



Institute for  
Communication and  
Assessment Research



**KARL  
LANDSTEINER** **KL**  
PRIVATUNIVERSITÄT FÜR  
GESUNDHEITSWISSENSCHAFTEN

# 19th UCAN Conference 2025

## Future-Oriented Examinations – Competencies for Tomorrow's Healthcare



**April 15–16, 2025**

**Karl Landsteiner University of Health Sciences**

**Dr.-Karl-Dorrek-Straße 30  
3500 Krems an der Donau, Austria**

Dear Ladies and Gentlemen,  
Dear UCAN Partners and Colleagues,

It is our great pleasure to invite you to the **19th UCAN -Conference**, organized in collaboration with the **Karl Landsteiner University of Health Sciences**.

**The conference will take place from April 15 to 16, 2025, in Krems, Austria**

Globalization, digitalization, and the growing role of artificial intelligence (AI) are reshaping the requirements for examination formats and content in healthcare professions. At the same time, these advancements present new opportunities to enhance the quality of undergraduate, postgraduate, and continuing education through innovative assessments, fostering competencies essential for a globally connected healthcare system.

### **Main Themes of the UCAN Conference 2025**

#### **"Future-Oriented Examinations – Competencies for Tomorrow's Healthcare"**

This year's conference will focus on innovative assessment formats, methods, and technologies that shape the future of healthcare education. As the landscape of medical knowledge evolves, so must our approaches to evaluating and preparing the next generation of physicians and healthcare professionals.

Together, we will exchange ideas, develop practical solutions, and explore new ways to integrate modern technologies into education, training, and continuing professional development. Beyond insightful presentations and stimulating discussions, the conference will offer ample opportunities for networking and collegial exchange. We also encourage you to explore our social program and activities, designed to foster connections in a more informal setting.

We look forward to welcoming you to Krems in April 2025 and working together to advance assessment standards in healthcare professions.

With best regards,

Prof. Dr. Jana Jünger, Dipl.-Inform. Med. Konstantin Brass, Prof. Dr. Rudolf Mallinger,  
Prof. Dr. Manfred Wieser, Prof. Dr. Michael Schmidts

## Keynote Speakers and Moderators

- **Dr. Rahila Ali** (Aga Khan University, Pakistan)
- **Dr. Shazia Babar** (Aga Khan University, Pakistan)
- **Dipl.-Inform. Med. Konstantin Brass** (Managing Director, Institute for Communication and Assessment Research, Heidelberg)
- **Prof. Dr. Martin Fischer, MME** (Dean of Studies, Ludwig Maximilian University of Munich)
- **Julian Großstück** (Institute for Communication and Assessment Research, Heidelberg)
- **Dipl.-Inform. Med. Jörn Heid** (Institute for Communication and Assessment Research, Heidelberg)
- **Prof. Dr. Jana Jünger, MME** (Scientific Director, Institute for Communication and Assessment Research, Heidelberg)
- **Prof. Dr. Rudolf Mallinger** (Rector, Karl Landsteiner University of Health Sciences, Krems)
- **Dr. Andreas Möltner** (Research Associate at the Faculty of Medicine, Heidelberg University)
- **John Norcini, Ph.D.** (President of Foundation for Advancement of International Medical Education and Research, Philadelphia)
- **Prof. Dr. med. Dr. phil. Rainer Petzina, MaHM** (Rector of MSH Medical School Hamburg)
- **Prof. Dr. Michael Schmidts, MME** (Head of Education Unit, Karl Landsteiner University of Health Sciences, Krems)
- **Prof. Dr. Johannes Streicher** (Professor and Head of Division of Anatomy and Developmental Biology, Karl Landsteiner University of Health Sciences, Krems)
- **Dr. Muhammad Tariq** (Vice Dean, Medical College; Aga Khan University, Pakistan)
- **Peter Tinnemann** (Head of the Health Department, Frankfurt)
- **Prof. Dr. Ulf Teichgräber** (Dean of Studies of the Medical Faculty Jena)
- **Dr. Ara Tekian, Ph.D., MHPE** (Professor and Director of International Programs, Associate Dean for the Office of International Education, Department of Medical Education at the University of Illinois Chicago)
- **Prof. Dr. Manfred Wieser MSc, MME** (Vice Rector for Education and Study Programme Director Human Medicine, Karl Landsteiner University of HealthSciences, Krems)

