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Network  
analysis

INSNA

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Spreading

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# **Development of social network analysis in Slovenia and the collaboration of Slovenian social network analysts with Russian ones**

**Anuška Ferligoj and Vladimir Batagelj**  
Ljubljana, Slovenia

**Theory and practice of network analysis in the  
Russian-language research space: experience, prospects and  
challenges**

Zoom, May 17, 2024



# Outline

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- 1 Network analysis
- 2 INSNA
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Current version of slides (May 17, 2024 at 02:13): [slides PDF](#)



# Start

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Vladimir Batagelj (VB) and I worked in the direction of social network analysis already in the seventies. VB was working on graph theory topics and my PhD in 1983 was about clustering attribute and network data. Then we did not know about the social network community INSNA (International Network for Social Network Analysis).



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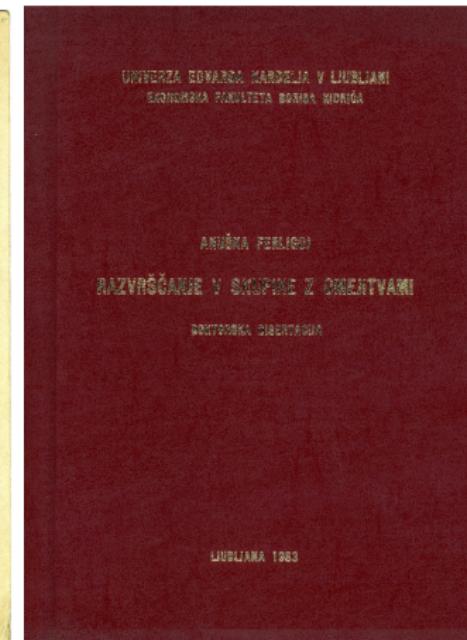
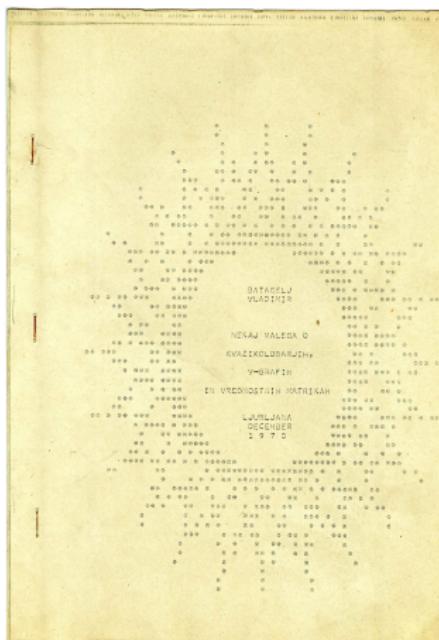
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... Start





# Pat Doreian

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In 1990 we visited Professor Patrick Doreian at the University of Pittsburgh (VB was a visiting professor and I was a Fulbright scholar). During our stay in Pittsburgh, all three of us successfully worked on blockmodeling problem. This collaboration continues and the result is three monographs and many scientific papers.





# Books

2004, 2014, 2020

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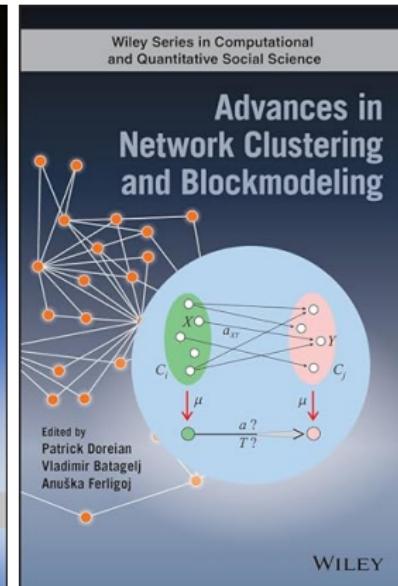
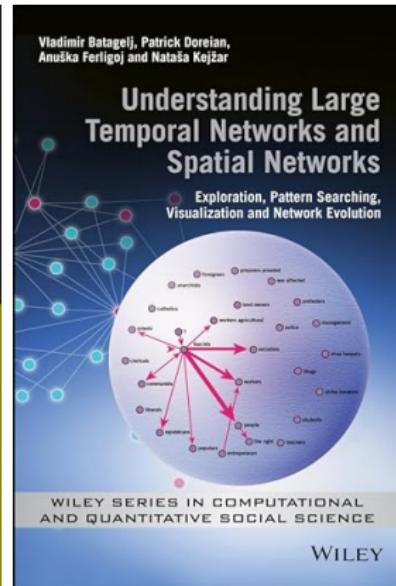
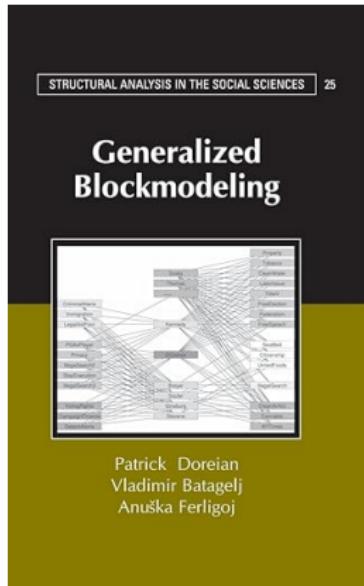
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# INSNA and EUSN

