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# HOW TO EFFICIENTLY WRITE A SCIENTIFIC PAPER?



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Summer School of Science, Požega, 14<sup>th</sup> August 2013

# 55<sup>th</sup> ELMAR conference 2013

*Find your way to a broader scientific community*

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- ◆ ELMAR is the oldest conference in Europe
- ◆ Papers are indexed in different databases
  - IEEE Xplore
  - INSPEC
  - SCOPUS...



Pozega, 14th August 2013

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# ELMAR-2013 student session

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- ◆ Every paper will be reviewed by two independent reviewers
- ◆ ELMAR society will cover all expenses for authors of the accepted papers



# **THE STRUCTURE OF A SCIENTIFIC PAPER**

# Structure of a scientific paper

*What parts are important*

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- ◆ *Title*
- ◆ *Authors*
- ◆ *Abstract*
- ◆ *Keywords*
- ◆ *Introduction*
- ◆ *Related work*
- ◆ *Model*
- ◆ *The main section*
- ◆ *Results*
- ◆ *Conclusion and future work*
- ◆ *Acknowledgements*
- ◆ *References*

- ◆ Title of every scientific paper should be:
  - as brief as possible but has to capture important characteristics of the work,
  - unique so it highlights the unique contribution of the work
- ◆ Check in the target journal or conference to see what type of title is preferred
  - long or short,
  - questions or not ...



- ◆ Different ways of deciding the authorship order in scientific papers:
  - alphabetic authorship of papers - the system of listing authors of a paper in order of their last names,
  - authoring of papers in order of contribution - the more someone contributes to the work in a paper, the earlier she/he is in the authorship order
  - first author, last author, and corresponding author - the first (or earlier) and last (or later) authors are the most significant

- ◆ Abstract should be short (around 200 words) but capture the following:
  - what is the topic of investigation and why is it worth studying? ➡ the why of the topic
  - how does this work fill an important gap in that topic ➡ the why of your study
  - key details of how ➡ essential methods and results
  - what for ➡ how do results take the next steps in the topic