## Program : Tuesday, April 15, 2025

Time	Topic
08:30-09:00	<b>Registration and Welcome Coffee</b>
09:00-09:30	<b>Welcome</b> Prof. Dr. Jana Jünger, MME   Dipl.-Inform. Med. Konstantin Brass <b>Opening Remarks</b> Prof. Dr. Rudolf Mallinger Prof. Dr. Manfred Wieser, MSc, MME
09:30-09:50	<b>UCAN in 2025+: Challenges and Opportunities Through Digitalization</b> Dipl.-Inform. Med. Konstantin Brass
09:50-10:10	<b>Bridging the Gap: Health Literacy as a Key to Sustainable Healthcare – A New Interprofessional Task for UCAN ?</b> Prof. Dr. Jana Jünger, MME
10:10-10:40	<b>Big Data and the Future of Assessment</b> John Norcini, Ph.D.
10:40-10:50	<b>Discussion</b>
10:50-11:20	<b>Coffee Break</b>
11:20-11:40	<b>Assessing Clinical Reasoning: New Perspective</b> Prof. Dr. Martin Fischer, MME
11:40-12:00	<b>Assessment of Clinical Reasoning and Diagnostic Accuracy</b> Dr. Muhammad Tariq
12:00-12:15	<b>tOSCANA: tablet-based, Objective, Structured, Clocked ANatomical Assessment</b> Prof. Dr. Johannes Streicher
12:15-12:30	<b>Tab-Tastic Transformations: Voices from Medical Students, Faculty &amp; Administrators on Tablet-Based Exams at a Private Medical College, Karachi Pakistan</b> Dr. Rahila Ali   Dr. Shazia Babar   Dr. Muhammad Tariq
12:30-12:45	<b>Discussion</b>

# Program : Tuesday, April 15, 2025

Time	Topic
12:45-13:45	Lunch break - Networking
13:45-15:15	Workshop Block I:
WS 1:	<b>Good Stations for the OSCE-Focus: Entrance OSCE for the Final Year</b> Prof. Dr. Jana Jünger, MME
WS 2:	<b>Bias in Assessment</b> Dr. Ara Tekian, Ph.D., MHPE   John Norcini, Ph.D.
WS 3:	<b>Clinical Reasoning</b> Prof. Dr. Martin Fischer, MME
WS 4:	<b>Scoring of Multiple-True-False Items. Evaluation of Scoring Algorithms Using Finite-State-Models</b> Dr. Andreas Möltner
WS 5:	<b>Advanced tEXAM/tOSCE</b> Dipl.-Inform. Med. Jörn Heid
WS 6:	<b>tOSCANA MockExam</b> Dr. Sophie Förster-Streffleur   Christina Penz   Prof. Dr. Johannes Streicher
15:15-15:35	Coffee Break
15:35-16:00	<b>Presentation of Results</b> <b>Final Discussion and Future Perspectives</b> Prof. Dr. Jana Jünger, MME   Dipl.-Inform. Med. Konstantin Brass
16:15-17:00	UCAN - Advisory Board Meeting (Closed Session)
From 18:00	Social Program

Program : Tuesday, April 15, 2025  
Social Program  
(Registration Required)

