# Financing science, conferences, etc.

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# Financing science

- Money for organizations (= „institucionální podpora“)
  - Not meant for teaching students but for research
  - Government funding, across all scientific fields
  - Recipients: universities, research institutes…
- Grants (= „účelová podpora“)
  - To support smaller working groups to meet their specific goals
  - Recipients: research groups, individuals (e.g., post-docs)
- Industry
  - Private company decides whom to give money for what benefit
  - Recipients: organizations or individuals

# Financing science

- Government provides the greatest deal of money
- Most of it goes to organizations, less via grant agencies
- Grant agencies govern annual competitions for money
  - http://www.vyzkum.cz/FrontClanek.aspx?idsekce=609

# Financing science

- Problems with direct financing
  - Need for a fair share of the budget
  - Attempt to evaluate organizations and give money accordingly
  - Research in different fields costs differently
  - Rules change from year to year

# Evaluating science

- Government passes money directly to organization as a whole
- Organization needs to decide how to pass money further into its subunits
- Often, the evaluation results are re-used

# Evaluating science

- Evaluation is mainly focused on publication activity
- Organizations must manage reports of their results (IS, RIV)
- Organizations tend to optimize

- In Czech Republic: Evaluation happens every year based on RIV (still)

# Grants

- Fixed budget given for fixed period of time, for specified research tasks
- Researchers specify that in grant applications, and compete for money
- With grant you can improve your income, buy stuff you need, improve working environment, etc.
- However, the acceptance ratio of grant proposals is usually low (<25%)

# Grants

- Grants are often granted to individuals (SomoPro, ERC grants) or teams (GACR)
- https://www.fi.muni.cz/research/index.html.cs
- European Union grants, EU H2020 (http://www.h2020.cz/), etc.

# Grants

- With grant you are often obliged for certain acts, e.g.:
  - Propagation of the grant agency
  - Promotion of the results, availability of the results (SW licenses)
  - Sustainability of the granted processed (e.g., DUVOD)
  - Lots of administration and "proofs" (e.g., photos)

# Grants

- Applications should...
  - be submitted right on time (deadlines),
  - be submitted to appropriate agency and panel,
  - be formally okay (and good looking),
  - be clearly formulated in terms of goals and actions to take,
  - contain reasonably ambitious goals,
  - take into account duties from the grant agency (e.g., promotion costs).

# Grants

- Experience (and little bit of luck) is a big advantage
- Knowledge of evaluation processes is also a big advantage

# Publishing procedure

- Conferences vs. Journals
- Presentations

# Conferences vs. journals

- Two main types of publication media

- Conferences
  - Rapid dissemination of currently examined ideas
  - Reporting “smaller” results
  - Meeting people at social events

- Journals
  - Reporting important (finalized/almost finalized) results
  - Longer validity of results expected
  - Automatically distributed to subscribers (global impact)

# Conferences vs. journals

- Understanding the purpose of each varies in different scientific fields
- The term ’a good conference/journal’ varies as well

# Conferences

- Choose the right one!
  - Ask colleagues where they publish
  - Check publication lists of competing/cooperating groups
  - Check your favourite papers (where they are their references were published)

# Conferences

- Check citation databases and search engines with proper keywords:
  - Google, WOS, http://arnetminer.org/
  - http://academic.research.microsoft.com/
- Check field specific list of conferences:
  - https://imagescience.org/
- Check publisher or society calendars:
  - Springer, LNCS series

# Conferences

- Institution evaluates the conference quality
- Masaryk University relies on some metrics (rankings)
  - https://en.wikipedia.org/wiki/List_of_computer_science_conferences
  - http://www.core.edu.au/conference-portal
- At FI MU – prof. Hliněný defines the eligible rankings

# Conferences

- Eligibility at FI
  - According to the Evaluation of Employees (2015): A good conference is such that is included in at least one of the ranks below with ranking A, B, 1, or 2:
  - CORE: http://www.core.edu.au/conference-portal (A or B)
  - MICROSOFT: http://academic.research.microsoft.com/RankList?entitytype=3&topDomainID=2 (FieldRating>=13)
  - WIKI: http://en.wikipedia.org/wiki/List_of_computer_science_conferences
  - Or qualitatively similar…

# Conferences

- There are many criteria to consider
  - Impact on the audience of the presentation:
    - Single- vs. multi-track, oral vs. poster presentation
    - Typical number of participants
    - Page number limit, full (long) vs. short paper vs. extended abstract
    - Organization behind the event, publisher
  - Acceptance ratio, deadline extensions, committee members
  - Variance of topics in the CFP vs. your paper scope
  - Recommendations of your colleagues and supervisor

