

FAIRness at University of Novi Sad - Discoverability of PhD research results for Non-Serbian scientific community –

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FAIRness of research information, CRIS 2018

Outline

- 1 Introduction
 - University
 - DOSIRD UNS
 - Motivation
- 2 English scientific community
 - Community
 - Solution
- 3 Ex-Yugoslav scientific community
 - Ex-Yugoslav region
 - Common preprocessing tool
 - Ex-Yugoslav common semantic space
- 4 Conclusion

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University of Novi Sad

- The first faculty in Novi Sad was founded in 1954
- The University of Novi Sad was founded on 28th of June 1960
- Today, UNS represents an autonomous institution for education, science and arts

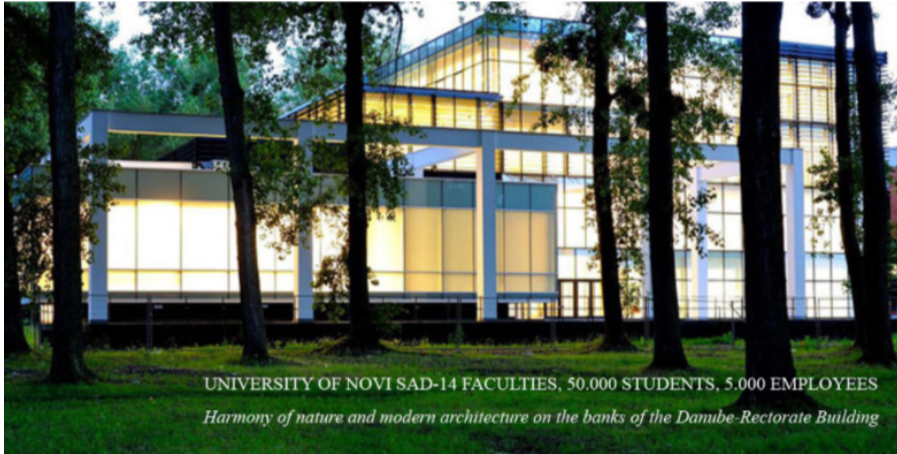
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Rectorate building



UNIVERSITY OF NOVI SAD-14 FACULTIES, 50.000 STUDENTS, 5.000 EMPLOYEES

Harmony of nature and modern architecture on the banks of the Danube-Rectorate Building

University of Novi Sad Cities



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About project

- Software infrastructure for educational domain - well developed, but lack of software infrastructure for science
- The DOSIRD UNS project has been started in 2009 - <http://dosird.uns.ac.rs/>
- The project team - professors, scientists, PhD students and librarians of the University of Novi Sad
- The main goal was to develop software infrastructure for research domain

CRIS UNS

- Current Research Information System of University of Novi Sad
- Under development since 2009
- Fulfills all local requirements prescribed by
 - the University
 - government of the Autonomous province of Vojvodina and
 - government of the Republic of Serbia
- In accordance with international well-known research domain standards and protocols
- Data about scientific outputs are stored in MARC 21 format
- Architecture of the system enables an easy integration with LIS and CRIS

Usage statistic

- 700 registered users
- 30,000 scientific publications

PhD UNS

- Digital library of dissertations defended at the University of Novi Sad
- Under development since 2010
- Integrated as part of CRIS UNS
- The first version was put into operation in 2013 - link

Usage statistic

- Metadata about all dissertation defended at the University since its foundation - 5,000
- Attached pdf files - 1,400
- Open-access pdf files - 1,250
- 250,000 downloads

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Discoverability of PHD dissertations

- Metadata and data should be findable and understandable to humans and machines according to the **FAIR** principles
- Authors want to attract interest to their work to enhance their reputation both nationally and internationally
- Metadata about dissertations in two languages (Serbian and English) improves discoverability of Serbian PhD dissertations, non-Serbian researchers still can't read and search by full-text

Goal

- Make findable and accessible research information stored in PHD UNS dissertations to the non-Serbian scientific community
 - English scientific community
 - Ex-Yugoslav scientific community

