnea, Lidia Dobrescu, Ana Maria Pascalu, Dragos Dobrescu, Eduard Franti, Edgar Moraru, Anca Plavitu, Mechatronic Structure for Forearm Prosthesis with Artificial Skin. In: Yadav S., Singh D., Arora P., Kumar H. (eds) Proceedings of International Conference in Mechanical and Energy Technology. Smart Innovation, Systems and Technologies, vol 174 (2020). Springer, Singapore. https://doi.org/10.1007/978-981-15-2647-3_42, Print ISBN: 978-981-15-2646-6, https://link.springer.com/chapter/10.1007/978-981-15-2647-3_42, <https://ieeexplore.ieee.org/document/9229697>

- publicarea a 3 cărți/capitole apărute în tratate, cărți sau monografiile editate într-o editură din România:

1. Angela Ioniță, 2020, *The governance of decision-making algorithms. The ethics of algorithmic decision making*, in IDENTITIES IN GLOBALISATION. INTERCULTURAL PERSPECTIVES Section: Social Sciences, ISBN: 978-606-8624-10-5, Arhipelag XXI” Press, Tîrgu Mureș, 2020, pg. 282 – 291
 2. Lisa-Maria Achimescu, Angela Ioniță, 2020, *The emergence of international cyberspace law and the consequences pertaining to individuals*, Proc. Of 6th Edition of Scientific Conference Communication, Context, Interdisciplinarity, 24 – 25 Oct. 2020, Tg. Mures, România, Broșura-Program a Conferinței Internaționale CCI 6 (in curs de apariție)
 3. Lisa Maria Achimescu, Angela Ioniță, *Aspecte privind aplicarea principiilor eticii și integrității în spațiul cibernetic*, în „Securitatea cibernetică în domeniul universitar” (titlu provizoriu, în curs de apariție)
- susținerea a 18 comunicări științifice în cadrul unor conferințe naționale și internaționale:
1. Tufiș, D., Mitrofan, M., Păiș, V., Ion, R. and Coman, A., 2020, Collection and Annotation of the Romanian Legal Corpus (pp. 2773-2777), <https://lrec2020.lrec-conf.org/en/conference-programme/accepted-papers/>
 2. Tamás Váradi, Svetla Koeva, Martin Yamalov, Marko Tadić, Bálint Sass, Bartłomiej Nitoń, Maciej Ogrodniczuk, Piotr Pezik, Verginica Barbu Mititelu, Radu Ion, Elena Irimia, Maria Mitrofan, Vasile Păiș, Dan Tufiș, Radovan Garabík, Simon Krek, Andraz Repar, Matjaž Rihtar, Janez Brank. The MARCELL Legislative Corpus (pp. 3761-3768), <https://lrec2020.lrec-conf.org/en/conference-programme/accepted-papers/>
 3. Verginica Mititelu, Elena Irimia, Vasile Păiș, Andrei Avram, Maria Mitrofan and Eric Curea, 2020, Romanian Resources in LLOD Format, <https://profs.info.uaic.ro/~consilr/>, ConsILR-20 20, online, 14-16 December, 2020.
 4. Verginica Barbu Mititelu, Svetlozara Leseva, Ivelina Stoyanova, 2020, *Semantic Analysis of Verb-Noun Conversions in Princeton WordNet*, SLE - workshop on zero affixes, Bucharest, 26-28 August 2020. <http://sle2020.eu/programme>
 5. Cristian Manolache, Alexandru-Lucian Georgescu, Verginica Barbu Mititelu, Horia Cucu and Corneliu Burileanu, *Improved Text Normalization and Language Models for Speed’s Automatic Speech Recognition System*, ConsILR 2020, 14-15 dec 2020.
 6. Verginica Mititelu and Maria Mitrofan, 2020, The Romanian Medical Treebank – SiMoNERo, ConsILR-2020, online, 14-16 December, 2020, <https://profs.info.uaic.ro/~consilr/>
 7. Carlos Ramisch, Agata Savary, Bruno Guillaume, Jakub Waszczuk, Marie Candito, Ashwini Vaidya, Verginica Barbu Mititelu, Archana Bhatia, Uxoá Iñurrieta, Voula Giouli, Tunga Gungor, Menghan Jiang, Timm Lichte, Chaya Liebeskind, Johanna Monti, Renata Ramisch, Sara Stymne, Abigail Walsh and Hongzhi Xu, *Edition 1.2 of the PARSEME Shared Task on Semi-supervised Identification of Verbal Multiword Expressions*, in *Proceedings of the Joint Workshop on Multiword Expressions and Electronic Lexicons (MWE-LEX 2020)*, COLING 2020. http://multiword.sourceforge.net/PHITE.php?site=sig=CONF&page=CONF_02_MWE-LEX_2020__lb_COLING__rb__&subpage=CONF_20_Program
 8. Andrei-Marius Avram, Verginica Barbu Mititelu, 2020, A Customizable WordNet Editor, in *Proceedings of CLiB 2020*, 25-26 June, Sofia, Bulgaria, p. 148-155. <https://dcl.bas.bg/clib/program/>

9. Svetlozara Leseva, Verginica Barbu Mititelu, Ivelina Stoyanova, It Takes Two to Tango - Towards a Multilingual MWE Resource, in Proceedings of CLiB 2020, 25-26 June, Sofia, Bulgaria, p. 101-111. <https://dcl.bas.bg/clib/program/>
10. C. Macovei, A. Vaduva, A. Vlad and B. Badea, "The autocorrelation function of the logistic map chaotic signal in relation with the statistical independence issue," 2020 13th International Conference on Communications (COMM), Bucharest, Romania, 2020, pp. 25-30, doi: 10.1109/COMM48946.2020.9142000, ISI Proceedings
11. Dinu, A. Vlad, B. Hanu And A. Mitrea, "The Statistical Independence for Words in Printed Romanian Language," 2020 13th International Conference on Communications (COMM), Bucharest, Romania, 2020, pp. 319-324, doi: 10.1109/COMM48946.2020.9142045, ISI Proceedings
12. Alexandru Dinu, Adriana Vlad, Adrian Mitrea, Bogdan Hanu, "Beginning and End Of Sentence Word Digrams For Printed Romanian Language". In *The 15th Edition of the International Conference on Linguistic Resources and Tools for Natural Language Processing (ConsiLR 2020)*, 14-16 December, Bucuresti, Iasi and online, <https://profs.info.uaic.ro/~consilr/>
13. Andrei-Marius Avram, Vasile Păiș, Dan Tufiș 2020. Romanian speech recognition experiments from the ROBIN project. In *The 15th Edition of the International Conference on Linguistic Resources and Tools for Natural Language Processing (ConsiLR 2020)*, 14-16 December, Bucuresti, Iasi and online, <https://profs.info.uaic.ro/~consilr/>
14. Vasile Păiș 2020. Multiple annotation pipelines inside the RELATE platform. In *The 15th Edition of the International Conference on Linguistic Resources and Tools for Natural Language Processing (ConsiLR 2020)*, 14-16 December, Bucuresti, Iasi and online, <https://profs.info.uaic.ro/~consilr/>
15. Angela Ioniță, 2020, *The governance of decision-making algorithms. The ethics of algorithmic decision making*, Conference "Globalization, Intercultural Dialogue and National Identity", 23 mai 2020, Tg. Mureș, Broșura program a Conferinței Internaționale, pg. 50
16. Lisa-Maria Achimescu, Angela Ioniță, 2020, The emergence of international cyberspace law and the consequences pertaining to individuals, 6th Edition of Scientific Conference Communication, Context, Interdisciplinarity, 24 – 25 Oct. 2020, Tg. Mures, România, Broșura-Program a Conferinței Internaționale CCI 6, pg. 32
17. Liviu-Andrei Nita, Traian Rebedea and Stefan Trausan-Matu, Analysis of convergence and divergence in chat conversations, In Proceedings of the International Conference on Human-Computer Interaction (RoCHI2020). Bucharest, Romania: MatrixRom, <http://rochi2020.utcluj.ro/>
18. Blystad L.-C., Ohlckers P., Marchetti L., Franti E., Dascalu M., Ionescu O., Dobrescu D., Dobrescu L., Niculae C., Dragomir D.C., Honsvall B.L., Opris C.O., Imenes K., Ion M., Oproiu A.M., Pascalau A.-M., Moldovan C., Firtat B., Ristoiu V., Gheorghe R., Barbilian A., Bidirectional neuroprosthesis system integration, published in Proceedings of ESTC 2020, pp. 1-7, 15-18 September 2020, USN, Norway, DOI: 10.1109/ESTC48849.2020.9229697