# Bad conferences

- Recently we've started to dislike:
  - WSEAS, IASTED, and INSTICC organizations
- Generally:
  - Watch out for strings in CFPs:
    - "multi-conference", "Orlando Florida", "World Congress"
- SciGen story: http://pdos.csail.mit.edu/scigen/

# Review process

- Paper bidding: 2 days – 1 week
- Reviews: 4–5 weeks
- Rebuttal (optional): 1 week
- PC discussion: 2–3 weeks
- Full version: 1–2 weeks

# Reviewers

- PC members,  2 –  20 papers each
- Primary, secondary, external, …
- Many distributed to subreviewers
- PC member is responsible for the subreviewers, participates in the
- discussion

# Review assignment

- PC bids for papers, few days after submission deadline
- Can be accelerated by the abstracts first policy
- Conflict of interest must be declared
- Each paper requires 2–4 reviews

# Review process

- Nowadays almost exclusively ”distributed”
- The first pass: remove clear accepts and rejects
- Ask for additional reviews if necessary
- Some papers initiate a long discussion
- Gray zone: somebody must fight for the paper
- Luck always plays a role in success …
- Rebuttals: not for adding new material but respond to reviewers’ comments!

# Tips and tricks

- Check who is in the programme/review committee
- Cite their work (usually relevant if the conference is chosen appropriately …)
- Check time-zone of the submission server to find out how much you can be late
- Fill metadata ahead of the deadline (e.g., a day earlier)

# Presentation

- Extremely important moment of your work
- Both content and form matter
- It can change your career (important people are listening to you)
- Moral: never underestimate the presentation of your work

# Presentation

- Prepare your slides before leaving for the conference
  - Test talks
- The presentation ought to tell the story of your paper
- Do not add new results w.r.t. the paper
- Take into account the community you are going to face
- Get familiar with the program and guidelines (usually known several weeks ahead)
  - Length of the talk
- Switch on the slide numbering (for the audience, questions)

# Presentation

- Double check the grammar when preparing slides
- Be careful about style
  - Font size
  - Minimize text
  - Attract audience attention – a picture is worth a thousand words
- By failing to prepare, you are preparing to fail. (B.Franklin)

# Presentation

- Questions and discussion after talk
  - Be polite to the inquirer (“thank you for asking this question”).
  - If you do not understand, excuse yourself and suggest a face-to-face discussion after the session.
  - If you are “under attack”, suggest a discussion after the session.

# Journals

- **By access**
  - Traditional — subscription based (serials crisis)
  - Open access (outside funding vs author pays)
  - Hybrid open access
  - Delayed open access
- **The “big three”**
  - Elsevier
  - Springer
  - John Wiley

# Journal selection

- **By contributions**
  - Longer (10–50 pages)
- Also check the IF!

# Taxonomy of journal papers

- Regular paper
- Special issue
- For a conference/workshop (selected papers only)
- Anniversary (person/area)
- For active new topics
- Survey
- Short paper
- Editorial

# Not appropriate journals

- Those published by Hindawi
- Those who desperately invite you to publish

# Review process

- Editorial board
  - Active members
  - Ceremonial members
- Associate/assistant editors
  - By topics
  - Additional advice to editors
- Chief editor(s)/Editor-in-Chief

# Review process

- **Two types of editors**
  - Academics (may, or may not be paid)
  - Professional editors (should have at least postdoc experience)

# Journal vs conference

- Journal
  - Takes much longer (months/years)
  - Much more thorough
  - Guided by the editor
  - Multiple iterations
  - Decision is not binary (accept/reject)

# Journal review outcomes

- Accept, no changes
- Accept, minor changes (no extra refereeing needed)
- Accept, subject to major changes (new round of refereeing)
- Reject

# Books etc.

- You can also publish a book, once you negotiate a deal with some publisher.
- More likely, you may get invitation to publish a chapter in a book.
- You can publish an extended version of the conference paper as a journal paper.
- You can publish an extended version of the conference paper as a technical report, if you feel the need.
  - https://www.fi.muni.cz/reports/

# Impact factor

- Defined for journals
- The ratio of the number of citations to the previous 2 years of the journal divided by the number of articles in those years
- Essentially the average number of recent citations per article
- Only for journals indexed in Journal Citation Reports

# IF – related measures

- 5-year Impact Factor
- Journal Immediacy Index — the number of citations that year to articles published the same year
- Journal Citing Half Life — the median age of the articles that were cited by the articles published in the journal that year
- Journal Cited Half Life — the median age of the articles in the journal that were cited by other journals during the year

