BAR-ILAN UNIVERSITY FACULTY OF EDUCATION

Michal Zion- LIST OF PUBLICATIONS

ARTICLES IN REFEREED JOURNALS

1. Bauskin, A. R., **Zion, M.**, Spzirer, J., Zpirer, C., Islam, M. Q., Levan, G., Klein, G., & Ben-Neriah, Y. (1989). Expression and chromosomal assignment of a novel protein tyrosine gene related to the insulin receptor family. *Hematol Bluttranfus, 32*, 453-460.

2. **Zion, M.**, Ben-Yehuda, D., Avraham, A., Cohen, O., Wetzler, M., Melloul, D., & Ben-Neriah, Y. (1994). Progressive *de novo* methylation at the *bcr/abl* locus in the course of chronic myelogenous leukemia. *Proc. Natl. Acad. Sci. USA, 91*, 10722-10726.

3. Ben-Yehuda, D., **Zion, M.**, Avraham, A., Krichevsky, S., & Ben-Neriah, Y. (1994). De-novo DNA methylation at the BCR-ABL locus in the course of CML – a possible marker for tumor progression. *Blood, 84*(10), A154-A154 Suppl.

4. Ben-Yehuda, D., Krichevsky, S., Rachmilewitz, E. A., Avraham, A., Palumbo, G. A., Frassoni, F., Sahar, D., Rosenbaum, H., Paltiel, O., **Zion, M**., & Ben-Neriah, Y. (1997). Molecular follow-up of disease progression and interferon therapy in chronic myelocytic leukemia. *Blood, 90*(12), 4918-4923.

5. Ben-Neriah, Y., **Zion, M**., Avraham, A., & Ben-Yehuda, D. (15/3/94). Patent Application. Assay for monitoring the progress of CML. Yissum Research Development Company of the Hebrew University, Jerusalem. No. 108978.

6. **Zion, M.,** Shapira D., Slezak, M., Link, E., Bashan, N., Brumer, M., Orian, T., Nussinovitch, R., Agrest, B., & Mendelovici, R. (2004a). Biomind - A new biology curriculum that enables authentic inquiry learning. *Journal of Biological Education, 38*(2), 59-67.

7. **Zion, M.,** Slezak M., Shapira D., Link E., Bashan N., Brumer M., Orian T., Nussinovitch, R., Court D., Agrest B., Mendelovici R., & Valanides, N. (2004b). Dynamic, open inquiry in biology learning. *Science Education, 88,* 728-753.

8. Shedletzky, E., & **Zion, M**. (2005). The essence of open-inquiry teaching. *Science Education International, 16*(1), 23-38.

9. **Zion, M.**, & Stav, O. (2005). The living museum – developing students' appreciation for a nature site and promoting their environmental awareness. *School Science Review, 86,* 317-324.

10. **Zion, M.,** Michalsky, T., & Mevarech, Z. R. (2005). The effects of metacognitive instruction embedded within an asynchronous learning network on scientific inquiry skills. *International Journal of Science Education, 27*(8), 959-983.

11. **Zion, M.**, & Slezak, M. (2005). It takes two to tango: In dynamic inquiry, the self-directed student acts in association with the facilitating teacher. *Teaching and Teacher Education, 21,* 875-894.

12. **Zion, M.**, Ventura, R., Yogev, H., & Stav, O. (2005). The effect of different experiences of environmental education on environmental literacy among junior high school students. *School Science Review, 87,* 53-58.

13. Spektor-Levy, O., Sonnenschein, M., & **Zion, M**. (2005). Technology integration in science studies - obstacles and incentives. *Science Education International, 18*(3), 211-224.

14. **Zion, M**, Guy, D., Yarom, R., & Slezak, M. (2006). UV radiation damage and bacterial DNA repair systems, *Journal of Biological Education, 41*(1), 30-33.

15. **Zion, M**., & Shedletzky, E. (2006). Overcoming the challenge of teaching open inquiry. *The Science Education Review, 5*(1), 8-10.

16. Michalsky, T., **Zion, M**., & Mevarech, Z. R. (2007). Developing students' metacognitive awareness in asynchronous learning networks in comparison to face-to-face discussion groups. *Journal of Educational Computing Research, 36*(4), 421-450.

