

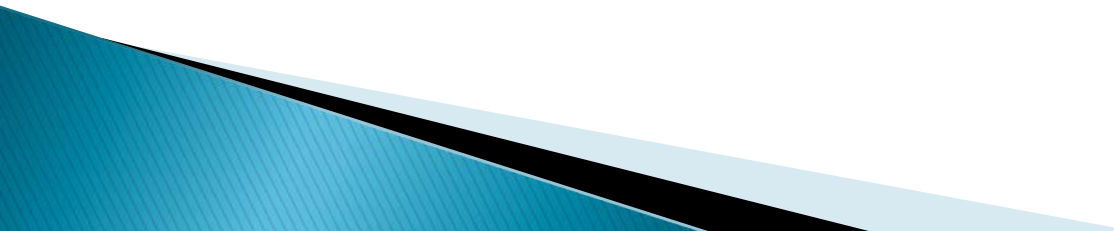
Research Skills WS 2015 Master of Epidemiology

Mandy Phillips, MSc
amanda.phillips@med.uni-muenchen.de

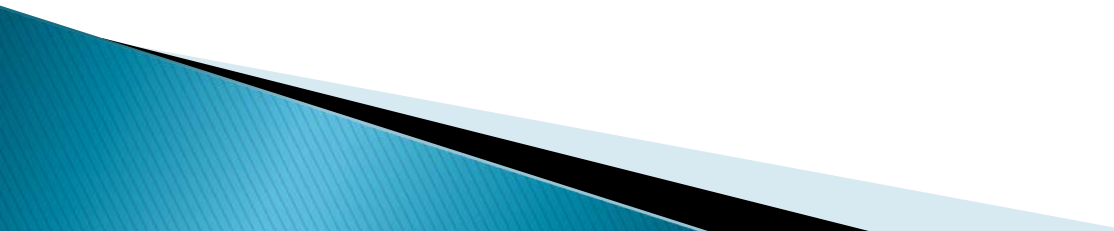
Prof. Dr. Eva Grill



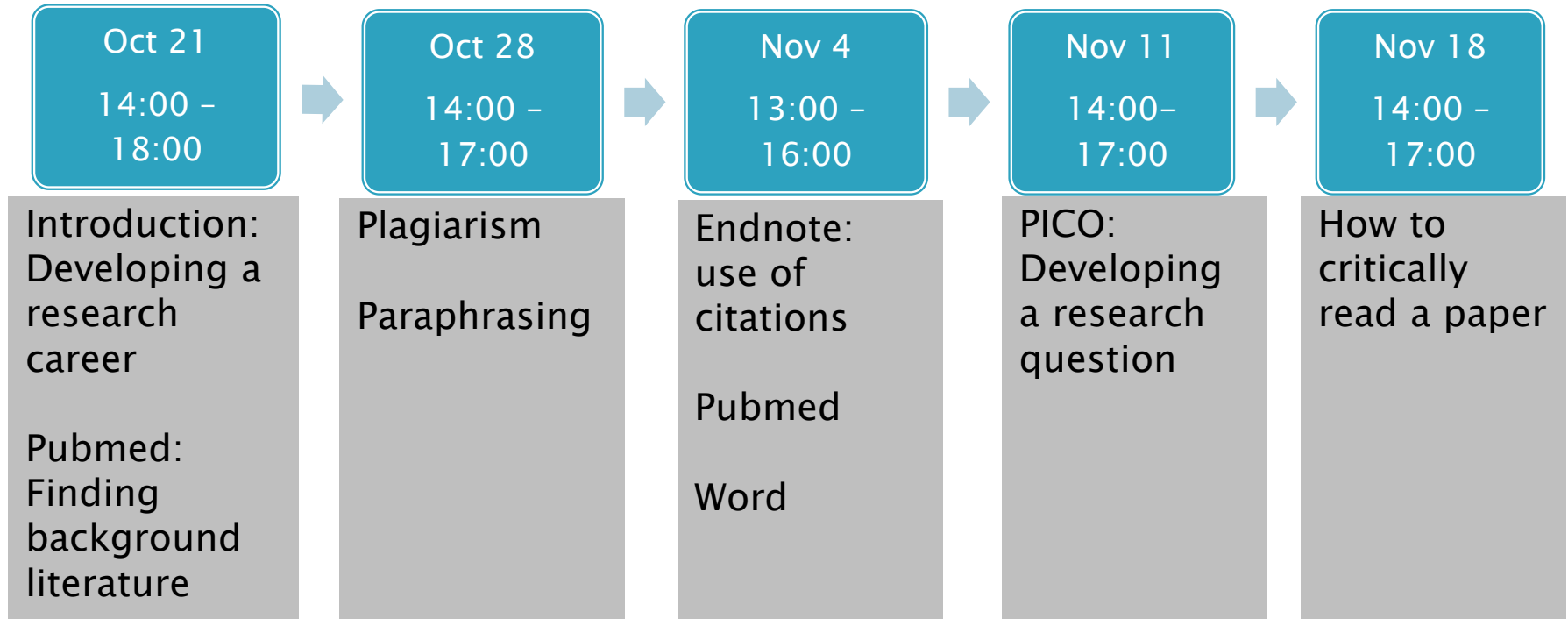
Purpose of this course

- ▶ You will receive a wide range of **training, support, and hands-on experience** using **productive, skill-based lessons** providing the **key competencies** needed throughout this program. We invite you to explore and **improve your research abilities** through an **interactive and competent course** to help **guide and develop** your expertise throughout your whole experience in this **master's program**
- 

Purpose of this course...cont

- ▶ Curriculum throughout entire master program (4 semesters)
 - ▶ Help with flow of epidemiology program
 - ▶ Prepare you for your internship, thesis and future work as a researcher
- 

Schedule



Presentation Skills

Structure/Requirements

- ▶ Lecture
- ▶ Practical Exercises
- ▶ Group Presentations
 - Not graded, but expected to be ready at start of next class period
 - **75% attendance is mandatory (4 out of 5 classes)**
