

# Educating students for developing high quality research skills (ENSURE)

Sibiu, 20 December 2019

**Gabriela Căndea, PhD**

THE EDUCATION, SCHOLARSHIPS, APPRENTICESHIPS AND  
YOUTH ENTREPRENEURSHIP PROGRAMME (ESAYEP)  
2014 – 2021 – EEA FINANCIAL MECHANISM

# Partnership

Coordinator:

**Lucian Blaga University of Sibiu (LBUS)**  
**Romania**

Partner:

**University of Tromsø – The Arctic University of  
Norway (UiT) Norway**

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# Project`s Topics

Topics / Training	Trainer	University
Scientific teaching at medical school	Prof. Finn Egil Skjeldestad	UiT
How to conduct/design of clinical studies	Prof. Finn Egil Skjeldestad	UiT
How to deal with uncertainties in clinical practice?	Prof. Frode Forland	UiT
PICOs (Population, Interventions, Comparisons, Outcomes, Study Design)	Prof. Frode Forland	UiT
Legal provision in medical and human-related scientific research	Patricia Mihalache, PhD	LBUS
Ethics in research	Prof. Victor Costache Radu Stroia, PhD	LBUS

# Project`s Topics

Topics / Training	Trainer	University
Search strategies in information systems	Prof. Eirik Reierth	UiT
How to read and assess scientific papers (GRADE)	Prof. Finn Egil Skjeldestad	UiT
Bias in epidemiological research	Prof. Finn Egil Skjeldestad	UiT
Academic writing of project plans, scientific reports	Ioana Mircea, PhD	LBUS
Data collection, data cleansing, data visualization and evaluation	Gabriela Candea, PhD Crina Staicu, PhD	LBUS
How to present a project plan/scientific report	Prof. Kak Khee Yeung	LBUS

# How to conduct/design of clinical studies

Prof. Finn Egil Skjeldestad (UiT)



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# PICOs (Population, Interventions, Comparisons, Outcomes, Study Design)

Prof. Frode Forland (UiT)

Research question:

RCT

Population	Intervention	Comparison	Outcome	Study design	Ethics
				RCT	

# Legal provision in medical and human-related scientific research

Patricia Mihalache, PhD (LBUS)

- ▶ The issues of regulations on the field of human subjects



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# Ethics in research

Prof. Victor Costache (LBUS)

Radu Stroia, PhD (LBUS)

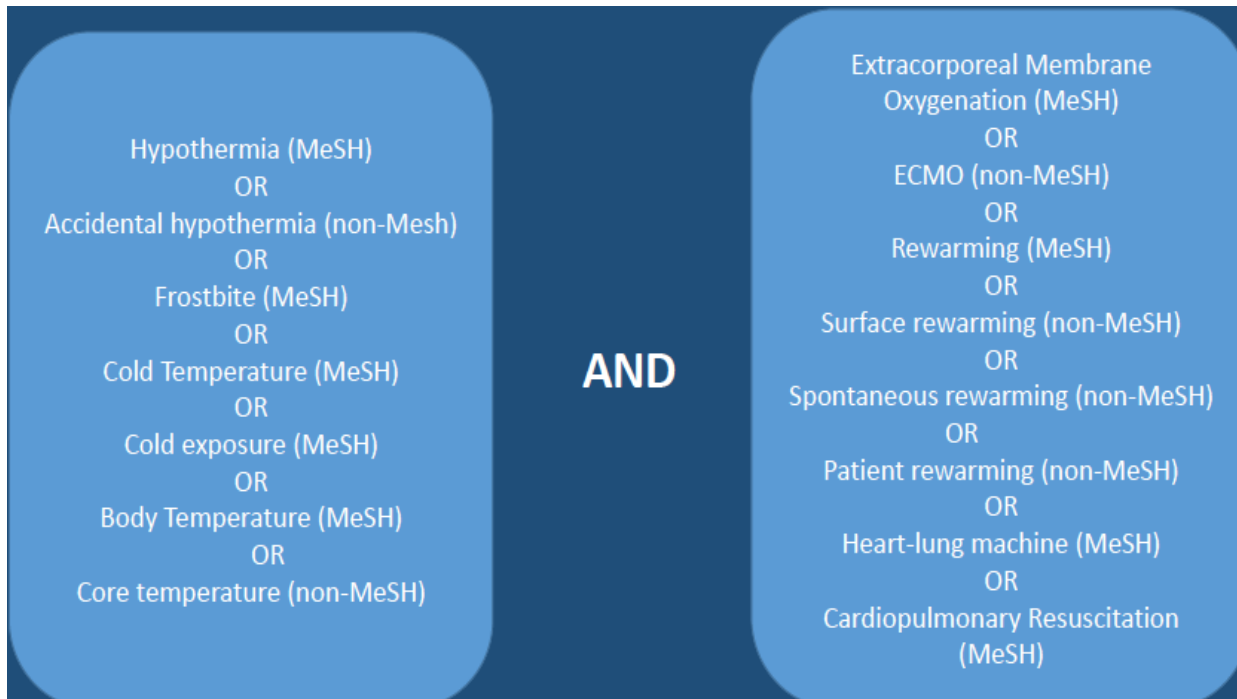
- ▶ Ethics of medical of scientific research
- ▶ Ethics and deontology of research of research on human subjects





