Welcome to SIMIODE EXPO 2024

9 - 11 February 2024

Brian Winkel, Director SIMIODE, Chardon OH USA

Fond Farewell

Thank you for joining us at SIMIODE EXPO 2024.

We hope you enjoyed the fellowship
got many ideas for your work,
and enjoyed yourself!

Lots more to come your way from SIMIODE.

Please respond to conference survey
you will receive after conference. Thank you.

Slightly trimmed recordings of your video are available under "Watch Recording" button to the right of each recorded session. Available for you there through mid March 2024. These are ONLY available to conference attendees.

We will be collecting and posting on SIMIODE YouTube channel all conference presentations, NOT discussion sessions - open to the public.

Hopefully within 30 days from now. We will let you know when posted.

ABSTRACT

Mathematical modelling is an interlinking process between mathematics and real-world problems that can be applied as a means to increase motivation, develop cognitive competencies, and enhance the ability to transfer mathematical knowledge to other areas of science, such as engineering disciplines. This study was designed to investigate the effect of applying the modelling approach on problem-solving and mathematical performance of engineering undergraduates during a differential equations (DEs) course and compare the results with those of conventional teaching. A quasi-experimental method comprising a pretest-posttest design with a control group was applied in this study. Since the antecedent knowledge of calculus directly influences the ability of students to learn DEs, a placement test was first applied to both groups. A combination of results derived from the placement test and the modelling pretest was used as the covariate in the Analysis of Covariance (ANCOVA), and the modelling and mathematical performances of both groups were eventually examined. The results of this study indicate that apart from the fact that teaching DEs based on the modelling approach can increase the ability to apply mathematical knowledge in the field of engineering, it also can significantly enhance their problem-solving and mathematical performances.

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Teaching differential equations through a mathematical modelling approach: the impact on problem-solving and the mathematical performance of engineering undergraduates

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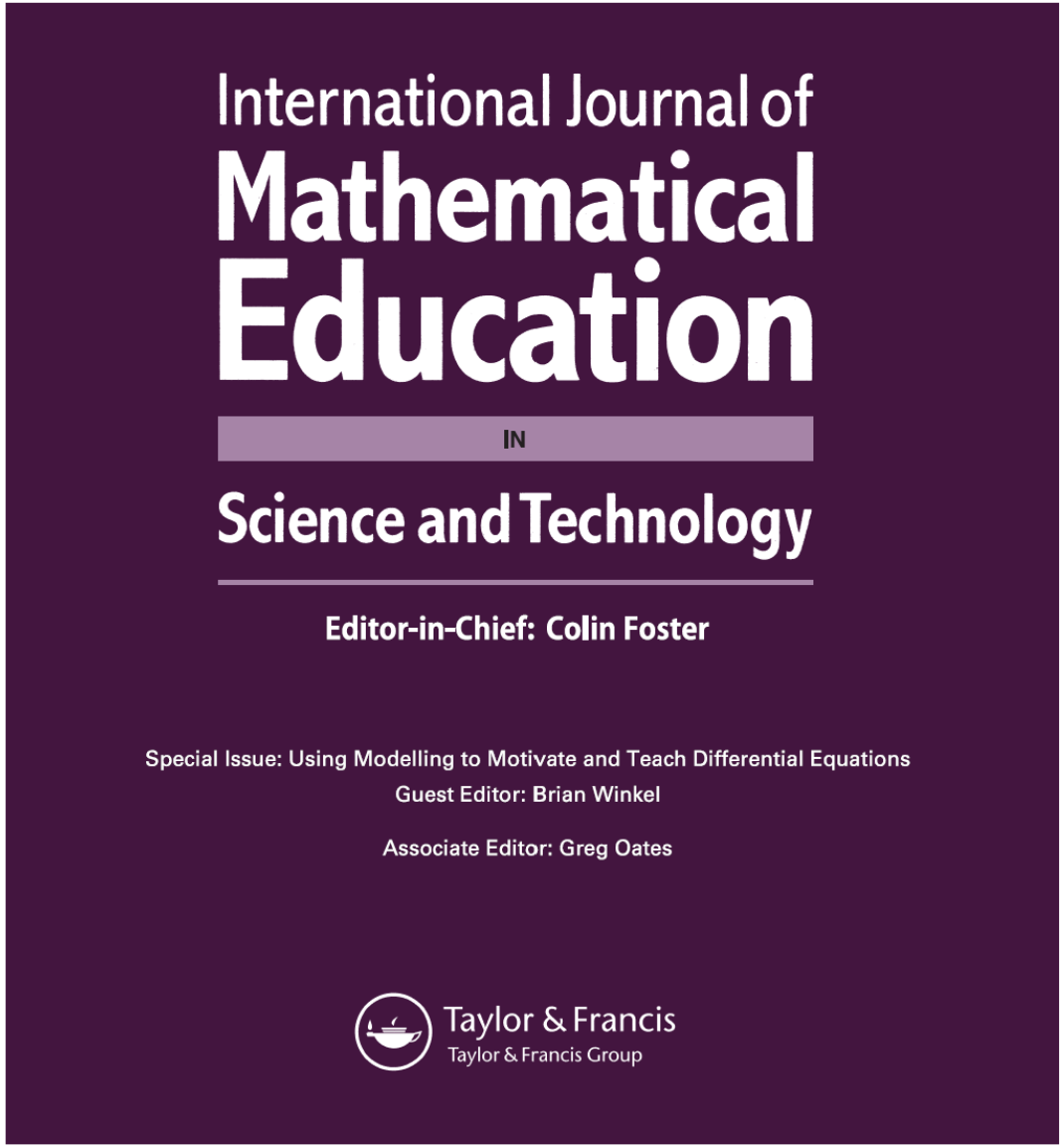

Special Issue: Using Modelling to Motivate and Teach Differential Equations

Guest Editor: Brian Winkel

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- Cheryl Potocki, Mathematics, Retired, Charter School of Wilmington, Wilmington, DE, USA
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396 page packed issue, 24 articles, all about teaching differential equations with mode**ll**ing!

Free at MAA Portal for Members. Check your library offerings.

Special thanks to the conference team planners, organizers, and moderators.

- Anna Salam, Graduate Student, Tufts University, Medford MA USA
- Betram Lalush, Undergraduate Student, Loyola Marymount University, Los Angeles CA USA
- Gavin Butts, Undergraduate Student, Loyola Marymount University, Los Angeles CA USA
- Leigh Noble, Technical Director SIMIODE, Winnipeg MB CANADA
- Yanping Ma, Associate Professor of Mathematics, Loyola Marymount University, Los Angeles CA USA
- Brian Winkel, Director SIMiODE, Chardon OH USA

Thank you presenters for sharing your good news.

Thank **YOU** for joining us at SIMIODE EXPO 2024.

Take care.

Travel safe!

We wish you success and joy in your work.