- ▶ Research skills II (summer/autumn 2016):
 - Developing a study protocol
 - Variations of a theme: how to derive research objectives
 - Writing the methods section of a study protocol
 - Planning a study: time and resources
- ▶ Research skills III (summer 2016):
 - Writing a paper (thesis)

Groups

Group 1

Alzahmi Amal

Puerto Valencia Laura M.

Sujana Chaterina

Cadenovic Ranko

Babacic Haris

Schöning Verena M.

Group 2

Balakrishna Suraj

Bedir Ahmed

Buyse Laurence

Vanajan Anushiya

Piciu Ana Maria

Arjinian Sebouh

Ungethüm Kathrin

Group 3

Byng Danalyn

Witzleb Anna Julia

Cardenas Comejo Romulo

El Kassem Bassam

Cooney Claire

Dreher Annegret

Xiaoting Wang

Groups

Group 4

Chak Choi Wai

Matias Garcia Pamela R.

Forster Felix

Hoffmann Andreas

Horn Sacha

Huang Dan

Group 5

Kearns Elizabeth

Krajewska Maja

Mancera Charry Julian

Marku Jonida

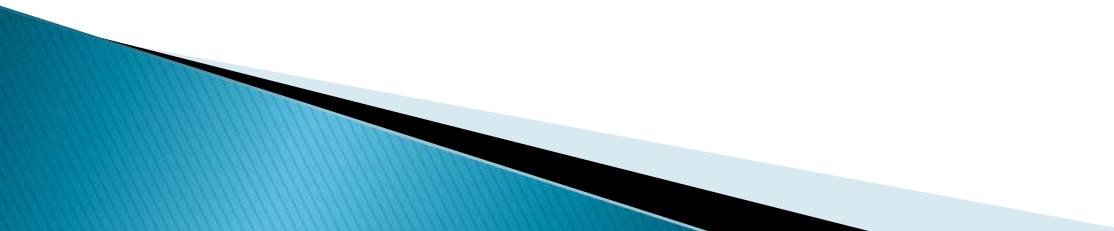
Mathew Stephen Mariet

Elhadad Mohamed

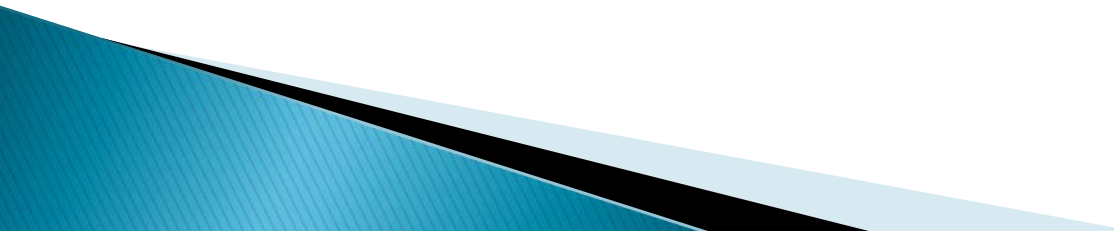
Pastuhovic Vedran

Today's Schedule

2pm – 2:45pm :	Intro/Eduroam
2:45pm – 3pm :	Break if needed
3pm – 4pm :	Scientific Presentations
4pm – 4:15pm :	Break
4:15pm – ...	Pubmed/Practices