17. **Zion, M.**, Cohen, S., & Amir, R. (2007). The spectrum of dynamic inquiry teaching practices. *Research in Science Education, 37(4),* 423-447**.**

18. **Zion, M.** (2008). On-line forums as a 'rescue net' in an open inquiry process. *International Journal of Science & Math Education, 6,* 351-375.

19. **Zion, M.** (2007). Implementation model of an open inquiry curriculum. *Science Education International, 18*(1), 93-112.

20. **Zion, M**., & Sadeh, I. (2007). Curiosity and open inquiry learning. *Journal of Biological Education, 41*(4), 162-168.

21. Mevarech, Z. R., **Zion, M.,** & Michalsky, T. (2007). Peer assisted learning via face-to-face or a-synchronic learning network embedded with or without metacognitive guidance: The effects on higher and lower achieving students. *Journal of Cognitive Education and Psychology (JCEP), 36(4),* 395-424.

22. Shamir, A., **Zion, M.,** & Spektor-Levy, O. (2008). Peer tutoring, metacognitive processes and multimedia problem-based learning: The effect of mediation training on critical thinking. *Journal of Science Education and Technology, 17,* 384-398.

23. Sadeh, I., & **Zion, M**. (2009). The development of dynamic inquiry performances within an open inquiry setting: A comparison to guided inquiry setting. *Journal of Research in Science Teaching, 46*(10), 1137-1160.

24. **Zion, M**., & Sadeh, I. (2010). Dynamic open inquiry performances of high-school biology students. *Eurasia Journal of Mathematics, Science & Technology, 6*(3), 199-214.

25. Avriel-Avni, N., Spektor-Levy, O., **Zion, M.,** & Rosalind-Levy, N. (2010). Children's sense of place in desert towns: a phenomenographic enquiry. *International Research in Geographical and Environmental Education, 19*(3), 241-259.

26. Avriel-Avni, N., **Zion, M.,** & Spektor-Levy, O. (2010). Developing a perception of a place as home in children, in a desert and isolated town. *Children, Youth and Environments, 20*(2), 116-149.

27. **Zion, M**., Spektor-Levy, O., Orchan, Y., Shwartz, A., Sadeh, I., & Kark, S. (2011). Tracking invasive birds - a challenge of open inquiry learning and conservation education. *Journal of Biological Education, 45*(1), 3-12.

28. Sadeh, I., & **Zion, M**. (2012). Which type of inquiry project do high school biology students prefer: Open or guided? *Research in Science Education, 42(*5), 831-848.

29. **Zion, M.,** & Mendelovici R. (2012). Moving from structured to open inquiry – Challenges and limits. *Science Education International*, *23*(4), 383-399.

30. Ram-Tsur, R., Nissim, M., **Zion, M**., Dotan Ben-Soussan T., & Mevarech, Z. R. (2013). Language development: The effects of aquatic and of on-land motor interventions. *Creative Education, 4*, 41-50.

31. **Zion, M.,** Schanin, I., & Rimerman-Shmueli, E. (2013). Teachers' performances during a practical dynamic open inquiry process. *Teachers and Teaching: Theory and Practice, 19*(6), 695-716.

32. Klein, S., & **Zion, M.** (2015). The characteristics of homeostasis – A new perspective on teaching a fundamental principle in biology. *School Science Review*, 97, 85-93.

33. Nissim, M., Ram-Tsur, R., **Zion, M.,** Mevarech Z. R., & Dotan Ben-Soussan T. (2014). Effects of Aquatic Motor Activities on Early Childhood Cognitive and Motor Development. *Open Journal of Social Sciences, 2*, 24-39.

34. **Zion, M**., Adler, I., & Mevarech, Z. R. (2015). The effect of individual and social metacognitive instruction on students' metacognitive performances in an online inquiry discussion. *Journal of Educational Computing Research, 52*, 50-87.

35. **Zion, M.,** & Klein, S. (2015). A conceptual understanding of 'homeostasis' by studying its characteristics. *International Journal of Biology Education, 4*(1), 1-27.

36. Adler, I., **Zion, M**., & Mevarech, Z. R. (2016). The effect of explicit environmentally oriented metacognitive guidance and peer collaboration on students' expressions of environmental literacy. *Journal of Research in Science Teaching, 53*(4), 620-663.