Realizări excelente obținute în anul 2020 (minim 3) ale institutului:

- 1) Realizarea platformei RELATE (descrisa in lucrarile:

- a) Păiș Vasile (2020). Multiple annotation pipelines inside the RELATE platform In *International Conference on Linguistic Resources and Tools for Natural Language Processing, 2020*
- b) Păiș, Vasile, Tufiș, Dan, Ion, Radu. Integration of Romanian NLP tools into the RELATE platform. In *International Conference on Linguistic Resources and Tools for Natural Language Processing. 2019*
- 2) Finalizarea cu succes a proiectului MT-Kit for Presidency (2019-2020) (http://www.racai.ro/media/comunicat-de-presa-Academia-Romana_ICIA_PresidencyMT.pdf)
- 3) Corpusul de Referință al Limbii Române Contemporane cu dezvoltările recente (descrise în lucrările:
- a) Marc Kupietz, Nils Diewald, Beata Trawiński, Ruxandra Cosma, Dan Cristea, Dan Tufiș, Tamás Váradi, Angelika Wöllstein: Recent developments in the European Reference Corpus EuReCo, In Sylviane Granger & Marie-Aude Lefer (eds) *Translating and Comparing Languages: Corpus-based Insights*. Corpora and Language in Use Proceedings 6, Louvain-la-Neuve: Presses universitaires de Louvain pp.245--261
- b) Barbu Mititelu, Verginica, Tufiș, Dan, Irimia, Elena, Păiș, Vasile, Ion, Radu, Diewald, Nils, Mitrofan, Maria, Mihaela, Onofrei. Little Strokes Fell Great Oaks. Creating Corola, The Reference Corpus of Contemporary Romanian. In *Revue roumaine de linguistique, No./Issue 3. 2019*

Citări ale lucrărilor anterioare în 2020: peste 65 citări, de exemplu:

| Nr. crt. | Lucrarea citată | Nr. Citări in 2020 | Lucrarea care citează |
|----------|---|--------------------|---|
| 1. | Vișan M., Ioniță A., Filip F. Data Analysis in Setting Action Plans of Telecom Operators, Challenges and Applications. <i>Studies in Computational Intelligence</i> . Springer, 2020, Vol. 869. DOI: 10.1007/978-3-030-39250-5_6. | 3 | <ol style="list-style-type: none"> Nosov P. S., Popovych I. S., Cherniavskiy V. V., Zinchenko S. M., Prokopchuk Y. A., Makarchuk D. V. , 2020, „Automated identification of an operator anticipation on marine transport”, in <i>Radio Electronics Computer Science Control</i> · November 2020, pp. 158 – 172, DOI: 10.15588/1607-3274-2020-3-15 F Amin, GS Choi. Hotspots Analysis Using Cyber-Physical-Social System for a Smart City. <i>IEEE Access</i>, 2020 - ieeexplore.ieee.org M Visan, C Ciurea, Smart City: Concepts and two Relevant Components, <i>International Journal of Computers, Communications & Control</i> . Apr2020, Vol. 15 Issue 2, p1-9. 9p. |
| 2. | Trausan-Matu, S. (2019) Is it possible to grow an I–Thou relation with an artificial agent? A dialogistic perspective, <i>AI & Society</i> , Journal of Knowledge, Culture and Communication, ISSN 0951-5666, Vol. 34, Nr. 1, Special Issue: Ethics of AI and Robotics, Springer-Verlag London, pp. 9-17, | 2 | <ol style="list-style-type: none"> Neufeld, E., Finnstad, S., In defense of the Turing test (2020) <i>AI and Society</i>, 35 (4), pp. 819-827. Neufeld, E., Finnstad, S., Imitation Game: Threshold or Watershed? (2020) <i>Minds and Machines</i>, |

| Nr. crt. | Lucrarea citată | Nr. Citări in 2020 | Lucrarea care citează |
|----------|--|--------------------|---|
| 3. | Trausan-Matu, S., The polyphonic model of collaborative learning (2019) <i>The Routledge International Handbook of Research on Dialogic Education</i> , pp. 454-468. | 1. | Holland-Batt, S., Jeffery, E., Debate, discourse and productive disagreement: interrogating the performative dimensions of authorship in the creative writing classroom (2020) <i>New Writing</i> , |
| 4. | Ahmed, M.A., Trausan-Matu, S., Using natural language processing for analyzing Arabic poetry rhythm, (2017) <i>16th Networking in Education and Research RoEduNet International Conference, RoEduNet 2017 - Proceedings</i> , art. no. 8123759 | 2 | <ol style="list-style-type: none"> <li data-bbox="900 477 1394 745">1. Akawee, M.M., Al-Obaidi, M.A.M., Al-Hilfi, H.M.T., Jassim, S.I., Sutikno, T., An efficient hybrid model for secure transmission of data by using efficient data collection and dissemination (EDCD) algorithm based WSN (2020) <i>Indonesian Journal of Electrical Engineering and Computer Science</i>, 20 (1), pp. 545-551. <li data-bbox="900 745 1394 925">2. Shruthi, J., Swamy, S., A prior case study of natural language processing on different domain (2020) <i>International Journal of Electrical and Computer Engineering</i>, 10 (5), pp. 4928-4936. |
| 5. | Barbu, M.-S., Trausan-Matu, S., Intertextuality detection in literary texts using Word2Vec models (2017) <i>2017 21st International Conference on System Theory, Control and Computing, ICSTCC 2017</i> , art. no. 8107044, pp. 262-265 | 1 | Baccouche, A., Ahmed, S., Sierra-Sosa, D., Elmaghraby, A., Malicious text identification: Deep learning from public comments and emails (2020) <i>Information (Switzerland)</i> , 11 (6), art. no. 312 |
| 6. | Balint, M., Dascalu, M., Trausan-Matu, S., Classifying written texts through rhythmic features (2016) <i>Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)</i> , 9883 LNAI, pp. 121-129. | 2 | <ol style="list-style-type: none"> <li data-bbox="900 1216 1394 1462">1. Lagutina, K., Poletaev, A., Lagutina, N., Boychuk, E., Paramonov, I., Automatic Extraction of Rhythm Figures and Analysis of Their Dynamics in Prose of 19th-21st Centuries (2020) Conference of Open Innovation Association, FRUCT, 2020-April, art. no. 9087430, pp. 247-255. <li data-bbox="900 1462 1394 1693">2. Boychuk, E., Vorontsova, I., Shliakhtina, E., Lagutina, K., Belyaeva, O., Automated approach to rhythm figures search in english text (2020) <i>Communications in Computer and Information Science</i>, 1086CCIS, pp. 107-119. |
| 7. | Mahloane, M.J., Trausan-Matu, S., Metaphor annotation in Sesotho text corpus: Towards the representation of resource-scarce languages in NLP (2015) <i>Proceedings - 2015 20th International Conference on Control Systems and Computer Science, CSCS 2015</i> , art. no. 7168461, pp. 405-410 | 1 | Tom, S., Mpekoa, N., Swart, J., The Role of ICTs in the Provision of Engineering Education to Visually Impaired Learners in South Africa (2020) <i>2020 Conference on Information Communications Technology and Society, ICTAS 2020 - Proceedings</i> , art. no. 9082453, |