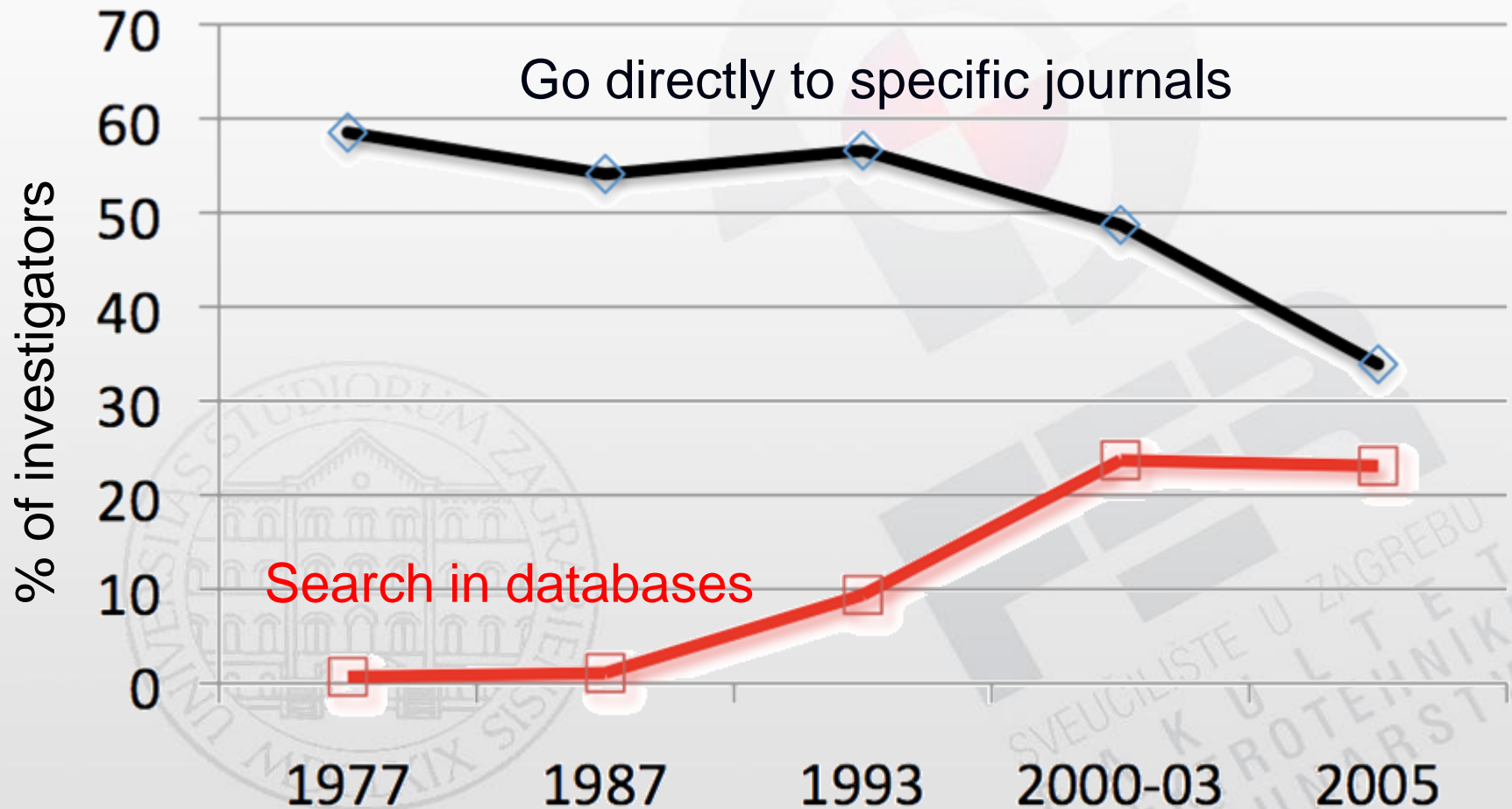


# Keywords (I)

*How people find article they read*

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Aslib Proceedings New Information Perspectives, 61:5-32, 2009

# Keywords (II)

*How people find article they read*

- ◆ Researchers search for articles by theme (keywords), not by the specialty of the journal
- ◆ To attract the most interest in the article, it is essential to write it for a wider audience
- ◆ The majority of publishers indicate that more than 50% of their readers arrive at their journals through Google

## ◆ Introduction should answer on the following questions:

- what is the area of the research
- why this area of the research is important
- what is the central problem of the study
- what is the contribution of the paper
- what are the results

# Related work

*Sure there was somebody else doing something similar*

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- ◆ Establish the context by providing a brief and balanced review of the pertinent published literature that is available on the subject
- ◆ The key is to summarize what is known about the problem before talking about your work
- ◆ Objectively state the drawbacks of existing methods and why to look for other solutions

- ◆ Model is an abstract view on things that were studied
- ◆ Model does not describe how things were implemented, but gives the idea



# The main section

*Methods, algorithms, system architecture...*

- ◆ Explain the proposed algorithm/method and the theory behind it:
  - include useful figures
  - structure the explanation before starting to write,
  - do not jump from point to point, keep the thread...
- ◆ How did you do what you did → include who, what, when, where, why + how



- ◆ Objectively present key results in an orderly and logical sequence using both illustrative materials and text
- ◆ Do not present the same data in several ways, choose the one best way → people understand graphs/figures more quickly than tables

# Conclusion and future work

*What was done, what still needs to be done*

- ◆ Conclusion should address the following:
  - reach conclusions about the initial objectives
  - show advantages of the proposed method over previously published methods
  - state open problems, cases your method does not or insufficiently work
  - identify needed next steps in research on the problem → future work

# Acknowledgements (I)

*Who deserves a special thanks*

- ◆ Authors can acknowledge anybody from whom they received any significant help in thinking up, designing or carrying out the work
  - Authors are very grateful to Tomislav Lipic and Kresimir Pripuzic, PhD for helping with the computer modeling and for many helpful comments and suggestions on their work
  - Authors are also very thankful to the anonymous reviewers for their many helpful comments on the first version of this paper

# Acknowledgements (II)

*Who deserves a special thanks*

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- ◆ If this work was funded by a project or by somebody else, it should be included also in this section
  - This work was supported by "Content Delivery and Mobility of Users and Services in New Generation Networks" research project funded by the Ministry of Science, Education and Sports of the Republic of Croatia and by "Machine-to-Machine Communication challenges " research project funded by Ericsson Nikola Tesla, Croatia

# References

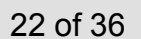
*Whose work is also important*

- ◆ Cite all references in the text and be consistent
- ◆ Reference order is dependent on publisher, usually it is alphabetically, sometimes in order of appearance in the text
- ◆ Include all necessary information for others to locate the reference avoiding references of web pages