37. Spektor-Levy, O., Aloni, O., & **Zion, M.** (2016). Mini science museum in school: development of scientific knowledge, positive attitudes towards science, and self-efficacy among the museum trustees. *International Journal of Environmental and Science Education, 11*(18), 11033-11059.
Journal name has been changed to Interdisciplinary Journal of Environmental and Science Education

38. Berger Tikochinski, T., **Zion, M.,** & Spektor-Levy, O. (2016). Up and down: Trends in students' perceptions about learning in a 1:1 laptop model - A longitudinal study. *Interdisciplinary Journal of e-Skills and Lifelong Learning, 12,* 169-191.

39. Adler, I., Schwartz, L., Madjar, N., & **Zion, M.** (2018). Reading between the lines: Students' motivational expressions and teacher's motivational support in an online forum during open inquiry. *Science Education, 102,* 820-855.

40. Nissim, M., Ram Tsur, R., Glicksohn, J., **Zion, M**., Mevarech, Z. R., Harpaz, Y., & Dotan Ben-Soussan, T. (2018). Effects of aquatic motor intervention on verbal working memory and brain activity. *Mind, Brain and Education*, 12(2), 90-99.

41. Adler, I., **Zion, M.** & Rimerman-Shmueli, E. (2019). Fostering Teachers' Reflections on the Dynamic Characteristics of Open Inquiry through Metacognitive Prompts. *Journal of Science Teacher Education, 30*(7), 763–787.

42. Dorfman, B., Issachar, H., & **Zion, M.** (2020). Yesterday's students in today's world - Open and guided inquiry through the eyes of graduated high-school biology students. *Research in Science Education, 50*(1), 123-149.

43. Cohen, H. & **Zion, M**. (2020). Water is the taste of life – the contribution of metacognitive guidance to drinking-related nutritional literacy. *Science Education International, 31*(1), 84-91.

44. **Zion, M.,** Schwartz, R. Adler, I. & Rimerman-Shmueli, E., (2020). Supporting Teachers' Understanding of Nature of Science and Inquiry Through Personal Experience and Perception of Inquiry as a Dynamic Process. *Research in Science Education, 50,* 1281-1304.

45. Schwartz, L., Adler I., Madjar N., **& Zion M.** (2021). Rising up to the challenge: The effect of individual and social metacognitive scaffolds on students' expressions of autonomy and competence throughout an inquiry process. *Journal of Science Education and Technology. 30*(4), 582-593.

46. **Zion, M.** & Cohen, H. (2021). Drinking-related metacognitive guidance contributes to the expression of principles and importance of healthy drinking. *Sustainability, 13*(4), 1-19.

47. Mor, M. & **Zion, M**. (2021). Applying a system thinking learning approach to improve perception of homeostasis - a fundamental principle of biology. *Journal of Biological Education*, *55*(4), 341-367.

48. Klein, S., Watted, S., & **Zion, M.** (2021). Contribution of an intergenerational sustainability leadership project to the development of students' environmental literacy. *Environmental Education Research, 27*(12), 1723–1758.

49. Snapir, Z., Karadi, G., & **Zion, M.** (2022). Inquiry practices and types of knowledge, with paths of logical associations between inquiry questions, presented as part of an open inquiry process. *Journal of Biological Education, 57*(5), 1062-1082.

50. Waxman, P. T., Ram-Tsur, R., & **Zion, M.** (2022). First Understand the Context and then Look at the Graph-The Effect of Attentional Guidance on Cognitive Linear Graph Processing? *Trends in Neuroscience and Education, 29,* 100191.

51. Sachyani, D., Waxman, P. T., Sadeh, I., Herman, S., Levi Ferber, M., Yaacobi, M., Choresh O., Link, E., Masa, S. R., Ginsburg, S. and, & **Zion, M.** (2023). Teachers' Views of Future-oriented Pedagogy as part of Inquiry-based Molecular Biology Teaching in High School Biology Laboratories. *Journal of Biological Education*.