| Nr. crt. | Lucrarea citată | Nr. Citări in 2020 | Lucrarea care citează |
|----------|---|--------------------|--|
| 8. | Gaftea, V.N., Ioniță, A., NIȚU, I. and POPA, I.F., România și Piața Unică Digitală a Uniunii Europene. Oportunități și provocări, Romanian European Institute, ISBN online: 978 -606 -8202 -59 -4, 2018, Bucharest | 1 | Mircea Constantin Șcheau, Viorel Nicolae Gaftea, Monica Violeta Achim, Corina-Narcisa (Bodescu) Cotoc, Cyber Security Reactivity in Crisis Times and Critical Infrastructures, 2020, Proc of 24th International Conference on System Theory, Control and Computing (ICSTCC), pp. 691 – 698, 978-1-7281-9809-5/20/ |
| 9. | Gogu, R.C.; Pandle, A.; Ioniță, A.; Ionescu, C. Groundwater vulnerability analysis using a low-cost Geographical Information System. In Proceedings of the MIS/UDMS Conference WELL-GIS WORKSHOP's Environmental Information Systems for Regional and Municipal Planning, Prague, Czech Republic, 20 November 1996; pp 35–49 | 1 | Alina Barbulescu, Assessing Groundwater Vulnerability: DRASTIC and DRASTIC-Like Methods: A Review, Water 2020, 12, 1356, |
| 10. | <u>Adriana Vlad</u> , A. Ilyas and A. Luca "Unifying running-key approach and logistic map to generate enciphering sequences". <i>Annals of Telecommunications-Annales des Télécommunications</i> , 68, Publisher Springer-Verlag, pp 179-186, 2013 DOI https://doi.org/10.1007/s12243-012-0317-8 Print ISSN 0003-4347 Online ISSN 1958-9395. IF 1.552 | 1 | C. Macovei, A. Vaduva, A. Vlad and B. Badea, "The autocorrelation function of the logistic map chaotic signal in relation with the statistical independence issue," 2020 13th International Conference on Communications (COMM), Bucharest, Romania, 2020, pp. 25-30, doi: 10.1109/COMM48946.2020.9142000, ISI Proceedings |
| 11. | M. Frunzete, L. Yu, J.-P. Barbot, <u>Adriana Vlad</u> . Compressive sensing matrix designed by tent map, for secure data transmission. In <i>Proceedings of International Conference Signal Processing Algorithms, Architectures, Arrangements, and Applications (SPA)</i> , 2011 | 5 | <ol style="list-style-type: none"> 1. Y. Zhang, P. Wang, H. Huang, Y. Zhu, D. Xiao and Y. Xiang, "Privacy-Assured FogCS: Chaotic Compressive Sensing for Secure Industrial Big Image Data Processing in Fog Computing," in IEEE Transactions on Industrial Informatics, doi: 10.1109/TII.2020.3008914. IF 9.112 2. Yi, R.; Cui, C.; Miao, Y.; Wu, B. A Method of Constructing Measurement Matrix for Compressed Sensing by Chebyshev Chaotic Sequence. <i>Entropy</i> 2020, 22, 1085, https://doi.org/10.3390/e22101085 IF 2.494 3. Zhu, Z., Song, Y., Zhang, W. et al. A novel compressive sensing-based framework for image compression-encryption with S-box. <i>Multimed Tools Appl</i> 79, 25497–25533 (2020). https://doi.org/10.1007/s11042-020-09193-x, IF 2.313 |

| Nr. crt. | Lucrarea citată | Nr. Citări in 2020 | Lucrarea care citează |
|----------|---|--------------------|--|
| | | | 4. P. Guo et al., "Compressive Sensing Based on Mesoscopic Chaos of Silicon Optomechanical Photonic Crystal," in <i>IEEE Photonics Journal</i> , vol. 12, no. 5, pp. 1-9, Oct. 2020, Art no. 6602009, doi: 10.1109/JPHOT.2020.3022801. IF 2.833 5. Zhang R, Xiao D. A secure image permutation–substitution framework based on chaos and compressive sensing. <i>International Journal of Distributed Sensor Networks</i> . March 2020. doi:10.1177/1550147720912949. IF 1.151 |
| 12. | Vlad A., Luca A., Frunzete M. (2009) Computational Measurements of the Transient Time and of the Sampling Distance That Enables Statistical Independence in the Logistic Map. In: Gervasi O., Taniar D., Murgante B., Laganà A., Mun Y., Gavrilova M.L. (eds) <i>Computational Science and Its Applications – ICCSA 2009</i> . ICCSA 2009. Lecture Notes in Computer Science, vol 5593. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-02457-3_59 | 2 | 1. Yi, R.; Cui, C.; Miao, Y.; Wu, B. A Method of Constructing Measurement Matrix for Compressed Sensing by Chebyshev Chaotic Sequence. <i>Entropy</i> 2020, 22, 1085. IF 2.494 2. C. Macovei, A. Vaduva, A. Vlad and B. Badea, "The autocorrelation function of the logistic map chaotic signal in relation with the statistical independence issue," 2020 13th International Conference on Communications (COMM), Bucharest, Romania, 2020, pp. 25-30, doi: 10.1109/COMM48946.2020.9142000, ISI Proceedings |
| 13. | Adriana Vlad, A. Luca, O. Hodea, and R. Tataru. "Generating chaotic secure sequences using tent map and a running-key approach." <i>Proceedings of Romanian Academy, Series A Volume 14, Special Issue 2013</i> , pp. 295–302, ISSN 1454-9069 IF 1.752 | 1 | Datcu, O.; Macovei, C.; Hobincu, R. Chaos Based Cryptographic Pseudo-Random Number Generator Template with Dynamic State Change. <i>Appl. Sci.</i> 2020, 10, 451, https://doi.org/10.3390/app10020451 , WOS 000522540400027 IF 2.474 |
| 14. | A. Luca, A. Ilyas, <u>Adriana Vlad</u> , "Generating random binary sequences using tent map". In <i>Proc. IEEE Int. Symposium on Signals, Circuits and Systems</i> , Iasi, Romania, 2011, pp. 81-84, ISBN 978-1-4577-0201-3, DOI 10.1109/ISSCS.2011.5978664 | 2 | 1. H. N. Nguyen, M. Aono and Y. Hara-Azumi, "FPGA-Based Hardware/Software Co-Design of a Bio-Inspired SAT Solver," in <i>IEEE Access</i> , vol. 8, pp. 49053-49065, 2020, doi: 10.1109/ACCESS.2020.2980008. IF 3.745 2. Lawnik, M., Banasik, A., & Kapczyński, A. (2020). GENERATION OF VALUES FROM DISCRETE PROBABILITY DISTRIBUTIONS WITH THE USE OF CHAOTIC MAPS. <i>International Journal of Computing</i> , 19(1), 49-54. Retrieved from http://computingonline.net/computing/article/view/1692 , ISSN 2312-5381 (Online) |
| 15. | A Vaduva, Adriana Vlad, and B Badea. "Evaluating the | 2 | 1. Yi, R.; Cui, C.; Miao, Y.; Wu, B. A Method of Constructing Measurement |

