

Resource discovery: Use cases in the academic field

How to get information, resources, and tools.

Stephanie Krueger (MS/MA/PhD)
Consultant, National Library of Technology in Prague (NTK),
Czech Technical University in Prague (CTU), and the
University of Chemistry and Technology, Prague (UCT)
stephanie.krueger@gmail.com



This work is licensed under a Creative Commons Attribution 4.0 International License.

Co-funded by the
Erasmus+ Programme
of the European Union






Today

- Case studies
 - How instructors and researchers, at different levels of their career, use academic library resources (PhD+ levels)
- Discussion

Note: this is a **30-minute lecture** with lots to cover, so please hold questions (including chat questions) until my lecture is finished. I will then answer chat and non-chat questions in the **10 minutes** we have for discussion.

Cases (all three do teaching and mentorship)

Silvana (PhD candidate)	Milan (postdoctoral researcher)	Jennifer (established researcher)
		
<ul style="list-style-type: none"> • Doing doctorate outside her home country • Exploring research career, with several placements in other countries, but in process of finding corporate job • Life needs: completing requirements for PhD, including state exams and dissertation 	<ul style="list-style-type: none"> • Already several different postdoc positions, in two countries • Enjoys academic environment but also does some non-academic work on the side <p>Life needs: deciding about staying in academia and getting funding for the first grant project as principle investigator (PI), staying in academia without a project (contract basis), or getting a non-academic job</p>	<ul style="list-style-type: none"> • Professor with tenure (i.e., passed all necessary publishing and other requirements necessary for this) • Established researcher/author in her field • Mentor for others <p>Life needs: support in mentoring, by offloading non-disciplinary tasks, including information-related skills, to others so she can focus on disciplinary mentorship and her own research</p>

NOTE: All photos from public websites, with links/full image citations not provided to protect privacy.

PhD+ career pathways

- **Doctoral candidates**
- **Postdoctoral and university (professor-track) positions at universities**
 - *We will not focus on non-academic careers today due to time constraints.*

Ideally, one would expect PhD+ researchers to be information literate. In the real world, this is often not the case and **people tend to overestimate their research/searching abilities.**

Our basic job: **elegantly fill the information-related gaps**, guiding colleagues to appropriate resources and fulfilling specific requests.

Serving these colleagues well, particularly at the postdoc+ level, requires **curiosity** across many disciplines and **ongoing learning/professional development** through your own career (having a PhD for the “basic job” above is perhaps not necessary, but advanced academic experience beyond the Master+ level is helpful).

Case study: doctoral candidate (“Silvana”)

Key tasks relating to information:

1. Refining her **research topic** and **appropriate research methodology**
 - Has changed for her over time
 - Some input from mentor, but in the end, she is responsible for her topic
2. Researching and writing her **doctoral dissertation**
3. Assisting her mentor with **research** and **teaching**
 - Includes data representation, such as creating graphs and charts
 - Quantitative approaches; in her case, carefully designed together with mentor
4. Assisting mentor with **writing proposals** and writing her **first article**
 - In English
 - English classes helped her, but she still struggles with this and her mentor helps her
5. Writing **conference abstracts** and **presenting at conferences**
 - In English
 - Virtual presentations since COVID

PhD candidates & info, hybrid environment

Key task	Academic resources (subscription, offered by library)	Academic resources (open)	Information skills needed (beyond disciplinary specializations)
Finding an original research topic and appropriate research methodology	<ul style="list-style-type: none"> • Subscription databases & tools (including Web of Science, Scopus) <ul style="list-style-type: none"> • Also subject-specific resources (e.g., Reaxys, IEEE) recommended by mentors • Books on research methods, quantitative and qualitative 	<ul style="list-style-type: none"> • Content created by other universities; STEMskiller can be useful: https://www.techlib.cz/en/84161-preparing-to-write, https://www.techlib.cz/en/84206-designing-research-projects • Open specialized tools (e.g., Pubchem https://pubchem.ncbi.nlm.nih.gov/, open code https://en.wikipedia.org/wiki/OOFEM, and so on) 	<ul style="list-style-type: none"> • Advanced database searching skills in English, including English keywords, phrases • Knowledge about coursework (if offered by university) on research methods • Ability to scan, read, and synthesize English texts, including understanding structure of a scientific article
Researching and writing doctoral dissertation	<ul style="list-style-type: none"> • ProQuest Dissertation & Theses Global • ILL, if no access via your library (sometimes libraries cannot provide full dissertations, but often they will provide chapters and specific pages) 	<ul style="list-style-type: none"> • Open dissertation repositories (e.g., https://dspace.mit.edu/handle/1721.1/7582) <ul style="list-style-type: none"> • Google Scholar – searches some (but not all!) repositories • Email authors directly (ResearchGate, university email addresses) • https://www.techlib.cz/en/84200-completing-a-doctorate-phd 	<ul style="list-style-type: none"> • Keeping track of references/citations and data (organization and time management) <ul style="list-style-type: none"> • https://www.techlib.cz/en/84208-research-data • https://www.techlib.cz/en/84169-citing-correctly-and-reference-citation-management-tools • https://www.techlib.cz/en/84168-organizing-a-writing-project • Navigating university repository requirements (if any; e.g., dissertation templates) • If involves mathematical formulas, learning LaTeX • Understanding ethical guidelines, if research involves humans, animals, and selected other sensitive research areas (e.g., exploitation of research subjects, military applications) <ul style="list-style-type: none"> • https://www.techlib.cz/en/84230-academic-ethics-and-integrity-concepts-and-definitions