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From 1991 on, we have been active members of the INSNA, participating in **SUNBELT** conferences (we organized one in Portorož, Slovenia in 2004). I was a member of the INSNA board and a member of the editorial board of the INSNA journal Social Networks (2003-2015).

EUSN 2023.



# Sunbelt 2004 and EUSN 2023

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# Doctoral students

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When coming back to Slovenia I organized a course on Social Network Analysis at the Faculty of Social Science in Ljubljana. VB and I encouraged several PhD students to research in the field of social network analysis. We carefully selected topics to cover as much as possible in the field of social network analysis, developing at that time.

Let me mention only a few of them:



# Andrej Mrvar, Valentina Hlebec, Tina Kogovšek Aleš Žiberna, Nataša Kejžar

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- VB worked together with Andrej Mrvar (1999) on the procedures and program **Pajek** for analyzing large networks, which later received the INSNA William D. Richards, Jr. Software Award in 2013.
- I worked with Valentina Hlebec (1999) and Tina Kogovšek (2001) on estimating the quality (reliability and validity) of survey network measurements for whole and egocentric networks.
- Aleš Žiberna (2007) together with Patrick Doreian and I studied extended generalized blockmodeling on valued networks.
- Nataša Kejžar (2007) studied with VB on generating networks



# Andrej Mrvar, Valentina Hlebec, Tina Kogovšek Aleš Žiberna, Nataša Kejžar

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Pajek

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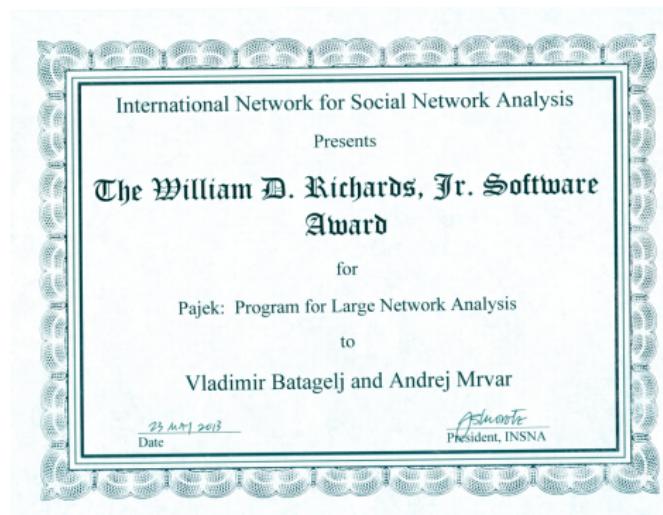
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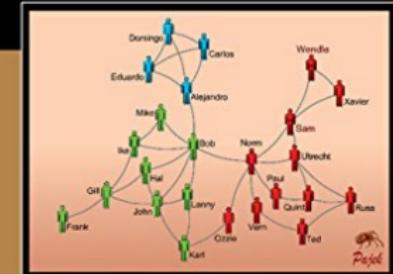


# STRUCTURAL ANALYSIS IN THE SOCIAL SCIENCES

## Exploratory Social Network Analysis with Pajek

REVISED AND EXPANDED EDITION  
FOR UPDATED SOFTWARE

THIRD EDITION



Wouter de Nooy, Andrej Mrvar  
and Vladimir Batagelj



# Luka Kronegger, Anja Žnidaršič Kristijan Breznik, Marjan Cugmas

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- Luka Kronegger (2011) analyzed with Andrej Mrvar, Franc Mali, and me the scientific collaboration dynamics in the Slovenian scientific system
- Anja Žnidaršič (2012) studied with Patrick Doreian and me the impact of different non-response treatments on the stability of blockmodels.
- Kristijan Breznik (2013) worked with VB on networks in sports.
- Marjan Cugmas (2019) worked with Aleš Žiberna and me on mechanisms generating different types of blockmodels.