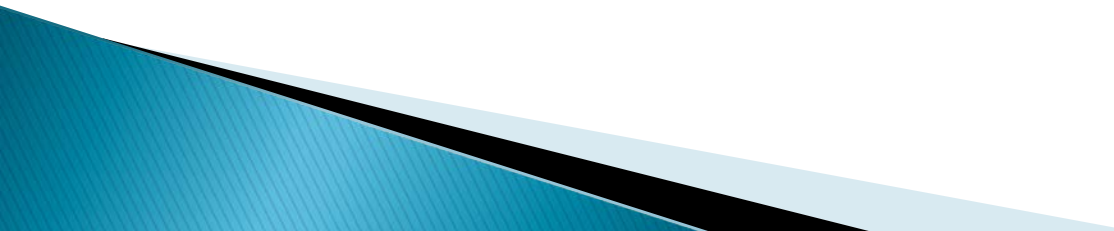


What is a researcher in Epidemiology?

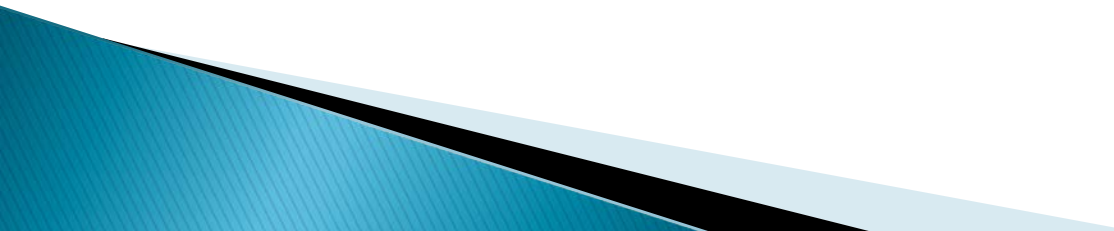
- ▶ Chooses the topics for his/her research
 - ▶ Develops original research ideas and answers them
 - ▶ Financially supports the time they and staff spend on research (grants usually)
 - ▶ A bit more than just analyzing others' data
 - ▶ More than just a hobby or side activity
- 

- ▶ What are the typical characteristics of a researcher in epidemiology?

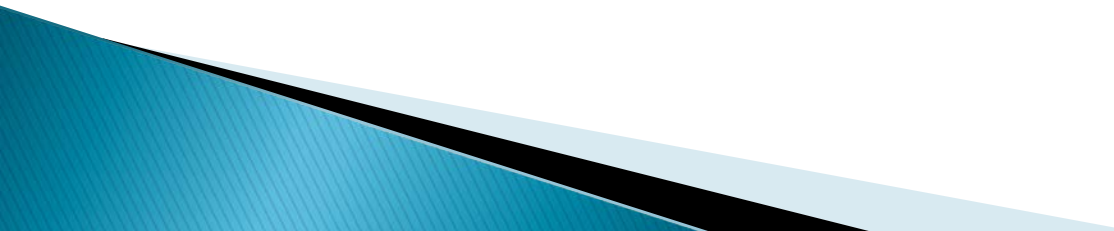
You can be a researcher

- ▶ Normal life
 - ▶ You don't have to be a workaholic
 - ▶ You don't have to be brilliant/a genius/manic
 - ▶ You have to be curious and enjoy research
 - ▶ It has to be the main focus of your career
- 

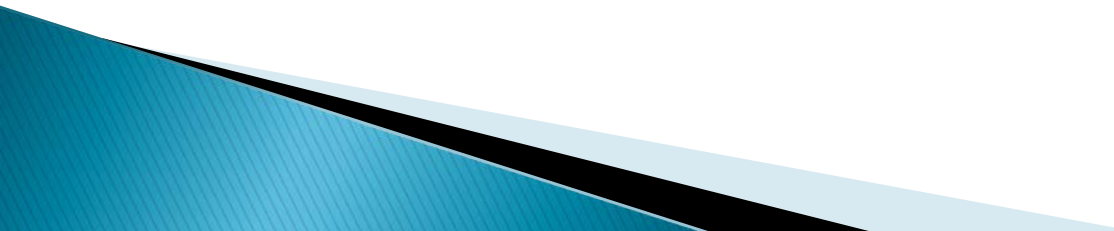
Why choose a career in epidemiological research?

- ▶ Does it fit into your skills? Do you want to spend your time with it?
 - ▶ Flexible lifestyle
 - ▶ Opportunity to contribute
 - ▶ Constantly challenging
 - ▶ Variety in day to day activities
- 

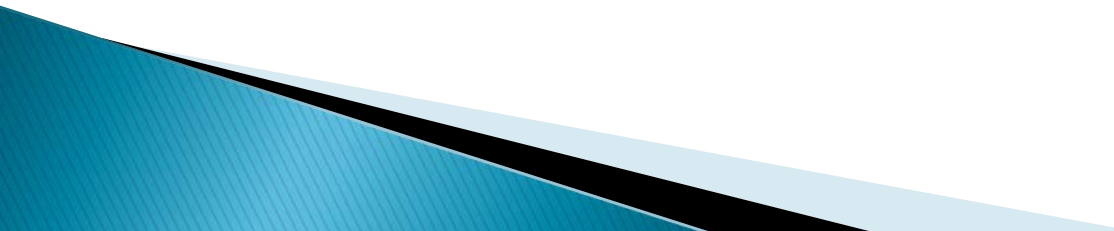
What are the downsides?