| Nr. crt. | Lucrarea citată | Nr. Citări in 2020 | Lucrarea care citează |
|----------|---|--------------------|--|
| | <p>performance of a test-method for statistical independence decision in the context of chaotic signals." In <i>2016 International Conference on Communications (COMM)</i>, pp. 417-422. IEEE, 2016. DOI:10.1109/ICComm.2016.7528207</p> | | <p>Matrix for Compressed Sensing by Chebyshev Chaotic Sequence. <i>Entropy</i> 2020, 22, 1085. IF 2.494</p> <p>2. C. Macovei, A. Vaduva, A. Vlad and B. Badea, "The autocorrelation function of the logistic map chaotic signal in relation with the statistical independence issue," 2020 13th International Conference on Communications (COMM), Bucharest, Romania, 2020, pp. 25-30, doi: 10.1109/COMM48946.2020.9142000, ISI Proceedings</p> |
| 16. | <p>O. Hodea, A. Vlad and O. Datcu, "Evaluating the sampling distance to achieve independently and identically distributed data from generalized Hénon map," ISSCS 2011 - International Symposium on Signals, Circuits and Systems, Iasi, 2011, pp. 1-4, doi: 10.1109/ISSCS.2011.5978665.</p> | 1 | <p>Datcu, O.; Macovei, C.; Hobincu, R. Chaos Based Cryptographic Pseudo-Random Number Generator Template with Dynamic State Change. <i>Appl. Sci.</i> 2020, 10, 451, WOS 000522540400027 IF 2.474</p> |
| 17. | <p>B. Badea, A. Vlad (2006) "Revealing Statistical Independence of Two Experimental Data Sets: An Improvement on Spearman's Algorithm". In: Gavrilova M. et al. (eds) <i>Computational Science and Its Applications - ICCSA 2006</i>. ICCSA 2006. <i>Lecture Notes in Computer Science</i>, vol 3980. Springer, Berlin, Heidelberg, pp. 1166-1176 DOI https://doi.org/10.1007/11751540_127 Online ISBN 978-3-540-34071-3 Print ISBN 978-3-540-34070-6</p> | 2 | <p>1. Yi Sun, Gongfei Han, Lilian Huang, Shiming Wang, and Jianhong Xiang. 2020. Construction of Block Circulant Measurement Matrix Based on Hybrid Chaos: Bernoulli Sequences. In <i>Proceedings of the 2020 4th International Conference on Digital Signal Processing (ICDSP 2020)</i>. Association for Computing Machinery, New York, NY, USA, 1–6. DOI:https://doi.org/10.1145/3408127.3408151</p> <p>2. C. Macovei, A. Vaduva, A. Vlad and B. Badea, "The autocorrelation function of the logistic map chaotic signal in relation with the statistical independence issue," 2020 13th International Conference on Communications (COMM), Bucharest, Romania, 2020, pp. 25-30, doi: 10.1109/COMM48946.2020.9142000, ISI Proceedings</p> |
| 18. | <p>Ilyas, Azeem, Adriana Vlad, and Adrian Luca. "Statistical analysis of pseudorandom binary sequences generated by using tent map." <i>UPB Sci. Bull</i> 75 (2013): 113-122</p> | 2 | <p>1. Lawnik, M., Banasik, A., & Kapczyński, A. (2020). GENERATION OF VALUES FROM DISCRETE PROBABILITY DISTRIBUTIONS WITH THE USE OF CHAOTIC MAPS. <i>International Journal of Computing</i>, 19(1), 49-54. Retrieved from https://computingonline.net/computing/article/view/1692, ISSN 2312-5381 (Online)</p> |

