The Libraries’ Survival Guide for Chemistry Graduate Students

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http://matadornetwork.com/life/32-photos-that-prove-goats-are-the-worlds-best-climbers/
Areas of Specialty:

• Chemistry Librarian (one “hat”)
  – Buy books, journals, databases
  – Help science & engineering users
  – Oversee facilities, services
  – Teach & coordinate instruction
    • Bring in others with expertise: data management, bioinformatics, etc.

• Co-leader for researcher services: data services, visualization, GIS, informatics, ORCID (researcher ID)

• Libraries liaison for Oesper History of Chemistry collections & website
Areas of Specialty:

• Scifinder/Reaxys
  – Basic searches (substance, structure & reference search, etc.)
  – Advanced search (substructure, synthesis planner, alerts, making reports and sharing with others, etc.)

• Citation & collaboration tools (e.g., Mendeley)

• Specialized software in the Chem-Bio Info Commons

• Consultations Available

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Work Hours: Mon/Tue/Wed
9 am – 1 pm
Your Academic PhD Journey

THE ORIGIN OF THE THESIS
Your Academic PhD Journey

Do You Know What You're Doing?

Year 1

Research, Research, Research,
Literature, Literature, Literature
Do You Fit in Your Field?

Year 2

Research, Research, Research,
Literature, Literature, Literature
Dissertation Progress?
Can You Think On Your Own?
Are You Original and Creative?

Year 3

Dissertation Progress?
Have You Published?

Year 4

Dissertation Defence

Year 5 and Beyond
(Life After Grad School)
Your Academic PhD Journey

Classes/Teaching and New Research Group
Do You Know What Your Doing?
Year 1

Research, Research, Research,
Literature, Literature, Literature
Do You Fit in Your Field?
Year 2

Dissertation Progress?
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Year 3

Dissertation Progress?
Have You Published?
Year 4

Dissertation Defence
Year 5???

and Beyond
(Life After Grad School)

Figure 1. Experimental Diagram

Figure 2. Experimental Mess

I Have No Idea
What I Am Doing

Great, I Got a Full 40 Minutes

When Professor Asks How I Slept Before Finals
Classes/Teaching and Research and New Research Group

Do You Know What Your Doing?

Year 1
Research, Research, Research,
Literature, Literature, Literature

Do You Fit in Your Field?

Year 2
Dissertation Progress?
Have You Published?

Year 4
Dissertation Progress?
Can You Think On Your Own?
Are You Original and Creative?

Year 3
Dissertation Defence

Year 5???
and Beyond
(Life After Grad School)

YOUR RESEARCH PRESENTATION

HOW IT GOES:

15 minutes

How you planned it:

15 minutes

YOUR ACADEMIC LIFE

I'm ready to graduate

Beyond Grad School
UC Libraries’ Services & Resources

- Access to Chem-Bio Lib & computing
  - 24x7 card swipe for grad & faculty

- Books on 2-hour Reserve
  - Grad courses included

- Need books or articles? (Research, Literature Search, Fundamentals)
  - Request Library Materials: from other UC Libraries, OhioLINK/SW Depository, ILL

- Off Campus Access -- VPN it!

- UC Lib Research Guides (Campus-wide)
UC Libraries’ Services/Resources

- **Student Technology Resources Center** (STRC) – Langsam Library
  - Help with presentations, graphics for publication
    - Scanners
    - Photoshop, web page design software, etc.
  - Electronic dissertation assistance

- **Adaptive Technology Lab** (408 Langsam)
  - Screen reading software, text enlarging software
  - Dragon NaturalSpeaking (Speech Recognition Software)

- **LiBlog** – Library News and Updates
Chem-Bio Info Commons
Suite of Special Software

Gaussian09, GaussView
Spartan ‘14
ChemDraw
MestreNova
SciFinder Access
Unscrambler X
Mathematica
The Basics: Research

• **Catalog:** Books & E-Books (most of them)!

• **Databases—Literature Search Access**
  - [Full-text journals](#)
  - SciFinder
  - Reaxys
  - Scopus
  - Knovel
  - ProQuest (dissertations)
Find Library Resources...