- ▶ Research is a highly competitive field –lots of faculty members want to be researchers.
 - ▶ Researchers tend to be judged on productivity
 - ✓ Grants
 - ✓ Publications
 - ▶ Researchers have to be thick-skinned
 - ▶ Less job security
- 

Where do ideas come from?

- ▶ Greatest mystery/scariest part of research
 - ▶ Clinical practice – how often is your clinical work really evidence-based rather than tradition-based?
 - ▶ Limitations of current research (at the end of every paper's discussion section)
 - ▶ Taking a public health perspective (under-treated/over-treated, costs of therapy, potential lives saved)
- 

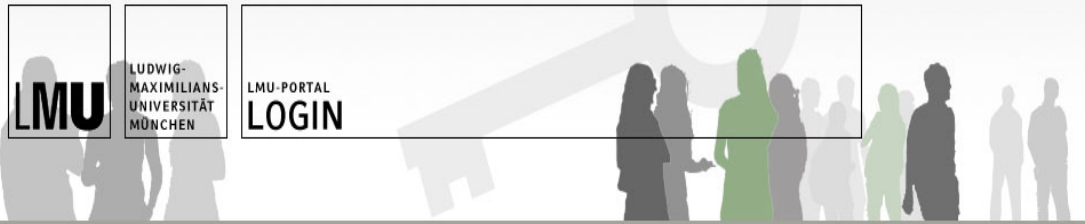
How do you know if research is right for you?

- ▶ Your favorite work activity?
 - ▶ Your skills?
 - ▶ Decide what activity/subject will inspire you the most long-term
 - ▶ The MSc program is probably the best time to decide if you want to be one
- 


Eduroam

What you need...

- LMU email or
- LRZ username and password
 - Given when you registered
 - <https://login.portal.uni-muenchen.de/login/loginapp/login.html>
 - if you do not know it
 - Look under Benutzerkonto



www.lmu.de | LMU-Portal Start

 Login



Benutzername:

Passwort:

Verwenden Sie zum Login Ihre LMU-Benutzerkennung ohne "@lmu.de" oder "@campus.lmu.de".

Achtung: Angehörige der medizinischen Fakultät verwenden die LMU-Benutzerkennung mit "@med.lmu.de".

- [Benutzerkennung beantragen](#)
- [Erstanmeldung](#)

-  Hilfe
- [Probleme beim Login?](#)
 - [Über das LMU-Portal](#)
-  Links
- [Online-Vorlesungsverzeichnis](#)
 - [IT-Servicedesk](#)
 - [LMU-Teams](#)
 - [WLAN-Support](#)



www.lmu.de

LMU-Portal Start

Mailbox

Mitarbeiter intern

LMU-Portal Blog

Amanda Phillips

Benutzerkonto

Logout

Es sind neue Inhalte verfügbar:

- Mitarbeiter intern
- Stellenangebote der LMU
- Telefonverzeichnis
- News Münchner Zentrum für Lehrerbildung
- Weiterbildung

Meldung(en) ausblenden

+ Inhalte hinzufügen

Feedback geben

Hilfe

LSF LSF-Stundenplan

Heute Morgen Übermorgen Alle Vormerkungen

Persönlich vorgemerkte Veranstaltungen am 22.09.2015 (*)

Keine vorgemerkten Veranstaltungen

* keine Gewähr

Mailbox: Posteingang

Ihre Inbox:

- Infodienst... - [Infodienst] Internationaler Tag 24.04.
- Infodienst... - [Infodienst] Werde studentisch 10.04.
- Infodienst... - [Infodienst] Uni-Konzert der Mü 08.04.
- Infodienst... - [Infodienst] Bewerbungsstart fi 01.04.
- Infodienst... - [Infodienst] Aktuelle Angebote 28.03.

Vorlesungszeit

Noch 20 Tage bis zum Semesterstart! Die Vorlesungszeit beginnt wieder am 12.10.2015. Infos zur Rückmeldung.

LMU aktuell

Diese Information sind vorübergehend nicht verfügbar.