52. Maor, R., Levi, R., Mevarech, Z, Paz-Baruch, N., Grinshpan, N., Milman, A., Shlomo, S., & **Zion, M**. (2023) Difference between zoom-based online versus classroom lesson plan performances in creativity and metacognition during COVID-19 pandemic. *Learning Environ Res*, *26*, 803-822. https://doi.org/10.1007/s10984-023-09455-z

53. Batzon, N. & **Zion, M**. (2023). From external to internal locus of control – identifying attitudes among adults and teens to foster environmental responsibility towards the trash in the public domain. *Environmental Education Research.* DOI: 10.1080/13504622.2023.2202364\

54. Ortal-Ivri, G., Adler, I,, & **Zion, M.** (2023). Promoting environmental literacy among education students by supporting self-regulated learning. Ecology & Environment *14*(2). (In Hebrew)

55. Maor, R., Paz-Baruch, N., Grinshpan, N., Milman, A., Mevarech, Z., Levi, R., Shlomo, S. & **Zion, M.** (2023). Relationships between metacognition, creativity, and critical thinking in self-reported teaching performances in project-based learning settings. *Thinking Skills and Creativity*.

56. Aloni, O., Spektor-Levy, O., & **Zion, M**. (2024). Accommodating students' needs in science studies - A Multi-Faceted Holistic Teaching approach. *Instructional Science.*

CHAPTERS IN BOOKS

1. Avargil, S., Spektor-Levy, O., & **Zion, M**. (2017). Developing science education research literacy among secondary in-service teachers. In: A. Sickel, & S. Witzig (Eds), *Designing and Teaching the Secondary Science Methods Course: An International Perspective*. Dordrecht, The Netherlands: Sense Publishers, Springer.

Refereed Learning Books

1. Kliachko, S., **Zion, M.** & Menis, J. (2014). *We have only one earth* - Five learning books intended for the use of high school students majoring in environmental science: Waste and recycling, Water, Air, Radiation and Noise, Environmental management. (Hebrew and Arabic).

Non-Refereed Publications

1. **Zion, M.** (1993). You are invited to present a poster at the Photosynthesis Conference. *The Biology Teachers' Journal, 135*, 43-44 (Hebrew).

2. **Zion, M.** (1996). Calories aren't everything. *The Biology Teachers' Journal, 145*, 105-106 (Hebrew).

3. **Zion, M.** (1996). Control of gene expression – Teaching emphasis. *The Biology Teachers' Journal, 148*, 48-52 (Hebrew).

4. **Zion, M.** (1998). About the AIDS virus – Science news for the classroom. *The Biology Teachers' Journal, 155*, 75-80 (Hebrew).

5. **Zion, M.** (1999). Computer based activities for the biology class. *The Biology Teachers' Journal, 157*, 43-49 (Hebrew).

6. **Zion, M.** (1999). Inquiry – Lab fun. *The Biology Teachers' Journal, 158*, 45-48 (Hebrew).

7. **Zion, M.,** Nosinowitz, R., & Eran-Zoren, Y. (1999). Humorous mistakes. *The Biology Teachers' Journal, 158*, 66-68 (Hebrew).

8. **Zion, M.,** & Yarom, R. (1999). DNA repair mechanism fights radiation damage. *The Biology Teachers' Journal, 159*, 47-53 (Hebrew).

9. **Zion, M.,** & Link, E. (2000). Lab activity for the next millennium. *The Biology Teachers' Journal, 161*, 30-32 (Hebrew).

10. **Zion, M**., & Atzmon, D. (2000). The robbed young bird, and his unlucky brother-an inquiry case study. *The Biology Teachers' Journal, 163*, 58-59 (Hebrew).

11. **Zion, M**., Fine, R. & Liron, O. (2000). Violence in nature. *The Biology Teachers' Journal, 163*, 76-81 (Hebrew).

12. **Zion, M**., Atzmon, D., & Link, E. (2003). *Homeostasis at the molecular level*, Bar-Ilan Univesity, Israel.

13. **Zion, M.** (2003). Living Museum - Nature protection learning program. *The Biology Teachers' Journal, 167*, 64-69 (Hebrew).

14. **Zion, M.,** & Stav, O. (2003). The Genetic revolution. *The Biology Teachers' Journal, 168*, 19-22 (Hebrew).