| Nr. crt. | Lucrarea citată | Nr. Citări in 2020 | Lucrarea care citează |
|----------|---|--------------------|--|
| | | | 2. Datcu, O.; Macovei, C.; Hobincu, R. Chaos Based Cryptographic Pseudo-Random Number Generator Template with Dynamic State Change. Appl. Sci. 2020, 10, 451. IF 2.474 |
| 19. | D. Sava, A. Vlad and R. Tataru, "A new type of keystream generator based on chaotic maps: Illustration on a Hénon generalized map," 2014 10th International Conference on Communications (COMM), Bucharest, 2014, pp. 1-6, doi: 10.1109/ICComm.2014.6866726 | 1 | Datcu, O.; Macovei, C.; Hobincu, R. Chaos Based Cryptographic Pseudo-Random Number Generator Template with Dynamic State Change. Appl. Sci. 2020, 10, 451, WOS 000522540400027 IF 2.474 |
| 20. | Datcu, Octaviana, Jean-Pierre Barbot, and Adriana Vlad. "New enciphering algorithm based on chaotic generalized Hénon map." In <i>Chaos Theory: Modeling, Simulation and Applications</i> , pp. 143-150. 2011, https://doi.org/10.1142/9789814350341_0016 | 1 | Datcu, O.; Macovei, C.; Hobincu, R. Chaos Based Cryptographic Pseudo-Random Number Generator Template with Dynamic State Change. Appl. Sci. 2020, 10, 451, WOS 000522540400027 IF 2.474 |
| 21. | C. Macovei, A. Vaduva, A. Vlad and M. Zamfir, "A mean test on the autocorrelation function of a chaotic signal aiming to support the statistical independence sampling distance," 2019 International Symposium on Signals, Circuits and Systems (ISSCS), Iasi, Romania, 2019, pp. 1-4, doi: 10.1109/ISSCS.2019.8801778, WOS:000503459500050 | 1 | C. Macovei, A. Vaduva, A. Vlad and B. Badea, "The autocorrelation function of the logistic map chaotic signal in relation with the statistical independence issue," 2020 13th International Conference on Communications (COMM), Bucharest, Romania, 2020, pp. 25-30, doi: 10.1109/COMM48946.2020.9142000, ISI Proceedings |
| 22. | O. Hodea and A. Vlad, "Logistic map sensitivity to control parameter and its implications in the statistical behaviour," International Symposium on Signals, Circuits and Systems ISSCS2013, Iasi, 2013, pp. 1-4, doi: 10.1109/ISSCS.2013.6651249. | 1 | C. Macovei, A. Vaduva, A. Vlad and B. Badea, "The autocorrelation function of the logistic map chaotic signal in relation with the statistical independence issue," 2020 13th International Conference on Communications (COMM), Bucharest, Romania, 2020, pp. 25-30, doi: 10.1109/COMM48946.2020.9142000. ISI Proceedings |
| 23. | A. Vlad, A. Mitrea, S. Ciuca and A. Luca, "A study on the statistical structure of words and of word digrams in a literary romanian corpus," 2011 6th Conference on Speech Technology and Human-Computer Dialogue (SpeD), Brasov, 2011, pp. 1-8, doi:10.1109/SPED.2011.5940743 | 1 | A. DINU, A. VLAD, B. HANU and A. MITREA, "The Statistical Independence for Words in Printed Romanian Language," 2020 13th International Conference on Communications (COMM), Bucharest, Romania, 2020, pp. 319-324, doi: 10.1109/COMM48946.2020.9142045. ISI Proceedings |
| 24. | Dinu, A., & Vlad, A. (2014). The compound tent map and the connection between GRAY codes | 1 | Hazell, P.; Mather, P.; Longstaff, A.; Fletcher, S. Digital System Performance Enhancement of a Tent Map-Based ADC for |

| Nr. crt. | Lucrarea citată | Nr. Citări in 2020 | Lucrarea care citează |
|----------|---|--------------------|--|
| | and the initial condition recovery. Scientific Bulletin of University POLITEHNICA of Bucharest, Series A: Applied Mathematics and Physics, 76(1), 17-28 | | Monitoring Photovoltaic Systems. <i>Electronics</i> 2020, 9, 1554. IF 2.412 |
| 25. | Vlad A., Luca A., Badea B. (2007) On Statistical Independence in the Logistic Map: A Guide to Design New Chaotic Sequences Useful in Cryptography. In: Gervasi O., Gavrilova M.L. (eds) Computational Science and Its Applications – ICCSA 2007. ICCSA 2007. Lecture Notes in Computer Science, vol 4707. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-540-74484-9_40 | 1 | C. Macovei, A. Vaduva, A. Vlad and B. Badea, "The autocorrelation function of the logistic map chaotic signal in relation with the statistical independence issue," 2020 13th International Conference on Communications (COMM), Bucharest, Romania, 2020, pp. 25-30, doi: 10.1109/COMM48946.2020.9142000. ISI Proceedings |
| 26. | Vlad, A., Mitrea, A., & Mitrea, M. (2004). INFORMATION SOURCES APPROXIMATING TO PRINTED ROMANIAN: THE ROLE OF TYPE II STATISTICAL ERROR. <i>PROCEEDINGS OF THE ROMANIAN ACADEMY, Series A, Volume 5, Number 3/2004. THE PUBLISHING HOUSE OF THE ROMANIAN ACADEMY</i> | 1 | A. DINU, A. VLAD, B. HANU and A. MITREA, "The Statistical Independence for Words in Printed Romanian Language," 2020 13th International Conference on Communications (COMM), Bucharest, Romania, 2020, pp. 319-324, doi: 10.1109/COMM48946.2020.9142045. ISI Proceedings |
| 27. | B. Hanu, A. Vlad and A. Mitrea, "Aspects Revealing the Orthography and Punctuation Impact in Printed Romanian: A Literary Corpus Based Study," 2018 International Conference on Communications (COMM), Bucharest, 2018, pp. 95-100, doi: 10.1109/ICComm.2018.8484819 | 1 | A. DINU, A. VLAD, B. HANU and A. MITREA, "The Statistical Independence for Words in Printed Romanian Language," 2020 13th International Conference on Communications (COMM), Bucharest, Romania, 2020, pp. 319-324, doi: 10.1109/COMM48946.2020.9142045, ISI Proceedings |
| 28. | Chitescu, Ion; Plavitu, Anca, Computing Choquet integrals, FUZZY SETS AND SYSTEMS Volume: 327 Pages: 48-68 Published: NOV 15 2017 | 1 | Cai, Mei; Yan, Li; Gong, Zaiwu; et al., A Voting Mechanism Designed for Talent Shows in Mass Media: Weighted Preference of Group Decision Makers in Social Networks Using Fuzzy Measures and Choquet Integral, GROUP DECISION AND NEGOTIATION |
| 29. | Franti, Eduard; Milea, Lucian; Butu, Verona; Cismas, S; Lungu, M; Schiopu, P; Barbilian, A; Plavitu, A, Methods of Acquisition and Signal Processing for Myoelectric Control of Artificial Arms, ROMANIAN JOURNAL OF INFORMATION SCIENCE AND TECHNOLOGY Volume: 15 Issue: 2 Pages: 91-105 Published: 2012 | 1 | Shanmuganathan, Vimal; Yesudhas, Harold Robinson; Khan, Mohammad S.; et al., R-CNN and wavelet feature extraction for hand gesture recognition with EMG signals, NEURAL COMPUTING & APPLICATIONS Volume: 32 Issue: 21 Special Issue: SI Pages: 16723-16736 Published: NOV 2020 |