LSF

Fakultätsübergreifende Veranstaltungen

Personensuche

Nachname: Suchen

LMU Wetter

16.4 °C Weitere Wetterdaten

Studium

- „Engagiere Dich ehrenamtlich“: Infoveranstaltung zu LMUUniAbenden und LMU-Schnupperstunden
- Summer Schools an der LMU: Mehr als ein Mini-Auslandsaufenthalt
- 5-Euro-StartUp: Der Kopfhörer, der auch Box sein kann
- Studium und dann?: Generation Reißbrett-Lebenslauf
- Hochschulpreis für Theaterwissenschaftler: Der erste Kabarettist Münchens

Weitere News und Termine finden Sie unter Studium Aktuell

Studien-Informationen-Service (SIS): +49 (0) 89 / 2180 - 9000

News der Universitätsbibliothek

- Tagung: Das Hochschulbibliothekssystem als Grundlage zeitgemäßer Informationsversorgung
- Fachbibliothek Medizinische Lesehalle an zwei Wochenenden geschlossen
- Schulungsvideo zu Citavi
- Datenbank zur Antike: Brill's New Pauly/Der Neue Pauly Online
- Geowissenschaftliche Lehrbücher ziehen um

Administratives

- Beitragskonto einsehen
- Postanschrift ändern
- Prüfungsverwaltung

Student und Arbeitsmarkt

- Werkstudent/in „Research Assistant“ (Content5 AG)


LMU Veranstaltungskalender

Veranstaltungen am 22.9.2015

<< Sept 2015 >> Heute

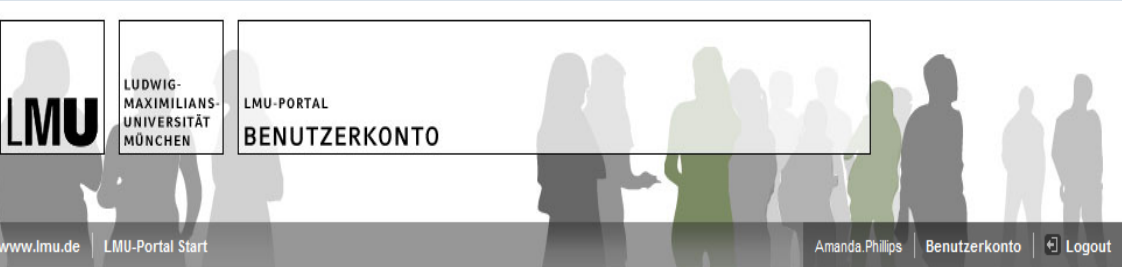
Links

- Online-Selbstbedienungsfunktionen
- Beratungsstellen
- Prüfungsverwaltung
- Verwaltung A-Z
- Personalrat
- Schadensmeldung /



LUDWIG-
MAXIMILIANS-
UNIVERSITÄT
MÜNCHEN

LMU-PORTAL
BENUTZERKONTO

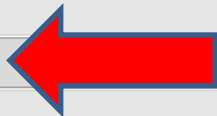


www.lmu.de | LMU-Portal Start

Amanda Phillips | Benutzerkonto | Logout

Einstellungen Benutzerkonto

- › Passwort ändern
- › Sicherheitsfrage
- › E-Mail-Einstellungen
- › Infodienst der LMU
- › LMU-Teams
- › Informationen zu Ihrem Benutzerkonto
- › Informationen für Studierende



- <https://www.lrz.de/services/netz/wlan/eduroam/>
 - Download the appropriate configuration file from this website and run it on your computer

- Startseite
- Wir über uns
- Services
- Fragen, Beratung und Unterstützung
- Forschung
- Externe Links
- WLAN
 - Konfigurationsanleitung
 - eduroam**
 - mwn-events
 - Sicherheit

[www.lrz.de / services / netz / wlan / eduroam](https://www.lrz.de/services/netz/wlan/eduroam)

eduroam

Für die eduroam-Konfiguration bieten wir installierbare WLAN-Profile an, die Sie hier herunterladen können. Es wird keine Software installiert, sondern nur ein WLAN-Profil eingerichtet und, falls nötig, ein CA-Zertifikat der Telekom installiert (die meisten Betriebssysteme haben es aber bereits installiert). Derzeit sind nur Profile für SIM-Kennungen vom LRZ vorhanden (die meisten Studenten, z.B. von LMU und TU, haben eine SIM-Kennung, Studenten der Hochschule München aber nicht).