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Non-English science

- English is global language
- Any scientist should master English
- But it is certainly not the native language for the majority of scientists
- There is a science beyond science published in English
- 25 winners of the Nobel Prize in Literature up to 2001, wrote only 9 of their masterpieces in English and remaining 16 laureates in other native languages

Non-English science

- Some countries are making extra efforts to gain scientific visibility in their national language
 - REDIB (<https://www.redib.org/en/> - former E-Revista)
 - SciELO (Scientific electronic library online - <http://www.scielo.br/>)

Non-English theses and dissertations

- A lot of ETD repositories containing mainly non-English theses and dissertations
- Serbian case - more than 90% of PhD dissertations in Serbian language
- Authors of scientific publications want to attract interest to their work to enhance their reputation
 - **nationally**
 - and **internationally**

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Three general approaches

- Writing in English - Is that good for national heritage and science?
- Translation into English - Time-consuming process
- Writing in non-English language, publishing research parts in English

Three general approaches

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Three general approaches

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Writing in non-English language, publishing research parts in English

- Writing dissertation in non-English language
- Publishing parts of PhD research in journals, conference proceedings, etc.
- Publishing parts of PhD research is natural and very common process
- There are regional or national rules which prescribe this as mandatory

Regulative

- The Serbian Ministry of Science prescribed a rule - publishing an article in a journal belonging to the Web of Science JCR list is mandatory
- Results published in Serbian language in a PhD dissertation are also visible to world science community through journal articles published in English

Our approach

- Associated journal articles can be stored in CRIS UNS system
- The connection between a PhD dissertation and journal article is established by author or librarian
- If a PhD dissertation is a result of local searching of PHD UNS, a reference to the associated journal article written in English is provided
- If a PhD dissertation has been exported to ETD repositories networks, link (identifier) to the PhD dissertation stored in an ETD node should open web page which provides a reference to the associated journal articles written in English as well

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Establishing connection

Related publications for the selected Ph.D. dissertation

Selected dissertation

Thesis or dissertation

Author: Miljić Uroš

Publication language: Serbian

Title: *Production and quality assessment of fruit wines from native plum (Prunus domestica L.) varieties*

Theses/dissertation type: PhD dissertation

Institution: Faculty of Technology at Novi Sad, University of Novi Sad

Year: 2015

Download: 

MILJIĆ, U., PUŠKAŠ, V., VUČUROVIĆ, V. and RAZMOVSKI, R. (2014) Acceptability of wine obtained with increased content of grape seed and stem as functional food. *Journal of the Institute of Brewing*, 120 (2), pp. 149-154

MILJIĆ, U. and PUŠKAŠ, V. (2014) Influence of fermentation conditions on production of plum (*Prunus domestica* L.) wine: A response surface methodology approach. *Hemjska industrija*, 68 (2), pp. 199-206