15. **Zion, M.** (2003). Dynamic inquiry – Process, reflection and the elements between them. *The Biology Teachers' Journal, 168*, 23-25 (Hebrew).

16. Agrest, B., Doldzanski-Etinger, F., Abulafia, N., Amir, R., Verthaimer, S., Eran-Zoran, Y., Frenkel, D., **Zion, M.**, Shiban, E., & Shimburski, G. (2004). *Syllabus of biological studies*. Jerusalem: The Israel Ministry of Education (Hebrew).

17. **Zion, M**., Atzmon, D., & Link, E. (2005). *Homeostasis in the human body*, Bar-Ilan Univesity, Israel.

18. **Zion, M.,** Atzmon D., & Link, E. (2005). Nobel prize and homeostasis in the molecular level. *The Biology Teachers' Journal, 171*, 5-11 (Hebrew).

19. Sadeh, I., Spektor-Levy, O., & **Zion, M.** (2005). Invaders species: Enemies, lovers, or/and a challenge for inquiry and biodiversity learning *The Biology Teachers' Journal, 172*, 20-30 (Hebrew).

20. **Zion, M**., & Shedletzky, E. (2006). Overcoming the challenge of teaching open inquiry. *The Science Education Review, 5*(1), 8-10.

21. Atzmon D., Link, E.**,** & **Zion, M.** (2007). Glucose balance in the human body, and vaccination to type 1 diabetes. *The Biology Teachers' Journal, 175*, 34-38 (Hebrew).

22. **Zion, M**., & Sadeh, I. (2008). Curiosity and open inquiry learning. *The Biology Teachers' Journal, 177*, 7-17 (Hebrew).

23. Schanin, I., & **Zion, M.** (2010). Teachers experience dynamic open inquiry process., *181*, 1-13 (Hebrew).

24. **Zion, M.** (2012). Inquiry-based learning and teaching. Biology students' inquiry projects, Israel Ministry of Education, 5-18 (Hebrew).

25. Adler, I., **Zion, M**., & Mevarech, Z. R. (2016). The development of environmental literacy by peer collaboration. *The Junior-high school Teachers' Journal, 26-27*, 27-36 (Hebrew).

26. Adler, I., **Zion, M**., & Mevarech, Z. R. (2017). Metacognitive support embedded in Inquiry-based teaching, how and why? *The Junior-high school Teachers' Journal, 28-29*, 34-41 (Hebrew).

PAPERS PRESENTED AT SCIENTIFIC CONFERENCES

Articles Published in Refereed Conference Proceedings

1. **Zion, M**., Link, E., & Agrest, B. (2002). Dynamic inquiry-a recipe for a learning inquiry process full of surprises. The 13th Conference of the Israeli Educational

Research Organization, October 2002, Bar-Ilan University, Ramat-Gan, Israel (Hebrew).

2. **Zion, M**., & Slezak, M. (2002). Dynamic inquiry provides teachers functioning as guides for autonomous learners. The 2nd International Conference on Science Education. November, 2002, Nicosia, Cyprus.

3. **Zion, M**. (2012). Teaching inquiry: A nationwide challenge for both teachers and researchers. In J. Settlage & A. Johnston (Eds.), *Proceedings of the Science Education at the Crossroads Conference* (pp. 78-79). Providence, RI.

4. Yarden, A. & **Zion, M.** (2016). Meaning of the term "research in didactics of biology". In Tal, T. and Yarden, A. (Eds.), *Proceedings of the 10th Conference of European Researchers in Didactics of Biology,* (197-202). Haifa, Israel.

Papers Presented at Scientific Conferences

1. **Zion, M**. (2003, March). Dynamic inquiry allows flexible and thought-provoking inquiry learning. Paper presented at the NARST (National Association for Research in Science Teaching) Annual International Conference – "excellence in science teaching for all", Philadelphia, USA.

2. **Zion, M**. Michalsky, T & Mevarech, Z. (2003, August). The effects of metacognitive guidance within ALN (Asynchronous Learning Network) on the inquiry learning process (with). Paper presented at the ESERA (The European Science Education Research Association) Conference – "Research and the Quality of Science Education", Noordwijkerhout, The Netherlands.