- [Windows 7](#)
- [Windows 8](#)
- [Windows 10](#)
- [Windows Vista](#)
- [Linux](#)
- [iOS \(iPhone und iPad\)](#)
- [Mac OS X](#)
- [Profil für die Android-App "eduroam CAT" \(Testversion\)](#)

Für Android ab Version 4.4 gibt es die Konfigurations-App "eduroam CAT" im Playstore, mit der man das oben gelistete Konfigurationsprofil verwenden kann. Nur mit diesem Profil wird eine sichere Konfiguration erreicht, die vor Passwortdiebstahl schützt. Um das Profil zu installieren, muss zuerst die App installiert werden, anschließend das Profil heruntergeladen und mit der App geöffnet werden. Die App fordert nur zur Eingabe von Benutzername und Passwort auf, alle weiteren Konfigurationsparameter sind im Profil gespeichert. Da die CAT-Unterstützung von eduroam noch nicht als stabil angesehen wird, ist das LRZ-Profil leider nur über den Download auf unserer Seite verfügbar, später sucht sich die App automatisch das richtige Profil. Wer die App nicht verwenden will oder eine ältere Android-Version einsetzt, muss Android "von Hand" konfigurieren. Auch für die anderen oben genannten Systeme gibt es Anleitungen zur manuellen Einrichtung, Links finden Sie unten auf der alten eduroam-Seite.

Windows XP wird nicht mehr unterstützt.

- https://www.lrz.de/services/netz/mobil/eduroam_en/
 - Instructions for mac and windows

Veranstaltungen (de)

Übersicht über Accesspoints
(de)

Betrieb Instituts-WLAN (de)

Richtlinie-APs (de)

802.1X (de)

VPN Overview

eduroam

Where can I use eduroam?

Access is available at locations that are part of the eduroam network. Both the user's home institute and the visited institute must be part of this network. Links and overviews are available under the following links:



National



European



APAN

How do I register?

Standard is to use your LRZ account, it has to be entered as **lrzaccount@eduroam.mwn.de**.

To use eduroam with other accounts please follow the rules of your home institution.

Outside the MWN, only usernames that end in tum.de, lmu.de and mwn.de can be used.

When the connection has been established, you are automatically assigned an IP address in the MWN from the 138.246.x.x network. There is a dedicated DNS name in the domain dynamic.eduroam.mwn.de.

Instructions/links:

- eduroam under Windows
- eduroam under Linux (Ubuntu)
- eduroam under Linux (wpa supplicant) (German only)
- eduroam under Windows Mobile
- eduroam/802.1X with Mac OS X 10.4 (Tiger) (German only)
- eduroam/802.1X with Mac OS X 10.5, 10.6 and 10.7 (Leopard, Snow Leopard, Lion)
- eduroam/802.1X with iPad/iPhone
- eduroam with Symbian S60v5 (German only)
- eduroam with Blackberry
- eduroam with Android
- eduroam with Android 5
- eduroam with Bada
- eduroam with Windows Phone 7
- DFN roaming homepage of the DFN
- eduroam project page

The logo of Ludwig-Maximilians-Universität München (LMU) in green with white text.

LUDWIG-
MAXIMILIANS-
UNIVERSITÄT
MÜNCHEN

IBE



Research Skills: PubMed

Prof. Dr. Eva Grill, MPH

Amanda Phillips, MSc Epidemiology Student

Department of Medical Informatics, Biometry, and Epidemiology

Ludwig Maximilians University Munich

LMU

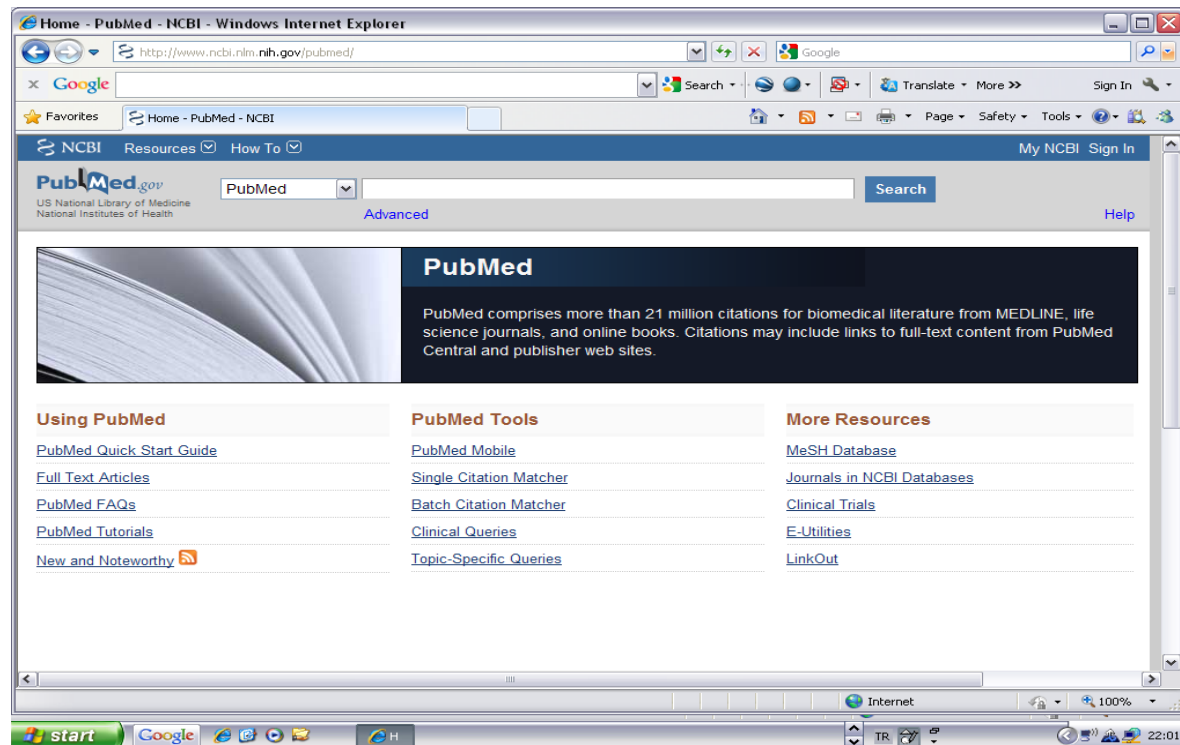
LUDWIG-
MAXIMILIANS-
UNIVERSITÄT
MÜNCHEN