Publications

Publications	Selection
Bejić Bježana, Rončević Zorana, Puškaić Vladimir, Mikić Uroš, Dodić Siniša, Grahovec Jovana, Dodić Jelena, White wine production effluents used for biotechnological production of xanthan, <i>Journal on Processing and Energy in Agriculture</i> (ISSN: 1821-4487), Vol 19, No 1, 2015, pp. 52-55.	☐
Rončević Zorana, Bejić Bježana, Grahovec Jovana, Dodić Siniša, Mikić Uroš, Puškaić Vladimir, Dodić Jelena, Wastewaters from rose wine production as substrate for xanthan production, <i>International Journal of Environmental Engineering</i> (ISSN: 2374-1724), Vol 2, No 2, 2015, pp. 150-153.	☐
Puškaić Vladimir, Mikić Uroš, Bejić Bježana, Rončević Zorana, Dodić Jelena, Characterisation of wastewaters from different stages of wine production, <i>Journal on Processing and Energy in Agriculture</i> (ISSN: 1821-4487), Vol 19, No 3, 2015, pp. 136-138.	☐
Mikić Uroš, Puškaić Vladimir, Suitability of chosen plum cultivars (<i>Prunus domestica</i> L.) for fruit wine production, <i>Journal on Processing and Energy in Agriculture</i> (ISSN: 1821-4487), Vol 19, No 2, 2015, pp. 95-97.	☐
Mikić Uroš, Puškaić Vladimir, Vučurović Vesna, Razmovski Radogaja, Acceptability of wine obtained with increased content of grape seed and stem as functional food, <i>Journal of the Institute of Brewing</i> (ISSN: 0046-6750), Vol 120, No 2, 2014, pp. 149-154.	☒
Mikić Uroš, Puškaić Vladimir, Influence of fermentation conditions on production of plum (<i>Prunus domestica</i> L.) wine: A response surface methodology approach, <i>Hemjska industrija</i> (ISSN: 0367-556X), Vol 68, No 2, 2014, pp. 199-206.	☒
Vučurović Vesna, Razmovski Radogaja, Mikić Uroš, Puškaić Vladimir, Removal of cationic and anionic azo dyes from aqueous solutions by adsorption on maize stem tissue, <i>Journal of the Taiwan Institute of Chemical Engineers</i> (ISSN: 1876-1070), Vol 45, No 4, 2014, pp. 1700-1708.	☐
Vučurović Vesna, Razmovski Radogaja, Mikić Uroš, Puškaić Vladimir, Alankali Marjana, Pastor Kristian, Thermo-acid pretreatment of starch based kitchen waste for ethanol production, <i>Analele Tehniche Sregetdinensia</i> (ISSN: 2064-7964), Vol 1, 2014, pp. 85-90.	☐
Mikić Uroš, Vučurović Vesna, Razmovski Radogaja, Puškaić Vladimir, Alankali Marjana, Pastor Kristian, Optimisation of thermo-chemical hydrolysis of kitchen waste for ethanol production using response surface methodology (RSM), <i>Annals of the Faculty of Engineering Hunedoara</i> (ISSN: 1584-2665/ISSN:1584-2673/ISSN:1584-2681), Vol 12, No 4, 2014.	☐
Puškaić Vladimir, Mikić Uroš, Vesel Vesna, Jokić Aleksandar, Marović Milica, Influence of cold stabilisation and chill membrane filtration on volatile compounds of apricot brandy, <i>Food and Bioprocess Processing</i> (ISSN: 0960-3055), Vol 91, No 4, 2013, pp. 345-351.	☐

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

Save

Select all

Deselect all

Searching PHD UNS

Search results

Number of results is 1

Sort by: **relevance**

 MILJIĆ, U. (2015) *Production and quality assessment of fruit wines from native plum (Prunus domestica L.) varieties*. (PhD dissertation), Faculty of Technology at Novi Sad

[Additional data](#) [MARC 21](#) [Dublin Core](#) [ETD MS](#) [Digital document](#) [Related papers](#)

MILJIĆ, U., PUŠKAŠ, V., VUČUROVIĆ, V. and RAZMOVSKI, R. (2014) Acceptability of wine obtained with increased content of grape seed and stem as functional food. *Journal of the Institute of Brewing*, 120 (2), pp. 149-154
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Exporting PHD dissertations