Case study: PhD candidates & info, continued

Key task	Academic resources (subscription, offered by library)	Academic resources (open)	Information skills needed (beyond disciplinary specializations)
Assisting mentor with research and teaching	<ul style="list-style-type: none"> • Print and electronic materials in library collections • Textbooks, course reserves, coursepacks, electronic teaching aids (e.g., managed by library) 	<ul style="list-style-type: none"> • Cross-library search for print and electronic materials (GoogleScholar, WorldCat/OCLC) • Open textbooks and other open educational resources (OERs), https://rmit.libguides.com/openeducationalresources, Khan Academy https://www.khanacademy.org/, MIT OpenCourseWare https://ocw.mit.edu/index.htm , similar (e.g., anatomy atlases) 	<ul style="list-style-type: none"> • Searching skills as above • Ability to find information about teaching methods <ul style="list-style-type: none"> • https://www.techlib.cz/en/84132-learning-teaching-and-supervising • Knowledge of the difference between open and non-open resources <ul style="list-style-type: none"> • https://www.techlib.cz/en/84192-academic-publishing • Awareness of OER trends and new resources becoming available for classroom use <ul style="list-style-type: none"> • https://www.techlib.cz/en/84140-perspectives-on-open-movements
Assisting mentor with writing proposals and articles &, sometimes, writing one's own proposals and articles	<ul style="list-style-type: none"> • Books (traditional and eBooks) on academic writing • AI writing tools (LanguageTool, Grammarly, QuillBot, Writefull, and so on) • Required ORCID or other author identifiers organized by the library 	<ul style="list-style-type: none"> • Above plus, e.g., https://www.techlib.cz/en/84161-preparing-to-write <ul style="list-style-type: none"> • PhD candidates may not be aware of research methods, in my experience, and the scholarly publishing environment/process more broadly (including peer review, journal rankings, and so on) 	<ul style="list-style-type: none"> • All of the above plus understanding the difference between different kinds of published outcome formats (e.g., article v. review article v. proposal... writing for an audience. <ul style="list-style-type: none"> • Many doctoral candidates, in my experience, find writing difficult, particularly writing for difference audiences, if their prior coursework did not focus on developing writing skills. • Doctoral candidates may not understand they are transitioning into being public figures, with the need to create online profiles (LinkedIn, ResearchGate, Twitter), use identifiers, and so on.
Writing conference abstracts and presenting at conferences	<ul style="list-style-type: none"> • Books (traditional and eBooks) on academic writing • AI writing tools (LanguageTool, Grammarly, QuillBot, Writefull, and so on) 	<ul style="list-style-type: none"> • Resources explaining what to do at each step, https://www.techlib.cz/en/84144-academic-presentation-amp-posters 	<ul style="list-style-type: none"> • All of the above plus feeling comfortable speaking English before an audience