IBE



PubMed

<http://www.ncbi.nlm.nih.gov>



What is PubMed

- Produced by NCBI
- PubMed includes MEDLINE, a premier NLM biomedical database of worldwide journal literature in medicine, nursing, dentistry, veterinary medicine, public health and the preclinical sciences
- PubMed is an excellent database for finding some articles on most health/medicine topics.
- PubMed is free to anyone with internet access.
- PubMed includes links to full text at publisher or library websites

What is PubMed?

- PubMed citations come from more than 5,000 biomedical journals.
- PubMed has more than 21 million citations from the 1940's to the present.
- PubMed includes very recent articles and updated each week.
- Coverage is current as participating publishers submit electronic citations daily

What Can You Do in PubMed?

- Search for articles (usually abstracts)
 - By keyword
 - By author
 - By Journal, etc
- Combine searches
- Link to related articles
- Link to outside sources
 - To purchase the full article
 - Look at related books (including pages in the books)
- Clinical queries

Research Question

Patient/Population- for example, infants, aged, miners, nurses...etc.

Intervention/Issue- i.e., chemicals, nutrition, drug therapy...etc.
(exposure)

Comparison – i.e., exposed vs. non-exposed, new drug vs. current drug....etc. but there may not always be a comparison

Outcome – i.e., disease, no disease, death, survival, tumor growth...etc.

Basic PubMed Search

➤ Keyword Searching

- Example: type 2 diabetes
 - Too many to read through
 - lots of false hits
 - not specific to your actual question/search topic

Simple Searches ≠ Best Searches

Search limits

Consider search refinements to limit specific aspects of a topic, such as:

- Meta-Analysis
- Systematic Review
- human or animal studies
- male or female subjects
- age groups, for example adolescents, infants
- time periods
- languages

Basic PubMed Search

➤ Keyword searches can lead to „unwanted“ results because they:

1. Ignore negating expression (but, except, never...)
2. Treat all words as equally important
3. Dont include synonyms and varieties of search term (infant, infants, infantile, infancy, neonate, newborn, baby...)
4. Don't recognize homonyms
 - Example: **dress**ing could mean
 - » Bandages on wounds
 - » Putting on clothes

What is the solution?

➤ Me_{dical}

➤ S_{ubject}

➤ H_{eadings}

MeSH

What is MeSH?

- MeSH = **M**edical **S**ubject **H**eadings
- MeSH is a vocabulary of subject headings and subheadings
- Subject terms are selected and approved for use by NLM
- Each year subject headings are revised with additions and deletions
- Scope note indicate what is meant by the term
- **Used to describe the subject content of all publication types in PubMed and in the library catalogs**
- Hierarchy of terms with broad and narrow terms
- Items are indexed with the most specific MeSH term available

What is MeSH?

➤ **MeSH Vocabulary includes four types of terms:**

- Headings
- Subheadings
- Supplementary Concept Records
- Publication Characteristics (or Types)

MeSH Headings

➤ Over 26,000 **MeSH** headings

➤ Examples:

- Body Weight
- Kidney
- Dental Cavity Preparation
- Self Medication
- Radioactive Waste
- Brain Edema

Sub headings

- Sub Headings- (also called qualifiers) are attached to MeSH headings to describe a specific aspect of a concept
- Examples:
 - adverse effects
 - diagnosis
 - metabolism
 - therapy

Supplementary Concept Records

- Supplementary Concept Records are over 200,000 terms in a separate thesaurus from the Medical Subject Headings. These are primarily substance terms, but also include some protocols and rare disease terms. These terms are updated weekly.
- Examples:
 - cordycepin
 - valspodar
 - tacrolimus binding protein 4
 - MOPP protocol
 - Snyder Robinson syndrome

