

## **E. Peer-Reviewed Journal Publications,**

Bielik T., Krell M., Dalen I., & Ben-Zvi Assaraf O. Review of Systems Thinking Using Bibliometric Analysis. (in preparation).

Bielik T., Jagemann J., Krell M., Krüger D., & Ben Zvi Assaraf O. Using Concept Maps to Evaluate Preservice Biology Teachers' Conceptualization of Covid-19 as Complex Phenomena. (in preparation)

Bielik T., Engelschalt P., Krell M., Upmeier zu Belzen A., & Krüger D. Evaluating Pre-Service Biology Teachers' Metamodeling Knowledge of the Modeling Process Using a Diagramming Tool. (in preparation).

Eidin E., Bielik T., Touitou I., & Krajcik J. Characterizing the opportunities and challenges students experience when constructing models using computational and systems thinking. *Science Education* (under review).

Göhner M, Bielik T., & Krell M. (2022). Investigating the dimensions of modeling competence among pre-service science teachers. *Journal of Research in Science Education*. <https://doi.org/10.1002/tea.21759>

Bielik T., & Krüger D. (2022). Perceived Relevance of Critical Thinking Aspects for Biology Graduate Students. *Journal of Biological Education*. <https://doi.org/10.1080/00219266.2022.2026806>

Bielik T., Stephens L., McIntyre C., Damelin D., & Krajcik J. (2021) Supporting Student System Modeling Practice Through Curriculum and Technology Design. *Journal of Science Education and Technology*. <https://doi.org/10.1007/s10956-021-09943-y>

Bielik T., Finnie K., Peek-Brown D., Klager C., Touitou I., Schneider B. & Krajcik J. (2021). High School Teachers' Perspective on Shifting Towards Teaching NGSS-Aligned Project-Based Learning Curricula Units. *Journal of Science Teacher Education*. DOI: 10.1080/1046560X.2021.1961973

Bielik T., & Friedrich B. (2021). Creating Much Out of Nothing: The Relationship between Fritz Haber and Chaim Weizmann. *The Israel Chemist and Chemical Engineer*, 7 (22-29).

Bielik T., Fonio E., Feinerman, O., Golan R. T., & Levy S. T. (2021). Working Together: Integrating Computational Modeling Approaches to Investigate Complex Systems. *Journal of Science Education and Technology*, 30 (40-57).

Bielik T. & Friedrich B. (2020). Far Apart and Close Together: Fritz Haber and Chaim Weizmann. *Israel Journal of Chemistry*, 60 (1061-1076).

Fortus, D., Kubsch, M., Bielik, T., Krajcik, J., Lehavi, Y., Neumann, K., Nordine J., Opitz, S., & Touitou, I. (2019). Systems, transfer, and fields: Evaluating a new approach to energy instruction. *Journal of Research in Science Teaching*, 56(10), (1341-1361).

Bielik, T., Damelin, D., Krajcik, J. S. (2019). Shifting the Balance: Engaging Students in Using a Modeling Tool to Learn about Ocean Acidification. *Eurasia Journal of Mathematics, Science and Technology Education*, 15(1). DOI: 10.29333/ejmste/99512.

Bielik T., Opitz S., & Novak M. A. (2018). Supporting Students in Building and Using Models: Development on the Quality and Complexity Dimensions. *Education Sciences*, 8(3), 149. DOI: 10.3390/educsci8030149.

Touitou I., Barry S., Bielik T., Schneider B., & Krajcik J. (2018). The Activity Summary Board. *The Science Teacher*, Vol. 85.3, 30-35.

Bielik T., Damelin D., & Krajcik J. (2018). Why do Fishermen Need Forests? Developing a Project-Based Unit with Engaging Driving Question. *Science Scope*, Vol. 41.6, 64-72.

Damelin D., Krajcik J., McIntyre C., & Bielik T. (2017). Students Making Systems Models: An Accessible Approach. *Science Scope*, Vol. 40.5, 78-82.

Bielik T., & Yarden A. (2016). Promoting the asking of research questions in a high-school biotechnology inquiry-oriented program. *International Journal of STEM Education*, 3(1), 15. DOI: 10.1186/s40594-016-0048-x.

Eilam E., Bigger, S., Sadler, K., Barry, F., & Bielik, T. (2016). Universities Conducting STEM Outreach: A Conceptual Framework. *Higher Education Quarterly*, 70(4), (419-448).

Chetrit D., Barzilay L., Horn G., Bielik T., Smorodinsky N., & Ehrlich M. (2011). Negative Regulation of the Endocytic Adaptor Disabled-2 (DAB2) in Mitosis. *Journal of Biological Chemistry*, 286.7, 5392-5403.