# Luka Kronegger, Anja Žnidaršič Kristijan Breznik, Marjan Cugmas

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Many of these PhD students I invited to work with VB and me as researchers at the **Center of Methodology and Informatics** at the Faculty of Social Sciences, University of Ljubljana.





# Keeping the group alive

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Of course, it was difficult to find finances to build this group. We had to apply for several national and EU research projects. However, as we worked on 'hot' topics we were quite successful and were able to slowly extend. We also collaborated with colleagues within the faculty and with researchers in the other institutions.



# Doctoral and Master's Program on Applied Statistics

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For the development of data analysis, statistics, and network analysis it is also important the establishment of the Interdisciplinary Doctoral Program in Statistics in 2012, and later the Master's Program on **Applied Statistics** at the **University of Ljubljana**. I was the founder of both programs. In both programs, there is a course on Social Network Analysis.



# NetSlo

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Later several researchers from other scientific fields in Slovenia worked on network analysis (e.g., economy, computer science, physics, medicine, biology). Therefore in 2017 the first meeting of most of the Slovenian researchers of network analysis met and we founded the annual meeting NetSlo. This strengthened the collaboration between us on the national level.





# International collaboration

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As Batagelj and I are very active in INSNA and collaborated strongly with Patrick Doreian and with many others from different countries (e.g., Tom Snijders, Emmanuel Lazega, Doug White, Wouter de Nooy, Napoli/Salerno group, FAS Research Vienna) we developed quite a nice collaboration network. In 2007 VB and I received the Simmel Award given by the INSNA.





# First steps of MASNA

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The ANR-lab (International Laboratory on Applied Network Research at HSE in Moscow) was started as an initiative by Valentina Kuskova (VK) and Stanley Wasserman (SW).

On Sep 16 2014 SW invited VB to give a workshop on Pajek at the ANR-lab conference “First International Conference on Social Network Analysis” on November 20 and 21.





## ... First steps of MASNA

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Daria Maltseva (DM) visited Ljubljana twice to learn about network analysis.

VB and I were invited to teach at the Seventh International Summer School “Theory and Methods of Network Analysis” (TMSA-2017), Moscow, June 19-23, 2017.

VB and I were invited to teach at the Master’s program in Applied Statistics with Network Analysis (MASNA) that started in 2017/18.

VB had courses on Exploratory data analysis and Introduction to Network Analysis from 7-24 Nov 2017, partially in Voronovo. And on Network Analysis Statistical Approaches and Modeling from 24 May-10 Jun 2018. In the same period, I had some lectures on multivariate methods.



# ... First steps of MASNA

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In April 2018 SW decided to step down as Scientific Advisor at the Lab. He invited VB and me to replace him. We accepted it and we acted as scientific supervisors from 2018 till 2023. We did our best to improve the scientific work at the Laboratory and MASNA (now called Data Analytics and Social Statistics).

In October 2018 the MASNA teaching staff consisted of SW, VK, AF, VB, and also of Erik Štrumbelj, Janez Demšar, Ajda Pretnar, Tamas Rudas, and Marija Gorina. They were later joined by Herwig Friedel, Nada Lavrač, and Ljupčo Todorovski.



Nov 19 2014; Jun 22 2017

Jun 22 2017; Voronovo Nov 18 2017

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$$\beta > \frac{1}{n} \sum_{i=1}^n x_i$$



# Sunbelt 2017; 5th birthday, Apr 9 2019 Ljubljana, May 13 2019; Yandex, May 18 2019

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Jun 15 2019; Jun 21 2019  
Voronovo Jul 21 2019

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# Project evaluation Nov 16, 2019

## Stats Moiseev PhD Nov 11, 2020

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# Conclusions

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- ① international collaboration
- ② doctoral program (selfreproducibility)
- ③ national and international community
- ④ strong in selected research topic(s)
- ⑤ product(s) (software, data, conference / workshop, etc.)

We worked closely with Valentina Kuskova and Daria Maltseva. Now, the Laboratory has become one of the important centers in Russia developing social network analysis. I wish DM and her colleagues a very successful scientific development of the Laboratory and to continue to promote social network analysis in Russia.