# Search strategies in information systems

Prof. Eirik Reierth (UiT)



# How to read and assess scientific papers (GRADE)

**Prof. Finn Egil Skjeldestad (UiT)**

Grading of Recommendations Assessment, Development, and Evaluation

- ▶ To formulating questions
- ▶ To assess quality of evidence
- ▶ To develop recommendations

Clinical questions

- ▶ Diagnosis
- ▶ Screening
- ▶ Prevention
- ▶ Therapy/treatment

**Rate the quality of evidence for each outcome across studies**  
RCTs start with a high rating, observational studies with a low rating

**Rating is modified downward:**

- Study limitations
- Imprecision
- Inconsistency of results
- Indirectness of evidence
- Publication bias likely

**Rating is modified upward:**

- Large magnitude of effect
- Dose response
- Confounders likely minimize the effect

**Final rating of quality for each outcome: high, moderate, low, or very low**

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# Bias in epidemiological research

Prof. Finn Egil Skjeldestad (UiT)

Bias concepts			PICO	Design	Design
Selection bias	Self selection bias	Referral bias	P	RCT	Cohort/ Case-control/Case series
Recall bias			Exp. Confound.		Case-control, retrospective cohorte, retrospective case-series
Diagnostic bias	Misclassification bias		P/Exp./O		All design
Observer bias			O		All prospective studies
Attrition bias	Loss to follow-up bias	Withdrawal bias/ Non-response bias	O		All prospective studies
Publication bias					RCT/Cohort/Case-control/Case series
Publicity bias					

# Academic writing of project plans, scientific reports

Ioana Mircea, PhD (LBUS)

Describe

- ▶ How your work advances the field?
- ▶ Indicate applications of your work.
- ▶ Suggest future experiments that build on your work and point out experiments already underway as well.



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# Data collection, data cleansing, data visualization and evaluation

Gabriela Candea, PhD (LBUS)

Crina Staicu, PhD (LBUS)

Generated across a variety of sources, **data collection in healthcare** encourage efficient communication between doctors and patients, and increases the overall quality of patient care



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# How to present a project plan/scientific report

## Different types of presentations

- ▶ CAT: Critically Appraised topic: *short summary of the best available evidence, created to answer a specific clinical question.* A **CAT** looks like a short, rigorous version of a systematic review.
- ▶ PICO: Problem, Intervention, Control, Outcome
- ▶ Presentation about own research work
- ▶ Poster presentation
- ▶ Presentation about science project: pitch

## Prof. Kak Khee Yeung (LBUS)





# Thank you!

**Gabriela Cândeă, PhD**

Lucian Blaga University of  
Sibiu

**ENSURE Project manager:**

Dr. Victor Sebastian Costache



For more information please visit the following websites:

[http://www.eea4edu.ro/en/contracte\\_en\\_he\\_2018/](http://www.eea4edu.ro/en/contracte_en_he_2018/)

<https://grants.ulbsibiu.ro/ensure/>

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