| Nr. crt. | Lucrarea citată | Nr. Citări in 2020 | Lucrarea care citează |
|----------|---|--------------------|---|
| 30. | Franti, Eduard; Ispas, Ioan; Dragomir, Voichita; et al., Voice Based Emotion Recognition with Convolutional Neural Networks for Companion Robots, ROMANIAN JOURNAL OF INFORMATION SCIENCE AND TECHNOLOGY Volume: 20 Issue: 3 Special Issue: SI Pages: 222-+ Published: 2017 | 1 | Christy, A.; Vaithyasubramanian, S.; Jesudoss, A.; et al., Multimodal speech emotion recognition and classification using convolutional neural network techniques, INTERNATIONAL JOURNAL OF SPEECH TECHNOLOGY Volume: 23 Issue: 2 Special Issue: SI Pages: 381-388 Published: JUN 2020 |
| 31. | Milea, P. L.; Dascalu, M.; Franti, E. D.; et al., Tactile Feedback Experiments for Forearm Prosthesis with Myoelectric Control, ROMANIAN JOURNAL OF INFORMATION SCIENCE AND TECHNOLOGY Volume: 20 Issue: 2 Pages: 101-114 Published: 2017 | 1 | Zhao, Huichan; Hussain, Aftab M.; Israr, Ali; et al., A Wearable Soft Haptic Communicator Based on Dielectric Elastomer Actuators, SOFT ROBOTICS Volume: 7 Issue: 4 Pages: 451-461 Published: AUG 1 2020 |
| 32. | Franti, Eduard; Dascalu, Monica; Ispas, Ioan; et al., Decoding communication: a deep learning approach to voice-based intention detection, ROMANIAN JOURNAL OF INFORMATION SCIENCE AND TECHNOLOGY Volume: 21 Issue: 4 Special Issue: SI Pages: 460-474 Published: 2018 | 1 | Dobrea, Dan-Marius; Dobrea, Monica-Claudia, An autonomous UAV system for video monitoring of the quarantine zones, ROMANIAN JOURNAL OF INFORMATION SCIENCE AND TECHNOLOGY Volume: 23 Special Issue: SI Supplement: S Pages: S53-U65 Published: 2020 |
| 33 | V Păiș, D Tufiș. 2018. Computing distributed representations of words using the CoRoLa corpus. Proceedings of the Romanian Academy, series A, 403-410 | 4 | <ol style="list-style-type: none"> <li data-bbox="906 1211 1385 1357">1. Găman, M., & Ionescu, R. T. (2020). The Unreasonable Effectiveness of Machine Learning in Moldavian versus Romanian Dialect Identification. arXiv preprint arXiv:2007.15700. <li data-bbox="906 1391 1385 1570">2. Pais, V., & Ion, R. (2020). Termeval 2020: Racai's automatic term extraction system. In Proceedings of the 6th International Workshop on Computational Terminology pp. 101-105. <li data-bbox="906 1603 1385 1839">3. Pais, V., Tufiș, D., & Ion, R. (2020). MWSA Task at GlobaLex 2020: RACAI's Word Sense Alignment System using a Similarity Measurement of Dictionary Definitions. In Proceedings of the 2020 Globalex Workshop on Linked Lexicography pp. 69-75. <li data-bbox="906 1850 1385 1998">4. Raicu, I., Boitout, N., Bologa, R., & Sturza, M. G. (2020). Word embeddings in Romanian for the retail banking domain. In Proceedings of the IE 2020 International Conference |

| Nr. crt. | Lucrarea citată | Nr. Citări in 2020 | Lucrarea care citează |
|----------|---|--------------------|--|
| 34. | Boroș, T., Dumitrescu, D.Ș. and Păiș, V. (2018). "Tools and resources for Romanian text-to-speech and speech-to-text applications", in Proceedings of the International Conference on Human-Computer Interaction – RoCHI 2018, pp 46-53 | 1 | Păiș, V., Ion, R., & Tufiș, D. (2020). A Processing Platform Relating Data and Tools for Romanian Language. In Proceedings of the 1st International Workshop on Language Technology Platforms pp. 81-88. |
| 35. | Mititelu, V.B., Tufiș, D., Irimia, E., Păiș, V., Ion, R., Diewald, N., Mitrofan, M., Onofrei, M. (2019). Little Strokes Fell Great Oaks. Creating Corola, The Reference Corpus of Contemporary Romanian. In <i>Revue roumaine de linguistique</i> , No./Issue 3 | 1 | Tufiș, D., Mitrofan, M., Păiș, V., Ion, R., & Coman, A. (2020). Collection and Annotation of the Romanian Legal Corpus. In Proceedings of The 12th Language Resources and Evaluation Conference (pp. 2773-2777). |
| 36. | Váradi, T., Koeva, S., Yamalov, M., Tadić, M., Sass, B., Nitoń, B., Ogrodniczuk, M., Pezik, P., Verginica, B.M., Ion, R., Irimia, E., Mitrofan, M., Păiș, V., Tufiș, D., Garabík, R., Krek, S., Repar, A., Rihtar, M., Brank, J. (2020) The MARCELL Legislative Corpus. In Proceedings of the 12th Language Resources and Evaluation Conference (LREC). European Language Resources Association, Marseille, France, pages 3754-3761 | 1 | Tufiș, D., Mitrofan, M., Păiș, V., Ion, R., & Coman, A. (2020). Collection and Annotation of the Romanian Legal Corpus. In Proceedings of The 12th Language Resources and Evaluation Conference (pp. 2773-2777). |
| 37 | G Rehm, K Marheinecke, S Hegele, S Piperidis, K Bontcheva, J Hajić, ...D. Tufiș The European Language Technology Landscape in 2020: Language-Centric and Human-Centric AI for Cross-Cultural Communication in Multilingual Europe | 2 | <ol style="list-style-type: none"> <li data-bbox="900 1182 1394 1283">1. <u>G Rehm, M Berger, E Elsholz, S Hegele</u> <u>European language grid: An overview</u> - arXiv preprint arXiv ..., 2020 - arxiv.org <li data-bbox="900 1328 1394 1462">2. <u>M Eskevich, F de Jong, A König, D Fišer</u> (2020). <u>CLARIN: Distributed Language Resources and Technology in a European Infrastructure</u> |
| 38 | V Pais, <u>R Ion Termeval 2020: Racai's automatic term extraction system</u> | 1 | <u>A Rigouts Terryn, V Hoste, P Drouin Termeval 2020: Shared task on automatic term extraction using the annotated corpora for term extraction research (acter) dataset</u> |
| 39 | D Tufis, VB Mititelu, E Irimia, M Mitrofan, R Ion, G Cioroiu: <u>Making Pepper Understand and Respond in Romanian</u> | 1 | <u>E Irimia, M Mitrofan, VB Mititelu: Evaluating the Wordnet and CoRoLa-based Word Embedding Vectors for Romanian as Resources in the Task of Microworlds Lexicon Expansion</u> Global Wordnet Conference, 2019 |

| Nr. crt. | Lucrarea citată | Nr. Citări in 2020 | Lucrarea care citează |
|----------|---|--------------------|--|
| 40 | VB Mititelu, E Irimia, D Tufis. <u>The reference corpus of the contemporary romanian language (CoRoLa)</u> | 6 | <ol style="list-style-type: none"> 1. <u>M Nutu, B Lőrincz, A Stan (2019) Deep Learning for Automatic Diacritics Restoration in Romanian</u>. 2019 IEEE 15th International ..., 2019 2. <u>B Lőrincz, M Nutu, A Stan (2019) Romanian Part of Speech Tagging using LSTM Networks</u>. 2019 IEEE 15th International ..., 2019 3. S Adriana (2019) <u>Input Encoding for Sequence-to-Sequence Learning of Romanian Grapheme-to-Phoneme Conversion</u> 4. <u>A Utka (2020) Lessons Learned from Creating a Balanced Corpus from Online Data</u>. The Baltic Perspective: Proceedings of ..., 2020 5. D Tufiş, V Barbu Mititelu, <u>E Irimia, V Păiş, R Ion... - 2019 Little strokes fell great oaks. Creating CoRoLa, the reference corpus of contemporary Romanian</u> 6. <u>Ludmila Midrigan - Ciochina, Victoria Boyd, Lucila Sanchez Ortega, Diana Malancea-Malac, Doina Midrigan, David P. Corina (2020) A Representative Corpus of the Romanian Language: Resources in Underrepresented Languages, LREC 2020</u> |