# **THE STRUCTURE OF A POSTER**



- ◆ Poster is a short story or an illustrated abstract
- ◆ Poster describes a few major points
- ◆ Aim is to arouse the reader's interest to read on
- ◆ Content/organization:
  - Introduction
  - Aim
  - Method
  - Results
  - Conclusion
  - Acknowledgements/References



- ◆ Put title and authors at the top of your poster
- ◆ Put the most important conclusions in the left top corner
- ◆ Use 2-3 colors
- ◆ Edit and evaluate!
- ◆ Print out a letter size draft!
- ◆ **KEEP IT SIMPLE!**

- ◆ Small blocks of supporting text
  - limit it to 250 words
- ◆ Same size and style
- ◆ Left-aligned
- ◆ Leave breathing space around your text
- ◆ Text size!!!
  - can anyone read your body text?

- ◆ Simple, effective data displays
- ◆ Use big figures with colors
- ◆ Resolution - at least 150 dpi, but no more than 300 dpi
- ◆ Save photos as jpg or png (line art as a png)
- ◆ Add a scale bar or description

- ◆ Designing conference posters
  - <http://colinpurrington.com/tips/academic/posterdesign>
- ◆ Creating Effective Poster Presentations | An Effective Poster
  - <http://www.ncsu.edu/project/posters/>



# **PAPER PUBLISHING – ELMAR 2013**

Wednesday, 25 September 2013	Thursday, 26 September 2013	Friday, 27 September 2013
09:00 - REGISTRATION	09:00 - REGISTRATION	09:00 - SESSIONS
09:30 - OPENING SESSION	09:30 -SESSIONS	
10:00 - WELCOME COCKTAIL		
10:30 - PLENARY SESSION		
<b>11:30 - SESSIONS (POSTER SESSION)</b>		<b>13:00 - STUDENT SESSION</b>
16:30 - GUIDED ZADAR SIGHTSEEING AND CONCERT	12:30 - EXCURSION TO THE NATIONAL PARK KRKA	
21:00 - SYMPOSIUM DINNER		

- ◆ Papers submitted to ELMAR have to be written according to **the official template**:
  - ELMAR website:  
[http://www.elmar-zadar.org/2013/paper\\_submission/](http://www.elmar-zadar.org/2013/paper_submission/)
  - IEEE-template  
[http://www.ieee.org/conferences\\_events/conferences/publishing/templates.html](http://www.ieee.org/conferences_events/conferences/publishing/templates.html)
- ◆ Papers have to be submitted for review in **\*.pdf**
- ◆ Papers have to be **sent to** [elmar2013ss@fer.hr](mailto:elmar2013ss@fer.hr)

# Paper submission

## Deadlines

Deadline for submission of full papers	<b>August 26, 2013</b>
Notification of acceptance	<b>September 1, 2013</b>
Deadline for registration	<b>September 3, 2013</b>
Deadline for submission of camera-ready papers	<b>September 10, 2013</b>

- ♦ Papers have to be accepted by two independent reviewers
- ♦ Review results:
  - accepted for publishing
  - conditionally accepted
  - rejected

- ◆ Accepted papers will be published as proceedings of student session
- ◆ For one student per accepted paper (this student **must present** her/his accepted paper)
- ◆ ELMAR covers:
  - one copy of the printed proceedings
  - two nights in a hotel
  - symposium gala dinner
  - an excursion



- ◆ Accepted papers have to be presented on ELMAR
  - duration of presentation 15-25 minutes
  - time for questions and discussion 15 minutes



- ◆ ELMAR 2013:
  - <http://www.elmar-zadar.org/2013/>
- ◆ Paper template:
  - [http://www.elmar-zadar.org/2013/paper\\_submission/](http://www.elmar-zadar.org/2013/paper_submission/)
- ◆ Paper submission:
  - [elmar2013ss@fer.hr](mailto:elmar2013ss@fer.hr)
- ◆ Technical program:
  - [http://www.elmar-zadar.org/2013/technical\\_program/](http://www.elmar-zadar.org/2013/technical_program/)

*“People do not decide to become extraordinary.  
They decide to accomplish extraordinary things.”*

~Sir Edmund Hillary

# Questions

*Now or later at [elmar2013ss@fer.hr](mailto:elmar2013ss@fer.hr)*

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