18.00 HRS: Tours of Current Exhibitions at Kunstmeile Krems:



KUNST HALLE KREMS

Kunsthalle Krems  
Karikatur Museum Krems  
Landesgalerie Niederösterreich

From 19:30 HRS: Get-together: Poldi Fitzka

**POLDI  
FITZKA**

GASTWIRTSCHAFT



Museumsplatz, Krems an der Donau, Austria

# Program: Wednesday, April 16, 2025

Time	Topic
09:00-09:10	<b>Welcome</b> Prof. Dr. Jana Jünger, MME
09:10-09:40	<b>Global Competency Assessment</b> Dr. Ara Tekian, Ph.D., MHPE
09:40-10:00	<b>Artificial Intelligence in Exam Quality Assurance</b> Ass. Prof. Dr. Michael Schmidts, MME
10:00-10:20	<b>Constructive Alignment in Longitudinal Curricula: What We Can Learn from NEW WORK Principles for Curriculum Development in Medical Education</b> Prof. Dr. Ulf Teichgräber
<b>10:20-10:40</b>	<b>Coffee Break</b>
10:40-10:50	<b>Research Projects in Partnership</b> Prof. Dr. Jana Jünger, MME
10:50-11:10	<b>M2 Exam Preparation: From Concept to Initial Results</b> Prof. Dr. med. Dr. phil. Rainer Petzina, MaHM
11:10-11:30	<b>EPAs for Global Health and Population Based Medicine</b> Dr. Peter Tinnemann
<b>11:30-11:45</b>	<b>Coffee Break</b>
<b>11:45-13:15</b>	<b>Workshop Block II:</b>
WS 1:	<b>EPAs Made Easy</b> Prof. Dr. Jana Jünger, MME   John Norcini, Ph.D.
WS 2:	<b>Common Flaws in Assessment</b> Dr. Ara Tekian, Ph.D., MHPE
WS 3:	<b>Teststatistics Made Easy</b> Dipl.-Inform. Med. Konstantin Brass
WS 4:	<b>Multiple-Choice Question Development Made Easy?</b> Julian Großstück
WS 5:	<b>N.N</b>
<b>13:15-13:45</b>	<b>Lunch snack</b>
13:45-14:00	<b>Prospects and final discussion</b> <b>Invitation to the 20th Anniversary Celebration in Heidelberg 2026</b> Prof. Dr. Jana Jünger, MME   Dipl.-Inform. Med. Konstantin Brass





## Workshop Information





# Tuesday, April 15, 2025

## Workshop Block I:

### WS 1: Good Stations for the OSCE-Focus: Entrance OSCE for the Final Year Prof. Dr. Jana Jünger, MME

**Content: The Objective Structured Clinical Examination (OSCE)** is an established format for the standardized assessment of clinical skills. Conducting an OSCE at the beginning of the final year offers an opportunity to give students feedback on their performance level and enables faculties to check whether students can act safely enough to work at a higher level of entrustment during their final year. In this workshop, participants will create practice-oriented OSCE stations that specifically foster the core competencies required for entering the final year. These stations can also be easily modified for use at various stages of medical training. A particular focus of the workshop will be on identifying the interface with **EPAs (Entrustable Professional Activities)** and showing how well-designed OSCE stations can be seamlessly integrated into a longitudinal EPA framework.

**Workshop Focus:** Defining relevant learning objectives and incorporating them into a structured examination plan. Developing case vignettes to reflect practical and realistic clinical scenarios. Formulating standardized instructions for candidates, examiners, and simulated patients. Creating assessment tools to enable fair and objective evaluations through checklists and global ratings. Planning practical implementation, including resource lists, spatial settings, and logistical organization. Conducting quality control to continuously optimize OSCE stations and adapt them to current requirements.

#### Take-Home Messages

- OSCE stations are an effective tool for assessing students.
- A practical design with realistic scenarios enhances preparation for clinical challenges.
- Clear evaluation guidelines and structured instructions improve the reliability of examinations.
- A systematic review process helps to continuously enhance OSCE stations and adapt them to current requirements.
- OSCEs that represent entrustable medical activities are a good preparation for future workplace responsibilities.
- OSCE stations designed to be compatible with EPAs offer a strong basis for achieving cross-year constructive alignment.

**Target Group:** This workshop is aimed at instructors, exam coordinators, curriculum developers, and medical education specialists who wish to design or optimize OSCE stations for the final year (*Praktisches Jahr, PJ*). OSCE coordinators can also benefit from practical methods for structured exam preparation.

# Tuesday, April 15, 2025

## Workshop Block I:

### WS 2: Bias in Assessment

Dr. Ara Tekian, Ph.D., MHPE | John Norcini, Ph.D.