ICIA a fost implicat atât în colaborări

a) naționale:

- PN-III-P1-1.2-PCCDI- 2017-0818 Resurse și tehnologii pentru dezvoltarea interfețelor om-mașină în limba română 2018-2020 (ReTeRom),
- PN-II-P1-1.2-PCCDI- 2017-0734 Roboții și Societatea: Sisteme Cognitive pentru Roboți Personali și Vehicule Autonome 2018-2020 ROBIN

b) cât și internaționale:

- CURLICAT (INEA/CEF/ICT/A2019/1926831) 2020-2022
- Nexus Linguarum (OC-2018-2-23228) 2019-2023
- European Language Grid (H2020 825627) 2020-2024
- European Language Resource Coordination (SMART 2019/1083) 2020-2022
- MARCELL - "Multilingual Resources for CEF.AT in the legal domain" (INEA/CE F/ICT/A2017/1565710), 2018-2020,
- MT Kit for EU Council Presidency (INEA/CEF/ICT/A2018/1762093) 2019-2020
- Performance Augmentation Network (PAN) OC-2018-2-23324, 2019-2020
- Language In The Human-Machine Era (LITHME) CA19102, 2020-2022

În ICIA în anul 2020 s-au derulat următoarele proiecte de cercetare:

a) Naționale:

1. PN-III-P1-1.2-PCCDI- 2017-0818 Resurse și tehnologii pentru dezvoltarea interfețelor om-mașină în limba română 2018-2020 (ReTeRom), director proiect: Dan Tufiș, Buget total ICIA 1 324 125 lei, Buget ICIA 2020: 2,074,039 RON
2. PN-III-P1-1.2-PCCDI- 2017-0734 Roboții și Societatea: Sisteme Cognitive pentru Roboți Personali și Vehicule Autonome 2018-2020 ROBIN –coordonator ICIA Dan Tufiș, Buget total ICIA: 990 100 lei, Buget ICIA 2020: 2,129,500 RON

b) Internaționale:

- CURLICAT (INEA/CEF/ICT/A2019/1926831) 2020-2022 Buget total ICIA 96 441 euro, Buget ICIA 2020: 48 440 EURO
- European Language Grid1 (H2020 825627) 2020-2024
- European Language Resource Coordination1 (SMART 2019/1083) 2020-2022
- MARCELL - "Multilingual Resources for CEF.AT in the legal domain" (INEA/CEF/ICT/A2017/1565710), 2018-2020, coordonator ICIA: Tufiș D. total: 322922,8 EURO din care in 2020: 627,839 EURO
- MT Kit for EU Council Presidency (INEA/CEF/ICT/A2018/1762093) 2019-2020, Buget total ICIA: 87 528 euro, Buget ICIA 2020: 43 764 euro

În ICIA în anul 2020 s-au derulat următoarele proiecte COST :

- Nexus Linguarum (OC-2018-2-23228) 2019-2023
- European Language Grid (H2020 825627) 2020-2024
- European Language Resource Coordination (SMART 2019/1083) 2020-2022
- Performance Augmentation Network (PAN) OC-2018-2-23324, 2019-2020
- Language In The Human-Machine Era (LITHME) CA19102, 2020-2022

Conferințe organizate/conferințe susținute

Conferințe organizate

1. ConsILR, online, 14-15 decembrie 2020
2. 4th ReTeRom workshop, online, 16 decembrie 2020

Conferințe susținute/Participări la conferințe

1. Collection and Annotation of the Romanian Legal Corpus (pp. 2773-2777), <https://lrec2020.lrec-conf.org/en/conference-programme/accepted-papers/>
2. Tufiș, D., Mitrofan, M., Păiș, V., Ion, R. and Coman, A., 2020, Collection and Annotation of the Romanian Legal Corpus (pp. 2773-2777), <https://lrec2020.lrec-conf.org/en/conference-programme/accepted-papers/>
3. Păiș, V., Ion, R., & Tufiș, D. (2020). A Processing Platform Relating Data and Tools for Romanian Language. In Proceedings of the 1st International Workshop on Language Technology Platforms pp. 81-88.
4. Tamás Váradi, Svetla Koeva, Martin Yamalov, Marko Tadić, Bálint Sass, Bartłomiej Nitoń, Maciej Ogrodniczuk, Piotr Pezik, Verginica Barbu Mititelu, Radu Ion, Elena Irimia, Maria Mitrofan, Vasile Păiș, Dan Tufiș, Radovan Garabík, Simon Krek, Andraz Repar, Matjaž Rihtar, Janez Brank. The MARCELL Legislative Corpus (pp. 3761-3768), <https://lrec2020.lrec-conf.org/en/conference-programme/accepted-papers/>

5. Verginica Mititelu, Elena Irimia, Vasile Păiș, Andrei Avram, Maria Mitrofan and Eric Curea, 2020, Romanian Resources in LLOD Format, <https://profs.info.uaic.ro/~consilr/>, ConsILR-20 20, online, 14-16 December, 2020.
6. Verginica Barbu Mititelu, Svetlozara Leseva, Ivelina Stoyanova, 2020, *Semantic Analysis of Verb-Noun Conversions in Princeton WordNet*, SLE - workshop on zero affixes, Bucharest, 26-28 August 2020. <http://sle2020.eu/programme>
7. Cristian Manolache, Alexandru-Lucian Georgescu, Verginica Barbu Mititelu, Horia Cucu and Corneliu Burileanu, *Improved Text Normalization and Language Models for Speed's Automatic Speech Recognition System*, ConsILR 2020, 14-15 dec 2020. (program indisponibil momentan)
8. Verginica Mititelu and Maria Mitrofan, 2020, The Romanian Medical Treebank – SiMoNERo, ConsILR-2020, online, 14-16 December, 2020, <https://profs.info.uaic.ro/~consilr/>
9. Carlos Ramisch, Agata Savary, Bruno Guillaume, Jakub Waszczuk, Marie Candito, Ashwini Vaidya, Verginica Barbu Mititelu, Archana Bhatia, Uxoá Iñurrieta, Voula Giouli, Tunga Gungor, Menghan Jiang, Timm Lichte, Chaya Liebeskind, Johanna Monti, Renata Ramisch, Sara Stymne, Abigail Walsh and Hongzhi Xu, *Edition 1.2 of the PARSEME Shared Task on Semi-supervised Identification of Verbal Multiword Expressions*, in *Proceedings of the Joint Workshop on Multiword Expressions and Electronic Lexicons (MWE-LEX 2020)*, COLING 2020. http://multiword.sourceforge.net/PHITE.php?site_sig=CONF&page=CONF_02_MWE-LEX_2020__lb_COLING__rb__&subpage=CONF_2_0_Program
10. Andrei-Marius Avram, Verginica Barbu Mititelu, 2020, A Customizable WordNet Editor, in *Proceedings of CLiB 2020*, 25-26 June, Sofia, Bulgaria, p. 148-155. <https://dcl.bas.bg/clib/program/>
11. Svetlozara Leseva, Verginica Barbu Mititelu, Ivelina Stoyanova, It Takes Two to Tango - Towards a Multilingual MWE Resource, in *Proceedings of CLiB 2020*, 25-26 June, Sofia, Bulgaria, p. 101-111. <https://dcl.bas.bg/clib/program/>
12. Tamás Váradi, Svetla Koeva, Martin Yalamov, Marko Tadić, Bálint Sass, Bartłomiej Nitoń, Maciej Ogrodniczuk, Piotr Pęzik, Verginica Barbu Mititelu, Radu Ion, Elena Irimia, Maria Mitrofan, Vasile Păiș, Dan Tufiș, Radovan Garabík, Simon Krek, Andraz Repar, Matjaž Rihtar and Janez Brank, The MARCELL Legislative Corpus, in *Proceedings of LREC 2020*, Marseilles, May 2020, p. 3754-3761, <https://lrec2020.lrec-conf.org/en/conference-programme/accepted-papers/>
13. C. Macovei, A. Vaduva, A. Vlad and B. Badea, "The autocorrelation function of the logistic map chaotic signal in relation with the statistical independence issue," 2020 13th International Conference on Communications (COMM), Bucharest, Romania, 2020, pp. 25-30, doi: 10.1109/COMM48946.2020.9142000, ISI Proceedings
14. A. Dinu, A. Vlad, B. Hanu, A. Mitrea, "The Statistical Independence for Words in Printed Romanian Language," 2020 13th International Conference on Communications (COMM), Bucharest, Romania, 2020, pp. 319-324, doi: 10.1109/COMM48946.2020.9142045, ISI Proceedings