Title	Proizvodnja i ocena kvaliteta voćnog vina od sorti domaće šljive (<i>Prunus domestica</i> L.)
Title	Production and quality assessment of fruit wines from native plum (<i>Prunus domestica</i> L.) varieties
Author	Miljić Uroš
Subject(s)	Plum, fruit wine, fermentation, quality assessment, characterization, Šljiva, voćno vino, fermentacija, ocena kvaliteta, karakterizacija
Abstract	Ovi dve doktorske disertacije je bio da se oceni mogućnost upotrebe tri sorte domaće šljive, različitih epoha sazrevanja (Čačanska rana, Čačanska lepotica i Požežgata), kao sirovina za proizvodnju voćnog vina. Utvrđeni mehanizmi sastav plodova i hemijske karakteristike klijuna i soka ispitivanih sorti šljive ukazuju da se Čačanska lepotica i Požežgata mogu smatrati boljim sirovinama za proizvodnju voćnog vina u odnosu na sortu Čačanska rana. Vršena je optimizacija uslova alkoholne fermentacije (temperatura, vrednosti pH, trajanja fermentacije i doze enzimijskog preparata), u sklopu koje je, takođe, ispitana i upotreba različitih pektolitičkih enzima za tretman klijuna i ocenjen uticaj upotrebe različitih sojeva kvasaca, kao proizvodnih mikroorganizama, na kvalitet vina od šljive. Utvrđeno je da, među ispitanim proizvodnim organizmima, kvasac: Spilferm (S. cerevisiae) daje vino od šljive najboljeg kvaliteta. Postupkom numeričke optimizacije dobijeni su sledeći vrednosti procesnih parametara fermentacije vina od šljive: temperatura 25 °C, vrednost pH 3.5 i doza pektolitičkog enzima 0.5 g/100 kg. Pri navedenim uslovima dobijeni fitovni modeli predviđaju prinos etanola od 7.5% v/v, prinos glicerola od 5g/l, prinos vina od 48% (48 ml vina na 100 g klijuna) i formiranje 710 mg/l metanola. Karakterizacija proizvedenog vina od šljive podrazumevala je određivanje sadržaja najvažnijih sastojaka: alkohola, kiselina, mineralnih materija, fenolnih i aromatičnih jedinjenja, kao i ocenu njegovih funkcionalnih karakteristika (antiradikalske, antimikrobne i antiproliferativne aktivnosti). Na kraju, ocenjena je mogućnost smanjenja produkcije metanola u vinu od šljive primenom različitih fizičko-hemijskih tretmana klijuna. Utvrđena je značajno veća efikasnost postupaka koji uključuju neki vid toplotnog tretmana klijuna u odnosu na postupke koji podrazumevaju upotrebu određene enolijske sredstva.
Abstract	The aim of this PhD thesis was to assess the possibility of using three native plum varieties, with different ripening periods (Čačanska rana, Čačanska lepotica and Požežgata), as raw material for the production of fruit wines. Determined chemical composition and quality characteristics of fruit pomace and juice indicate that the Čačanska lepotica and Požežgata are considered as better raw materials for the production of fruit wine compared to Čačanska rana. Optimization of fermentation conditions (temperature, pH, the duration of fermentation and the dose of pectolytic enzyme) was conducted. This step also included investigation of the different pectolytic enzymes use for the treatment of pomace and evaluated the impact of using different yeast strains, as well as the effect of different production microorganisms on the plum wine quality. It was found that, among the tested production microorganisms, Spilferm (<i>S. cerevisiae</i>) yeast gives the plum wine of best quality. Numerical optimization procedure resulted with the following values of the process parameters of plum wine fermentation: temperature 25 °C, pH value 3.5 and pectolytic enzyme dose of 0.5 g/100 kg. Under these conditions the obtained fitted models predict the ethanol yield of 7.5% v/v, glycerol yield 5 g/l, the wine yield of 48% (48 ml from 100 g of pomace) and the formation of 710 mg/l of methanol. Characterization of the produced plum wines included the determination of the most important ingredients: alcohol, acids, minerals, phenolic and aromatic compounds, as well as evaluation of their functional characteristics (antiradical, antimicrobial and antiproliferative activities). Finally, the possibility of reducing the methanol production in plum wine was estimated by applying different physico-chemical treatments of the pomace. Significantly higher efficiency of procedures that involve some form of heat treatment of pomace, compared to treatments which involve the use of certain oenological means, was observed.
Publisher	Univerzitet u Novom Sadu, Tehnološki fakultet Novi Sad
Publisher	University of Novi Sad, Faculty of Technology at Novi Sad
Contributor(s)	Dodić Jelena; Grahovac Jovana; Magazin Nenad; Pajović-Šćepanović Radmila; Puškaš Vladimir
Date	2015-04-06
Type	PhD thesis
Identifier	http://www.cris.uns.ac.rs/DownloadFileServlet/Disertacija142832218315990.pdf?controlNumber=IBIS1593783&fileName=142832218315990.pdf&id=3481&source=DARTEurope&language=en
Identifier	http://www.cris.uns.ac.rs/record.jsf?recordId=93783&source=DARTEurope&language=en