Go to: libraries.uc.edu/chem-bio
Catalog:
Books & E-Books

Find Library Resources...

Search the Library Catalog for books and more

Keyword, Author, Title, Subject

UC Library Catalog | Sci & Eng E-Books | OhioLINK

Select a Guide...
Catalog: Books & E-Books

- Wiley E-books
- New Science books
- Stacks books/GMP
- Request books
- Can’t find a book!
  – Just ask us for help, we just might have it
Databases

Find Library Resources...

Search the A-Z Indexes databases list

- scifinder

Chemistry Databases | Biology Databases | All Databases

Select a Guide...

Go
Databases

Find Library Resources...

Select a Guide...
Biology
Chemistry
Chemistry Journals for "Hot Topics"
Chemistry REU/ Research Exp. Undergrads
EEE Summer Bridge Program
Mendeley/ACS ChemWorx (Citation Mgmt Tools)
Reaxys
Scifinder
Software in Chem-Bio Library

Reaxys

Go
Databases:
SciFinder & Reaxys

Find Library Resources...

Tips

• Search for substance information (Spectra, physical properties etc.)

• Create Alerts (Keep Me Posted-KMP)

• Plan Your Synthesis

• Find information about specific chemical reactions

• How Can Drawing Tools Effect Your Reaction Search
Databases:
Scopus & Knovel & ProQuest/OL

**Scopus**
- H-index, citation metrics

**Knovel**
- Properties databases, interactive graphs

**ProQuest & OhioLINK**
- Dissertations worldwide & Ohio
Patents & Their Application in Chemistry

• **Free tools**
  
  – See Patents guide: [guides.libraries.uc.edu/patents](http://guides.libraries.uc.edu/patents)
    
    • US Patent database, Espacenet (worldwide)
    
    • Google Patents: [Ex 1](#), [Ex 2](#) (non-chemical)
  
  – Great Tutorial on Patent Basics: [guides.library.queensu.ca/patents](http://guides.library.queensu.ca/patents)

• **Derwent Innovations Index** (subscription)
  
  • More readable (less legal) language for a particular patent
  
  • Search by **US** patents (Patent # field) for US
Patents & Their Application in Chemistry

Title

Patent Number and Issued Date

Inventors

Assignee

Filing Date

Field of Search

References Cited

Source: http://researchguides.case.edu/patents
Patents & Their Application in Chemistry

Markush structures

Generic notation for describing many molecules
(= Markush library) in a compact form.
Main usage:

- **Combinatorial chemistry**: similar steps of synthesis
- **Chemistry-related patents**: to claim part of the chemical space for a particular purpose.

Source: [http://www.slideshare.net/ChemAxon/combinatorial-markush-structure-handling-at-chemaxon-presentation](http://www.slideshare.net/ChemAxon/combinatorial-markush-structure-handling-at-chemaxon-presentation)

Markush Searching in SciFinder: [www.cas.org/training/scifinder](http://www.cas.org/training/scifinder)
Other Tools for Research

Reference Management Tools

- Mendeley
- EndNote
- RefWorks
Other Tools for Research

• UC’s Box.com - FREE unlimited storage/sharing

• Building a Reputation & Networking
  – Google Citations profile: Ex 1, Ex 2, Ex 3
  – ResearchGate, etc – Ex 1, Ex 2 & posting PDFs
Workshops Conducted in the Past: Chem-Bio

- **SciFinder** and **Reaxys**
  - Basics: Substance & Property Search
  - Advanced: Search Reactions & Plan your Synthesis
- **Mendeley** (Reference Management Tools)

Other Courses or Workshops that can be useful

- **Data Management**
- **EndNote** and **RefWorks** (Reference Management)
- **Ohio Supercomputer Center** (OSC)
- **Python** scripting
Post-Graduation Access

- ACS membership benefits – SciFinder, e-journals

- UC Libraries
  - Walk-in (on-campus) public access to e-resources
  - Alumni remote access
    - RefWorks access; a few databases in the future

- Your local public library, academic library
Thanks & Talk to Us!

Questions or Comments?