**Content:** Assessing learners in the clinical environment is foundational to their training and developmental growth in the health professions. However, growing evidence has shown prevalence of harmful bias in assessments, accelerating the urgency of identifying solutions that can overcome bias. Assessment bias presents a critical problem for all stages of learning and the larger educational system, as it poses significant challenges to learners (and teachers) and disrupts the transition of trainees into health professionals. While the topic of assessment bias has been examined within the context of measurement literature, there is limited guidance and solutions, particularly in the clinical and work environment, which pose challenges for assessments of health profession learners.

This workshop will present a brief overview of assessment, and subsequently transition into interactive small-group activities, to identify different forms of bias and to understand consequences of bias within the context of validity and fairness and their impact on learners and ultimately on the care of patients and families. Case studies will be discussed in small groups, and the workshop will end up with a brief presentation of recommendations in 5 domains (values/principles, assessment design, assessment procedures, continuous quality improvement, equitable learning environment) to mitigate bias and to apply practical guidelines at participants' settings.

**Take-Home Message:** The participants will be equipped with essential skills of how to identify and reduce bias within their own institutions and utilize the current workshop's materials to raise the awareness about bias in assessment.

**Target Audience:** Beginner/Intermediate

### WS 3: Clinical Reasoning

Prof. Dr. Martin Fischer, MME

**WS 4: Scoring of Multiple-True-False Items. Evaluation of Scoring Algorithms Using Finite-State-Models**  
Dr. Andreas Möltner

**Content:** For more than 40 years, the question of how to optimally score Multiple True-False (MTF) tasks (also referred to as Type X or K prime) has repeatedly been addressed in publications. Schmidt et al. (2021), in a review, listed 31 different scoring algorithms for MTF tasks that have been used, sometimes with varying degrees of justification.

The literature includes several empirical comparisons examining, for example, item difficulty or test reliability when different scoring methods are employed. However, it remains largely unexplained why, for MTF tasks with four sub-options, the scoring scheme “1 point for a fully correct answer and  $\frac{1}{2}$  point for one error” often outperforms other approaches—particularly awarding partial credit for each correct sub-answer—even though the latter uses more information.

The aim of this workshop is (1) to establish criteria for evaluating scoring algorithms and (2) to use a mathematical (finite state) model to investigate the properties of these algorithms. By the end of the workshop, participants should know which scoring methods to use to meet specific requirements in an examination.

**Overview**

1. After an introduction to the topic (prerequisite for this is knowledge of the article by Schmidt et al., 2021), the finite state model developed for type A questions by García-Pérez (1987) and others will be explained and applied to MTF tasks in the first part of the workshop. In this model, it is assumed that each test taker has an individual ability parameter  $p$ , which indicates the probability of knowing whether an answer option in the question is correct or incorrect.  $1 - p$ , then, is the probability of not knowing the truth. This allows parameters such as the guessing probability (expected value of the score at  $p = 0$ ), the expected test score when 50% of the statements are known ( $p = 0.5$ ), the correspondence of the course of the expected test scores as a function of  $p$  for MTF items with that for type A questions to be treated.

2. In the second part, item reliability is developed as a criterion for the evaluation of scoring algorithms, which requires modeling the distribution of abilities  $p$  in the test population under investigation. An adequate model for this are beta distributions with density  $f(p, a, b) = \frac{p^{a-1} (1 - p)^{b-1}}{B(a, b)}$  with  $0 \leq p \leq 1$ ,  $a > 0$ ,  $b > 0$ : Depending on the parameters  $a$  and  $b$  of the beta distribution, reliability and relative reliability can be determined in comparison to an optimal scoring for the specific distribution shape. It can be shown that certain scoring algorithms exhibit almost optimal behavior over a wide range of realistic assumptions for the shape of the beta distribution.

## Tuesday, April 15, 2025

### Workshop Block I:

3. The main limitation of the original finite state model is that it implies equal distractor choice frequencies for type A tasks and equal difficulties of the individual sub-questions for MTF tasks. In reality, this is not the case for most tasks. It is therefore necessary to supplement the model accordingly. This can be achieved, for example, by assuming different ability parameters for the individual sub-answers A, B, C, ..., which are separated by a power transformation  $p_K = pc(K)$  ( $K = A, B, C, \dots$ ).