# H-index

- After Jorge E. Hirsch (physicist, UCSD)
- For an individual scientist
- h number of papers that have at least h citations each
- Measures productivity and impact of the published work
- Accessed from Web of Science or Google Scholar
- Useful only for comparing in the same field
- Grows with academic age
- Demonstrated to have high predictive value for National Academy membership or the Nobel Prize

# Publication records

- **Web of Science = WOS**
  - http://apps.webofknowledge.com/
  - Formerly known as ISI Web of Knowledge
  - Operated by the Thomson Reuters
  - Provides many tools: IF via JCR, h-index w/o self citations, citation reports etc.
  - ResearcherID — a must-have in the academia world in CZ

# Publication records

- **Scopus**
  - http://www.scopus.com
  - Operated by the Elsevier publishing group
- Also: http://onlinelibrary.wiley.com/
- All services are paid

# Publication records

- Google scholar
  - http://scholar.google.cz/
  - It offers free services to users to update and correct links between data
  - Service is free of charge

# Publication records

- **DBLP**
  - http://dblp.uni-trier.de/db/
  - Operated jointly by Universitaet Trier and Schloss Dagstuhl
  - Source of good bibliography data, overview of collaborators
- **Microsoft Academic Search**
  - http://academic.research.microsoft.com
- Both services are free of charge

# Publication records

- Common issues
  - Major problem: Inconsistent data
  - Completely different numbers
  - Errors in data
  - Spelling of Czech/Slovak names
  - Multiple people with the same name
  - Self-citation vs. no self-citations
  - GACR accepts h-index and citation counts predominantly from WOS and Scopus
  - Especially WOS tends to respond to correction requests slowly

# Publication records

- **IS MU**
  - Building our own list of publication records
  - The list can gather also the publication itself
  - Used for generating internal report figures, for submitting records to RIV
  - RIV checks obtained records against WOS: provide WOS and DOI identifiers

# Obtaining publications

- https://ezdroje.muni.cz/
- Directly from publisher (IEEE Xplore, SpringerLink, Science Direct, ACM DIgital Library …)
- http://arXiv.org, technical reports, dissertation theses, …
- From web pages of the lab, the person's homepage, mail request

# DOI

- DOI = Digital Object Identifier
- Example: **10.1000/182** (identifies the DOI Handbook)
- Permanent, resolves to URL
- Resolved through http://dx.doi.org
- Not available for old publications

# Paid access

- Most of the papers are restricted to download until you pay
- MU has paid and is paying a lot
- Current status: http://ezdroje.muni.cz/
- Access is granted typically based on your IP
- http://vpn.muni.cz

# arXiv.org

- Archive of electronic preprints
- Hosted and operated by Cornell University
- Supported by many other institutions
- Guarantees long-term availability
- Fields: mathematics, physics, astronomy, computer science, quantitative biology, statistics, and quantitative finance
- Not peer reviewed
- Organized by category
- LaTeX sources are compulsory (if the paper was written in LaTeX)
- Supports versioning and comments

# Good habits

- Once I manage to download a paper, I'll keep it
- It is not always the case that the paper will be available even the next day (server error, subscription may end)
- Good even for full-text search within the content of the papers

# Citation records

- Usually from reference databases, typos can be better detected
- Prefer journal to conference
- Keep full names and titles in your citation records
- When referring to software or data check the web page, cite the tool paper (if it exists)

# Storing papers

- **How to Organize the PDFs?**
  - In a nice folder structure with nice names (works well for most citation managers)
  - Consider: occasional non-standard access, disaster of the tagging system
  - Observation: After some time, the folder structure will change; the filenames will not

# Citation records

- **How to Organize the Citation Records?**
  - Human-readable (e.g., .bib for BibTeX or the widespread bibliography format .ris) vs. some binary (proprietary) format
  - Locally vs. “in a cloud” (e.g., EndNote)
  - About citation records: http://kuk.muni.cz/

# BibTeX

- For managing bibliography
- Traditional, complements LaTeX
- Many frontends: e.g., JabRef, KBibTeX, . . .
- Inherently desktop-based
- Bibtool – good for managing bib files

# Mendeley

- Mendeley Desktop - PDF and reference management
- Mendeley Web - online social network for researchers
- Platforms (Desktop): Qt based - Windows, Linux, Mac
- Citation data must be stored online (free version: 2GB)
- Papers may be stored online (you have to set this in folder properties)
- PDFs: metadata extraction, inline comments (annotations), file organization on disk
- Bookmarklet for browsers, working on many websites
- Exports to Word/Libre Office/BibTeX/EndNote
- Multiple computer synchronization (via online space)
- Groups for sharing (pretty limited in the free version: 3 members, up to 100MB of space)