PHD UNS record page

Record preview

Thesis or dissertation

Author: Miljić Uroš

Publication language: Serbian

Title: *Production and quality assessment of fruit wines from native plum (*Prunus domestica* L.) varieties*

Theses/dissertation type: PhD dissertation

Institution: Faculty of Technology at Novi Sad, University of Novi Sad

Year: 2015

Download: 

Related records

Miljić Uroš, Puškaš Vladimir, Vučurović Vesna, Razmovski Radoljka, Acceptability of wine obtained with increased content of grape seed and stem as functional food, Journal of the Institute of Brewing (ISSN: 0046-9750), Vol 120, No 2, 2014, pp. 149-154.

Miljić Uroš, Puškaš Vladimir, Influence of fermentation conditions on production of plum (*Prunus domestica* L.) wine: A response surface methodology approach, Hemijska industrija (ISSN: 0367-598X), Vol 68, No 2, 2014, pp. 199-206.

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Languages

- After Yugoslav wars (in the 90s), all ex-Yugoslav republics became independent countries
- The official language of Yugoslavia was the Serbo-Croatian language
- Today, we have similar languages by morphology and vocabulary derived from Serbo-Croatian language: Serbian, Croatian, Montenegrin and Bosnian
- More than 20 million people from the Ex-Yu region have reading skills in all of the languages of the region
- Multi-lingual search capabilities over texts and metadata written in those languages should be implemented

Two approaches

- There are two approaches for developing ex-Yugoslav language tools which would support those multi-lingual search capabilities
 - Development of common preprocessing techniques including stemming and parallel vocabularies
 - Creation of semantic space using Latent Semantic Analysis (LSA)

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The tool

- Ex-Yugoslav language tool performs preprocessing of PDF texts and metadata before its indexing
- This language tool is developed as a Lucene Analyzer
- The developed ex-Yugoslav language tool has been put into operation in 2013
- About 5% of total number of downloads is performed from Croatia, Montenegro and Bosnia and Herzegovina (three ex-Yugoslav countries)

The preprocessing steps

- Case folding
- Alphabet conversion
- Stop word removal
- Stemming
- Vocabularies translation
- Characters conversion

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Drawbacks

- Time-prone process of creation parallel vocabularies - it is almost impossible to create complete parallel vocabulary for Serbo-Croatian languages
- Even though we have complete parallel vocabulary, it should be maintained taking into account that languages evolve

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LSA

- An exploratory case study was performed in 2017 that investigated the creation of multi-lingual semantic spaces for Information Retrieval
- This experiment targeted the Serbian and Croatian languages
- These languages are similar - it is possible to create a joint, or mixed, semantic space utilising Latent Semantic Analysis, for semantic similarity comparison purposes
- Latent Semantic Analysis, or LSA, is an Information Retrieval technique whose origins are found in factor analysis
- Accuracy is about 90%

Future Research Directions Utilising LSA

- Check results with four languages: Serbian, Croatian, Montenegrin and Bosnian
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- Authors of scientific publications usually want to **attract interest** to their work to enhance their reputation both **nationally and internationally**
- An approach which makes **accessible** research presented in Serbian PhD dissertations for the **English scientific community** through connected journal papers have been described
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Questions

- Thank you for your attention!!!
- If you have any questions, please do not hesitate to
 - ask me now
 - ask me during the conference breaks
 - contact me via email address dragan.ivanovic@uns.ac.rs