**Target Group:** The workshop is aimed at anyone who uses MTF questions in examinations or evaluates such examinations, who deals with closed-answer formats not only practically but also theoretically, and of course at anyone else who is interested.

**Reading for Preparation:** Schmidt D, Raupach T, Wiegand A, Herrmann M, Kanzow P (2021). Relation between examinees' true knowledge and examination scores: systematic review and exemplary calculations on Multiple-True-False items. Educational Research Review, 34.

**[For the scoring methods, essentially only algorithms 1 - 14 are to be considered]**

**Literature:** García-Pérez MA (1987). A finite state theory of performance in multiple-choice tests. In E. E. Roskam, R. Suck (Eds.), Progress in mathematical psychology-I (pp. 455-464). Amsterdam: Elsevier.

#### WS 5: Advanced tEXAM/tOSCE Dipl.-Inform. Med. Jörn Heid

**Content:** This 1.5 hour long workshop explains several problems from the real world and how you can use several provided tools to solve these problems. And of course you may also find new ways how to improve your workflow due to a deeper understanding

**Take-Home Message:** A lot can go wrong with tablet-based exams. This workshop will show what can happen and how you can fix that.

**Target Group:** Experienced users of the apps or interested people with deeper technical understanding

#### WS 6: tOSCANA MockExam Dr. Sophie Förster-Streffleur | Christina Penz | Prof. Dr. Johannes Streicher

The participants of this WS will be enrolled in an (abridged) tablet based anatomical spotter-test. The steps for implementation (setting up, performing and post-processing) will be illustrated and participants considering to apply a tablet based approach to their own assessments will take home a realistic estimate of the workload associated.

# Wednesday, April 16, 2025

## Workshop Block II:

### WS 1: EPAs Made Easy

Prof. Dr. Jana Jünger, MME | John Norcini, Ph.D.

**Content: Entrustable Professional Activities (EPAs)** play a central role in competency-based medical training. They define specific tasks that medical students, physicians, and other healthcare professionals in training can be entrusted with, depending on their stage of education and level of competence. EPAs thus offer a structured, practice-oriented way to transparently evaluate individual learning progress and promote it through targeted feedback.

**The focused use of EPAs significantly helps narrow the gap between academic studies and professional practice.** By mapping out real-world tasks such as admitting new patients or coordinating interdisciplinary teams—EPAs enable a structured approach to guiding the learning process. At the same time, they foster interdisciplinary collaboration and provide transparency in evaluating learning progress. However, developing meaningful, practice-oriented EPAs poses challenges. Common difficulties include distinguishing performance assessment from communication and procedural skills, as well as defining the appropriate scope for each task. Overly granular EPAs can be difficult to implement and lead to excessive testing, while overly broad EPAs can be too general to clarify exactly what area of competence they encompass. This workshop will therefore focus on both the content development of EPAs and determining an appropriate scope. Participants will also learn practical examples and proven methods for creating and implementing EPAs. In small-group sessions, participants will design EPAs that reflect both clinical realities and educational requirements.

#### **Workshop Focus:**

Understanding and contextualizing the relevance of EPAs for competency-based medical education. Developing tailored EPAs. Utilizing structured feedback and evaluation processes to guide individual learning progress. Identifying challenges in implementation and devising strategies for successful integration into clinical practice

**Take-Home Messages:** Purposefully developed EPAs facilitate the implementation of competency-based educational concepts. Structured formulations and clear learning objectives enhance the transparency and comparability of EPAs. Feedback and assessment processes play a central role in achieving successful implementation. Practice-oriented EPAs foster independent skill development and a safe transition to medical practice.

**Target Audience:** This workshop is aimed at educators, as well as training and continuing education professionals in medical teaching. Through interactive exercises, participants will develop their own EPAs for their specialties and receive practical guidance on integrating these EPAs into their teaching.

