

TALE 2024 Conference Workshop – 3

Individualized Assessments to Enhance Teaching and Learning

Date & Time: Dec 11th 2024, 9 am to 12 noon

Workshop Facilitators:

1. **Dr. Mano Manoharan, Senior Lecturer, School of Computer Science, University of Auckland**
2. **Dr. Babulakshmanan Ramachandran, Associate Professor, Department of Physics, Amrita School of Physical Sciences, Amrita Vishwa Vidyapeetham, Kerala, India**
3. **Dr. Tushara M G, Assistant Professor, School of Computing, Amrita Vishwa Vidyapeetham, Kerala, India**

Workshop Overview

In today's increasingly digital and collaborative learning environments, traditional assessments often fall short in meeting the diverse needs of students and managing large classroom settings. This 3-hour hands-on workshop at TALE 2024 is designed to introduce educators to **individualized assessments**—a method that uses isomorphic question variants to test the same learning outcomes while providing each student with a unique set of questions. This approach fosters meaningful, concept-centered discussions while minimizing academic dishonesty.

Part 1: Why Individualized Assessments? – Exploring the Merits

In the first part of the workshop, we will explore the key advantages of individualized assessments from both the student and educator's perspectives. Students benefit by focusing on core concepts instead of copying answers, leading to a deeper understanding of the subject. Educators gain flexibility by eliminating the need for large, spaced-out exam venues, while reducing supervision requirements. This session will demonstrate how individualized assessments can transform classroom dynamics and improve learning outcomes.

Part 2: Hands-on Session – Creating Isomorphic Questions and Automated Assessments

Creating hundreds of unique, isomorphic questions for large classes can be daunting, but automation provides an effective solution. In this interactive session, participants will learn to use **Dividni**, a free and easy-to-use framework for creating individualized assessments. You will have the opportunity to craft isomorphic questions in your subject area, develop a complete assessment (such as an exam paper), and automate the process for future course

offerings. By the end of the session, you will have created a set of questions and a printable exam tailored to your domain, ready for immediate use.

Who Should Attend?

This workshop is ideal for educators, particularly in the STEM fields, who seek to innovate their assessment methods and improve student engagement while minimizing academic dishonesty. A background in programming is helpful but not required—only a passion for trying new teaching technologies is needed!

What Will Participants Take Home?

Participants will leave the workshop with a solid understanding of the benefits of individualized assessments and practical experience in designing them. You will create a printable exam paper and a set of isomorphic questions in your own domain that can be reused and refined for future classes.

What Do Participants Need?

Please bring your own laptop (MacOS, Windows, or Linux) and an enthusiasm for exploring new approaches to teaching. While programming knowledge is a bonus, it is not required.

Tool for the Workshop: Dividni

We will be using **Dividni**—a free, versatile framework that simplifies the creation of individualized assessments by automating the generation of isomorphic questions. Learn more about Dividni at <https://dividni.com/>.

Don't Miss This Opportunity!

This workshop offers a unique chance to dive into the future of assessment in education. Gain hands-on experience with individualized assessments, enhance your teaching strategies, and leave with practical tools ready for implementation in your classroom. Join us at TALE 2024 and be at the forefront of educational innovation!

Biography of Facilitators



Dr. Mano Manoharan is a Senior Lecturer in the School of Computer Science at the University of Auckland, where he also serves as Assistant Dean (International) for the Faculty of Science. He holds a BTech (Hons) from the Indian Institute of Technology, Kharagpur, and a PhD from the University of Edinburgh. His research focuses on distributed computing, systems software, high-performance computing, and software security, with a strong interest in educational technology. A Senior Member of IEEE and a member of ACM, Prof. Manoharan also serves on the Council of the European Association for Education in Electrical and Information Engineering. He is available for media enquiries and supervises PhD candidates.



Dr. Babulakshmanan Ramachandran is an Associate Professor at the Department of Physics, Amrita School of Physical Sciences, Amrita Vishwa Vidyapeetham, Kerala, India. He obtained a Ph.D. in Astrophysics from Armagh Observatory, Queen's University of Belfast, United Kingdom. He then worked in Singapore for 16 years as a lecturer and academic mentor for Singapore Government Polytechnics. His research interests are in Astrophysics and Physics Education and pedagogies. In Astrophysics, he is into the area of radiative shocks as well as stellar pulsations. In Education he is interested in Blended Learning, Self-Directed Learning and Concept Inventories. He has published several research articles in reputed international journals and conferences.



Dr. Thushara M G ([LinkedIN Profile](#)) is an Assistant Professor at the School of Computing, Amrita Vishwa Vidyapeetham, specializing in programming language paradigms and computational linguistics. Her research includes program translation, precision tuning, and auto-code generation. She received the Erasmus Mundus Scholarship for research at the University of Munich and later collaborated with the DALI Lab at the University of Perpignan, inspiring her PhD on Abstract Interpretation. Dr. Thushara is also involved in interdisciplinary research on the sustainability of ancient Indian art forms through computational linguistics.