## **F. Peer-Reviewed book chapters**

Bielik T., & Krell M. (2021). SageModeler: A Digital Learning Environment for the Promotion of Modeling Competence. In Kubsch M., Sorge S., Arnold J., & Graulich N. (Eds.), *Rethinking Teacher Training: A Practical Handbook for Teaching in the Natural Sciences and its Didactics*. Waxmann (199-202), Münster, Germany (in German).

Bielik T., Stephens L., Damelin D., & Krajcik J. Designing Technology Rich Environments to Support Student Modeling Practice (2019). In Upmeir Zu B., Kruger D., & Van Driel J. (Eds.), *Towards a Competence-based View on Models and Modeling in Science Education*. Springer International Publishing (275-290).

Raved L., Bielik T., Haskel M., & Yarden A. (2013). Exploring Transport Systems. In Eylon B., Yarden A., and Scherz Z. (Eds.), *Exploring Life Systems* (Vol. 1, Grade 7). Department of Science Teaching, Weizmann Institute of Science, Israel (in Hebrew).

## **G. Peer-Reviewed conference proceedings**

Eidin E., Bielik T., Touitou I., Bowers J., McIntyre C., & Damelin D. (2020). Characterizing Advantages and Challenges for Students Engaging in Computational Thinking

and Systems Thinking Through Model Construction. *Proceedings of the Conference of International Conference of the Learning Sciences (ICLS)*, Nashville, TN, USA.

Bielik T., & Yarden A. (2015). Characterizing the Development of Students' Ability to Ask Questions and to Critique in a Biotechnology Inquiry-Oriented Program. In T. Tal, and A. Yarden (Eds.), *Proceedings of the 10<sup>th</sup> Conference of European Researchers in Didactics of Biology*, Haifa, Israel, 21-33.

Bielik T., & Yarden A. (2013). Development of the Ability to Critique in the Course of Inquiry-Oriented Program in Biology. In D. Kruger, & M. Ekborg (Eds.), *Proceedings of the 9<sup>th</sup> Conference of European Researchers in Didactics of Biology*, Berlin, Germany, (135-148).

## **H. Presentations at Scientific Conferences**

National Association for Research in Science Teaching (NARST) Conference, Vancouver, BC, 2022: *Using concept maps to evaluate preservice biology teachers' conceptualization of Covid-19 as a complex phenomenon.*

National Association for Research in Science Teaching (NARST) Conference, Orlando, FL, 2021: *Evaluating Pre-Service Teachers' Metacognitive Knowledge of the Modeling Process.*

National Association for Research in Science Teaching (NARST) Conference, Portland, OR, 2020: *Characterizing Computational Thinking in the Context of Technology-Enhanced Multilevel System Modeling.*

International Conference of the Learning Sciences (ICLS) Conference, Nashville, TN, USA, 2020: *Characterizing Advantages and Challenges for Students Engaging in Computational Thinking and Systems Thinking Through Model Construction.*

European Science Education Research Association (ESERA) Conference, Bologna, Italy, 2019: *Integrating Different Modeling Approaches to Investigate Complex Phenomena.*

National Association for Research in Science Teaching (NARST) Conference, Baltimore, MD, 2019: *Using Technology to Promote Students' Modeling Practice and Complex Systems Thinking.*

International Conference of the Learning Sciences (ICLS) Conference, London, England 2018: *Supporting Students' Modeling Practice Using an Online Computational Modeling Tool.*

European Researchers in Didactics of Biology (ERIDOB) Conference, Zaragoza, Spain 2018: *Using an Innovative Online Modeling Tool to Support Students' Modeling Practice.*

Science and Mathematics Learning Technologies in Education Conference, Weizmann Institute, Israel 2018: *Making Sense of Phenomena Using a Free Online Modeling Tool.*

National Association for Research in Science Teaching (NARST) Conference, Atlanta, GA, 2018:

*1. Promoting Secondary Students' Modeling Practice Using an Online Modeling Tool.*

2. *Crafting Assessments to Measure Student Learning in Project-Based Science.*

3. *Graduate Student International Collaboration for Investigating Science Teachers' Professional Learning.*

Michigan Science Teachers Association (MSTA) Conference, Lansing, MI 2018:  
*Making sense of phenomena by using a free online modeling tool.*

European Science Education Research Association (ESERA) Conference, Dublin, Ireland, 2017: *A Model for Supporting Teachers in Designing and Using Project-Based Learning Curricular Materials.*