# Wednesday, April 16, 2025

## Workshop Block II:

### **WS 2: Common Flaws in Assessment**

**Dr. Ara Tekian, Ph.D., MHPE**

**Content:** Assessment is central to learning but problems with the methods and processes being used are often encountered in practice. Although faculty development programs and workshops do an excellent job of introducing important assessment concepts, these resources often fail to alert practitioners to common problems and misconceptions. The aim of this workshop is to raise awareness about common pitfalls and suggest solutions to them. Specifically, this workshop will describe a series of assessment problems, such as the misalignment of purpose and method, failure to create a blueprint, misuse of scores, lack of reliability, and failure to apply a rational standard-setting process. For each problem, we will propose solutions intended to improve the quality of individual methods and the assessment system as a whole. This will be a highly interactive workshop with several exercises and group activities.

**Take-Home Message:** Participants will recognize and learn how to avoid common assessment problems. Furthermore, examples will be provided that demonstrate common errors and how to remedy them.

**Target Audience:** Beginner/Intermediate



# Wednesday, April 16, 2025

## Workshop Block II:

### WS 3: Teststatistics Made Easy Dipl.-Inform. Med. Konstantin Brass

**Content:** This workshop offers an introduction to the characteristics of test statistics. What is behind the terms difficulty, discriminatory power and reliability? How do I interpret the results? What are the consequences for the assessment culture? Using real case studies, we will analyze the response behaviour and how you can create future exams using the characteristics of test statistics. Following this introduction, we will take a look at the Examiner<sup>3</sup> together and train how to use it easily.

**Take-home-message:** With this workshop the users should be able to read and to understand the test statistics.

**Target group:** This workshop is addressed to test statistic beginners.

### WS 4: Multiple-Choice Question Development Made Easy? Julian Großstück

**Content:** In this workshop, participants will work in small groups to develop multiple-choice questions on various topics and key areas of the competency-based Progress Test, supported by artificial intelligence.

They will explore the quality criteria for high-quality multiple-choice questions and their components in different content contexts. Additionally, they will test and reflect on various platforms and use them to create their own exam questions.

Another key focus of the workshop is to examine how the integration of artificial intelligence can enhance student participation in the development of exam questions.

The goal of the workshop is to create high-quality exam questions while also developing effective and structured prompting processes.

**Take-Home Message:** Artificial intelligence can serve as a supportive tool in the development of competency-based multiple-choice questions.

To ensure high-quality questions, a structured approach with well-thought-out prompting is essential.

**Target Audience.** Educators and instructors in medical education



## Registration Details

Registration is now open and  
will remain available until  
March 30, 2025

## REGISTRATION

### Participation Fees:

#### Pre-Conference in Vienna (April 14, 2025):

Non-UCAN-Members:	€40.00
UCAN Members, MME students, alumni, and members of the Academy of Physicians:	<b>free of charge</b>

#### UCAN Conference in Krems (April 15–16, 2025):

Non-UCAN-Members:	<b>€300</b>
UCAN Members, MME Students/Alumni, and Members of the Academy of Physicians:	<b>€170</b>

The pre-conference program for Vienna is available on our website.



Contact: Sofia Gelashvili  
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# Schedule and Venue



April 14, 2025: <b>Pre-Conference</b>	<b>“Quality Standards in Specialist Examinations: A European Dialogue”</b> <b>Location:</b> Austrian Medical Chamber (Weihburggasse 10-12; 1010 Vienna, Austria)
April 14, 2025:	<b>Technical Taskforce Meeting</b> <b>Location:</b> <u>Karl Landsteiner University of Health Sciences</u> ( <u>Dr.-Karl-Dorrek-Straße 30, 3500 Krems an der Donau, Austria</u> )
April 15–16, 2025: <b>UCAN-Conference</b>	<b>“Future-Oriented Examinations – Competencies for Tomorrow’s Healthcare”</b> <b>Location:</b> <u>Karl Landsteiner University of Health Sciences</u> ( <u>Dr.-Karl-Dorrek-Straße 30, 3500 Krems an der Donau, Austria</u> )
April 15, 2025:	<b>Evening: Get Together : <u>Karikaturmuseum Krems &amp; Poldi Fitzka</u></b> (Museumsplatz / 3500 Krems)



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