15. Alexandru Dinu, Adriana Vlad, Adrian Mitrea, Bogdan Hanu, "Beginning and End of Sentence Word Digrams for Printed Romanian Language". In *The 15th Edition of the International Conference on Linguistic Resources and Tools for Natural Language Processing (ConsiLR 2020)*, 14-16 December, Bucuresti, Iasi and online, <https://profs.info.uaic.ro/~consilr/>
16. Angela Ioniță, 2020, *The governance of decision-making algorithms. The ethics of algorithmic decision making*, Conference "Globalization, Intercultural Dialogue and National Identity", 23 mai 2020, Tg. Mureș, Broșura program a Conferinței Internaționale, pg. 50
17. Lisa-Maria Achimescu, Angela Ioniță, 2020, The emergence of international cyberspace law and the consequences pertaining to individuals, 6th Edition of Scientific Conference Communication, Context, Interdisciplinarity, 24 – 25 Oct. 2020, Tg. Mures, România, Broșura-Program a Conferinței Internaționale CCI 6, pg. 32
18. Liviu-Andrei Nita, Traian Rebedea and Stefan Trausan-Matu, Analysis of convergence and divergence in chat conversations, In Proceedings of the International Conference on Human-Computer Interaction (RoCHI2020). Bucharest, Romania: MatrixRom, <http://rochi2020.utcluj.ro/>

Concluzii și propuneri

Încă din anul 2016 - 2019 în Rapoartele de activitate ale ICIA au fost făcute unele propuneri rezultate în urma analizării activității de bază a institutului cât și a activităților conexe dar obligatorii potrivit legislației în vigoare, care sunt pe cale să copleșească angajații și așa în număr insuficient.

Este de dorit să se clarifice la nivelul Casei Oamenilor de Știință și, implicit, al Academiei Române, situațiile referitoare la:

- organizarea activității de arhivare a documentelor în conformitate cu prevederile Legii nr. 16/1996, implementarea planului de măsuri stabilit împreună cu o firmă specializată, pe baza următoarelor principii generale de prevenire: evitarea riscurilor, evaluarea riscurilor care nu pot fi evitate, dezvoltarea unei politici de prevenire, furnizarea de instrucțiuni corespunzătoare angajaților, etc.;

- asumarea responsabilităților care îi revin administrației Casei Oamenilor de Știință, privitoare la paza contra incendiilor (planul de evacuare) ș.a. conform legislației în vigoare, extrem de costisitoare și consumatoare de timp pentru institute;

- implementarea activităților în conformitate cu OMFP 946/2005 și Legea nr. 319/2006 privind Securitatea și Sănătatea în muncă și comunicarea acestora personalului angajat.

Menționăm că introducerea în fișa postului a unor sarcini și atribuțiuni asociate acestor situații conduc la supraîncărcarea fișei postului - care trebuie să se refere strict la activitatea de bază a instituției care este cea de cercetare - și la diminuarea calității activităților de bază ale angajaților. Cu atât mai mult cu cât în unele situații – cum este cea dictată de declararea situațiilor de urgență și de alertă - s-a optat pe cuante de timp pentru tele-lucru, având în vedere facilitățile de care dispune ICIA și angajații.

Propunerea ICIA a fost aceea de preluare a acestor responsabilități - așa cum este normal - la nivelul administrației Casei Oamenilor de Știință, evitându-se astfel supraîncărcarea

artificială a fișelor de post ale cercetătorilor atestați în dauna calității activității de bază și consumul redundant de resurse de la buget pentru plata unor firme de către fiecare institut care are sediul în Casa Oamenilor de Știință.

Pentru evitarea consumului multiplicat de resurse financiare pe care fiecare institut le plătește unor firme particulare din bugetul Academiei Române, ICIA a propus angajarea:

- a unui număr suficient¹ de arhivari la nivelul Casei Oamenilor de Știință care să se ocupe în mod profesionist de această activitate, știut fiind că arhivarea este ea însăși o profesie care nu trebuie confundată cu cea de cercetător ș.a.

- a doi medici de Medicina Muncii la cabinetul medical, deschis în aripa de vest, care să se ocupe de aspectele corespunzătoare aplicării legislației în vigoare în acest domeniu (SSM) și care să fie de găsit la cabinetul respectiv și pentru prestarea unor servicii către angajații entităților care funcționează în Casa Oamenilor de Știință cum ar fi de exemplu administrarea unui vaccin antigripal, a unui tratament injectabil etc.

Din propunerile mai sus enunțate ICIA estimează că se pot obține economii consistente care se pot aloca altor activități necesare a se desfășura în mod curent în Casa Oamenilor de Știință.

Două alte subiecte foarte importante care trebuie să fie soluționate se referă la:

(1) încălzirea spațiilor din Casa Oamenilor de Știință astfel încât să nu se aducă prejudicii de sănătate angajaților;

(2) asigurarea unor surse alternative de alimentare cu energie electrică pentru a contracara întreruperile în alimentarea cu curent electric care conduc atât la avarierea bazei tehnico-materiale cât și la probleme de procesare în cadrul lucrărilor pe contractele în derulare ale ICIA dar, probabil, și ale altor institute cu sediul în Casa Oamenilor de Știință.

DIRECTOR ICIA,

Acad. Ioan Dan TUFIS



¹ La ultima sedință a Consiliului de Coordonare a Casei Academiei, acest număr a fost estimat la 7.