Publication Characteristics

- Publication Characteristics or (Publication Types) describe the type of publication being indexed; i.e., what the citation is, not what the article is about.
- Examples:
 - Letter
 - Review
 - Randomized Controlled Trial

Advantages of MeSH

- Consistency in meaning of terms is maintained over time
- Synonyms are organized under one MeSH term
- Allows for both specific and comprehensive results
- Cuts down on irrelevant retrieval

Try it in PubMed

➤ <http://www.ncbi.nlm.nih.gov/pubmed>

➤ [Video](#)

Combining similar terms

Use Boolean operators to combine different terms

- **OR** use to combine different terms for the same concept
- **AND** to combine different concepts
- **NOT** excludes concepts but must be used with caution to avoid excluding relevant items
- „“ quotations specify as phrase as one term and not individual words. Using quotes turns off PubMed's Automatic Term Mapping. You are only searching for the phrase “*heart attack*”, and not the MeSH term "Myocardial Infarction" or synonyms.

BOOLEAN TERMS MUST BE IN UPPER CASE LETTERS!

Logic of Boolean

➤ **OR** will search for articles containing any of the terms we chose.

Use OR to combine synonyms, alternative spellings or related items

➤ **AND** will search for articles which contain all of the terms we have chosen.

➤ PubMed processes all Boolean operators in a left-to-right sequence unless closed off by parenthesis, for example: *vertigo AND (quality of life OR well-being)*

➤ **VIDEO**

Other Special Characters

- **parentheses ()** - used to create Boolean nesting. Much like in mathematics, using parentheses lets PubMed know which words you want to be affected by the Boolean operators (AND, OR, NOT) you use—otherwise it just reads from left to right.
- If you want to search for articles on pain in the eyes or head, for example, entering *(eye OR head) AND pain* would get you results on pain in either the eye or head;
- entering *eye OR (head AND pain)* would get you results relating to the eye, regardless of whether pain is involved, and results that mention both pain and the head.

Other Special Characters

- **square brackets []** – used immediately after a term (no space), it tells PubMed which field to search.
 - *Grill[au]* will search for Grill only in the author field
 - *Vertigo[MesH]* will search for Vertigo only in MesH terms field
- **colon :** - use between two dates followed by a date tag to search for all articles within that date range
 - *2000:2014[DP]* will search for articles only published between the dates 2000-2014

Other Special Characters

- **double quotes “** - used to force a phrase search, *“quality of life”*
- **asterisk *** - wildcard symbol for search term truncation, e.g., *toxic**
will search for toxic, toxicology, toxicity, and anything else that starts with toxic

Other Special Characters

- **forward slash /** - MeSH/Subheading combinations,
- e.g. *Paranasal sinuses/radiography[MeSH]*. Note: PubMed will translate to the correct MeSH terms, but if the heading/subheading combination you use doesn't exist, you won't get any results.
- For example, if you enter *Paranasal sinus/x-ray[MeSH]*, PubMed will search for *Paranasal sinuses/radiography[MeSH]*,
- but if you enter *Paranasal sinus/pain[MeSH]*, you will get no results, because pain is not used as a subheading in MeSH. If you're not sure if your combination works, look it up in MeSH first.

Other Special Characters

- List of all search field tags:

[http://www.ncbi.nlm.nih.gov/books/NBK3827/#pubmedhe
lp.Search_Field_Descriptions_and](http://www.ncbi.nlm.nih.gov/books/NBK3827/#pubmedhelp.Search_Field_Descriptions_and)

Clinical Queries

- Clinical Queries- specialized PubMed searches that filter citation retrieval by clinical study categories, systematic reviews, and medical genetics topic.
- Searches can be either broad (sensitive) or narrow (specific)

Filters in Clinical Queries

- Clinical Study Category
 - Etiology
 - Diagnosis
 - Therapy
 - Prognosis
 - Clinical prediction guidelines

Filters in Clinical Queries

- Systematic Reviews
 - Systematic Reviews
 - Meta-analysis
 - Reviews of Clinical Trials
 - Consensus Development Conferences
 - Guidelines
- Medical Genetics Topic
 - displays citations pertaining to topics in medical genetics

The logo of Ludwig-Maximilians-Universität München (LMU) in green with white text.

LMU

LUDWIG-
MAXIMILIANS-
UNIVERSITÄT
MÜNCHEN

The logo of the Institute of Business Economics (IBE) in green with white text.

IBE



Clinical Queries Practice

[Video](#)

Before starting search consider:

- The keywords
- Other ways to spell the keywords
- Important MeSH terms
- Boolean Terms (AND, OR, NOT)
- Other words which mean the same thing (synonyms)
- Related keywords need to be included
- Limits to apply: date, language, age group, publication type...
- Search Field Tags []