Case study: PhD candidates summary

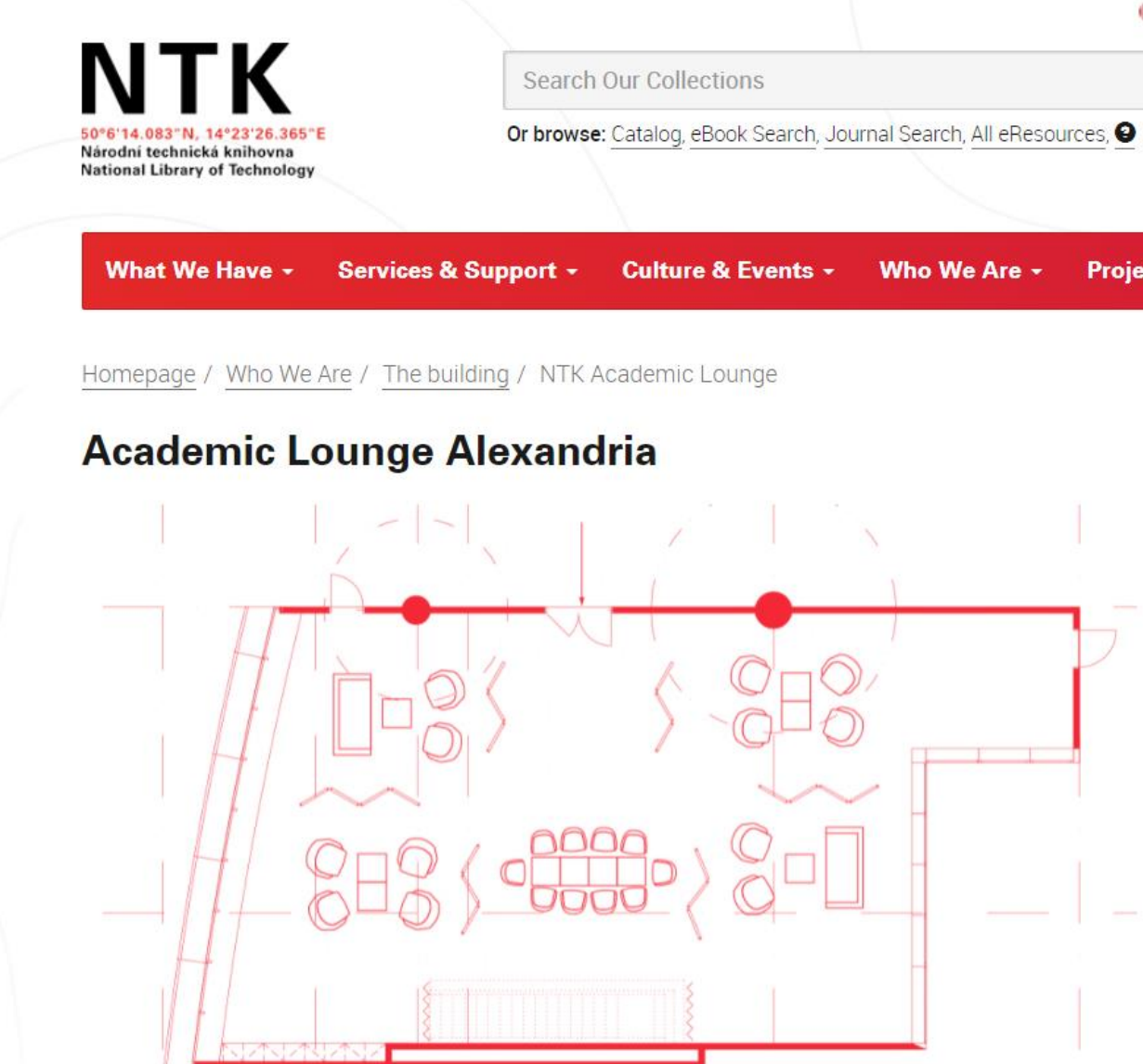
- Remember that “information” today **extends beyond institutional (library, university) walls**
 - “Hybrid” environment: trends towards open resources are in flux, with no universal vision for what the future should be
- Sci-Hub/similar article retrieval and sharing is not enough for high-quality doctoral level work, particularly understanding the **state-of-the-art** in one’s field and creating an **original** research topic
 - Doctoral candidates may **overestimate** their ability to find information, and may miss relevant resources because of this
- Value of subscription resources (including purchased resources such as books!): ability to **browse and discover** in a certain area of research focus or at the interdisciplinary level
 - Overlap between disciplines can lead to **blind spots** about developments in other fields
- For dissertations already written, do not forget about **ILL** services (introduced by other lecturers in this series) and asking authors directly, since **many academic authors are willing to share** for educational purposes
- Be challenged to think how **to link to other service units** for serving doctoral candidates
 - The **library can guide** people to these or even offer other service units a place in the physical/virtual library (writing services, career planning services, counseling services).
 - If your institution does not have these services, STEMskiller can be helpful (meant primarily for mentors, but can fill gaps for interested and talented students at the PhD level)

Case study: postdoctoral researcher “Milan”

Info skills similar to the PhD candidate case, with some differences:

- Writing **more articles** (publishing)
- Writing **first research proposals himself**, to get funding for his own (not his mentor’s) research interests
- Becoming **more visible online** (LinkedIn, ResearchGate, university web page of his own, GoogleScholar profile, ORCID, Web of Science/Publons ResearcherID, ScopusID), since this is crucial when proposal reviewers are curious about his background and engagement in the academic sphere. He may also need this if he applies to a full-time university position somewhere else
- He also needs to understand and report where he’s published, so needs to **compile his publication data more often** than as a PhD student (requires understanding journal impact factor, h-index – for different resources)
- Information-related needs for this:
 - Questions about **where to publish**/journal quality (only occasionally; he learned this as a PhD candidate and direct collaborators)
 - Help getting **very specialized, expensive books** (print or e) not yet in the library collection and not online anywhere
- Library-related need:
 - Space to **concentrate** and to **meet colleagues** away from students and hectic office environment (or home environment; childcare responsibilities)

Beyond information: NTK academic lounge



NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

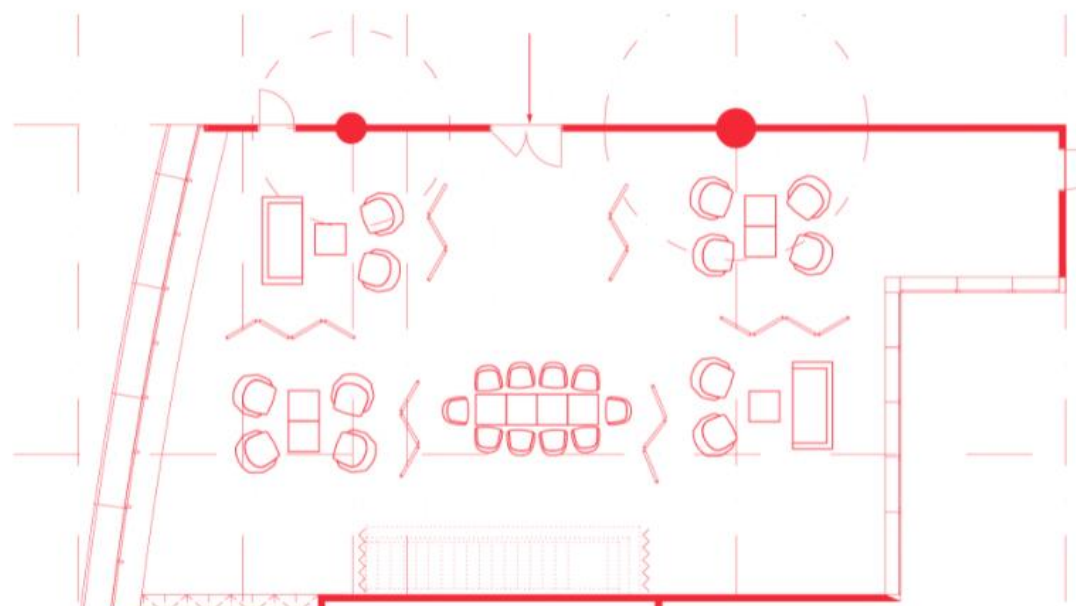
Search Our Collections

Or browse: [Catalog](#), [eBook Search](#), [Journal Search](#), [All eResources](#)

[What We Have](#) [Services & Support](#) [Culture & Events](#) [Who We Are](#) [Project](#)

[Homepage](#) / [Who We Are](#) / [The building](#) / [NTK Academic Lounge](#)

Academic Lounge Alexandria



Case study: tenured professor “Jennifer”

Info skills have been proven with track record; differences since postdoc times:

- Still **writing articles** (publishing)
- Pressure from university to get funding via **grant proposals**
 - **Managerial issues** related to research grant project teams
- **Teaching** large introductory classes for undergraduate students
- **Teaching** smaller classes for Master and doctoral students
- **Mentoring** several doctoral students, preparing them for academic careers
- Involved in **academic service** by peer reviewing, speaking high schools, serving as a journal editor, and involved in several committees in professional associations in her field
- Information-related needs for this:
 - Help with new subscription **teaching resources** in her field necessary for transition to more online learning (long-term COVID effects)
 - Help for her students who are having a hard time paying for **textbooks and other learning materials** with inflation (e-course reserves, OER)
 - **Specialized assistance** with discipline-specific resources she doesn't have time to learn more about as well as data management/article repository at her institution and preprint repository in her discipline
 - Help with **funding and custom licenses** from publishers/platforms to make her work more open

Discussion

We only have **10 minutes**.

Please ask questions **via chat or by raising your hand** in Zoom.

If I don't have time to answer your question, please **write me a direct email** and I will be happy to answer you.

STEMskiller: read/learn/share with mentors
<https://www.techlib.cz/en/84109-stemskiller>

Stephanie Krueger (MS/MA/PhD)

Work today made possible by the NTK NCIP grant and the Open Mechanics Group (CTU)

National Library of Technology in Prague (NTK),
Czech Technical University in Prague (CTU), and the
University of Chemistry and Technology, Prague (UCT)

stephanie.krueger@gmail.com



EUROPEAN UNION
European Structural and Investment Funds
Operational Programme Research,
Development and Education



MINISTRY OF EDUCATION,
YOUTH AND SPORTS

Co-funded by the
Erasmus+ Programme
of the European Union



Stephanie Krueger

**Resource Discovery. User Cases in the Academic Field. How to Get the
Information, Sources and Tools.**

<https://www.menti.com/altdegg3zizw>