3. **Zion, M**. Michalsky, T & Mevarech, Z. (2004, April). Developing scientific thinking and inquiry skills by solving problems within ALN discussion groups. Paper presented at the NARST (National Association for Research in Science Teaching) Annual International Conference -"excellence in science teaching for all", Vancouver, Canada.

4. Michalsky, T & Mevarech, Z. & **Zion, M**. (2004, July). Who benefits from metacognitive instruction and under what conditions? Paper presented at the first meeting of the EARLI (European Association for Research on Learning and Instruction) SIG (Special Interest group) on metacognition, University of Amsterdam, The Netherlands.

5. Mevarech, Z, Michalsky, T &. **Zion, M**. (2004, December). The effects of metacognitive instruction embedded within an asynchronous learning network on scientific inquiry skills. Paper presented at the international conference to review research on Science, Technology and Mathematics Education, UNESCO, Goa, India.

6. Mevarech, Z, Michalsky, T &. **Zion, M**. (2005, April). The roles of metacognitive instruction in developing students' science literacy under different learning environments. Paper presented at the AERA, Annual Meeting, Montréal.

7. **Zion, M**. Michalsky, T & Mevarech, Z. (2005, Nov.). The effects of metacognitive instruction embedded within an asynchronous learning network on inquiry and

metacognitive skills. Paper presented at the WASEA – The Western Australian Science Education Association Annual Forum, Western Australia.

8. **Zion, M**., Cohen, S. & Amir, R. (2006, April). The dynamic inquiry teaching spectrum. Paper presented at the NARST (National Association for Research in Science Teaching) Annual International Conference, San Francisco, USA.

9. **Zion, M**. (2007, August). Online forums scaffold students experiencing open and guided inquiry process. Paper presented at the ESERA (The European Science Education Research Association) International Conference, Malmö, Sweden.

10. Sadeh, I. & **Zion, M**. (2007, August). Development of dynamic inquiry skills during open-inquiry learning in comparison to guided-inquiry learning. Paper presented at the ESERA (The European Science Education Research Association) International Conference, Malmö, Sweden.

11. Sadeh, I. & **Zion, M**. (2008, Sep.). Development of dynamic inquiry skills during open-inquiry learning in comparison to guided-inquiry learning. Paper presented at the ERIDOB (European Researchers in Didactics of Biology) International Conference, Utrecht University, the Netherlands.

12. Klein, S. & **Zion, M**. (2008, Sep.). Characterization of the comprehension of the biological fundamental principal 'homeostasis', learned explicitly with computerized tools. Paper presented at the ERIDOB (European Researchers in Didactics of Biology) International Conference, Utrecht University, the Netherlands.

13. **Zion, M**., & Schanin, I. (2009, Sep.). Characterizing performances of teachers who had experienced a practical dynamic open inquiry process. Paper presented at the ESERA (The European Science Education Research Association) International Conference, Istanbul, Turkey.

14. **Zion, M**., & Sadeh, I. (2010, July). Open inquiry – Performances and team spirit. Paper presented at the ERIDOB (European Researchers in Didactics of Biology) International Conference, Braga, Portugal.

15. Adler, I., **Zion, M.** & Mevarech, (2013, April). Contribution of metacognitive instruction embedded within an open inquiry-based learning to metacognitive online discourse. Paper presented at the NARST (National Association for Research in Science Teaching) Annual International Conference, Puerto Rico.

16. Ram-Tsur, R., Nissim, M., Dotan Ben-Soussan, T. **Zion, M.** & Mevarech, Z. (2013, June). A comparison of the effects of aquatic and of on-land motor activities on motor and language development during early childhood. Paper presented at the Conference on Education and Evaluation (CEAE 2013). Beijing, China.

17. Nissim, M., Ram Tsur, R., **Zion, M.** & Z. Mevarech (2013, Sep.). The effects of aquatic motor activities on motor and language development during early childhood. Paper presentation. FENS Featured Regional Meeting. Prague, Czech Republic.

18. **Zion, M.,** & Yarden, A. (2014, Feb). Should biology be taught in high school? Implications for higher education and the Israeli society. Paper presented at the Ilanit International Conference of the Federation of the Israel Societies for Experimental Biology, Eilat, Israel.

19. Adler, I. **Zion, M.,** Mevarech, Z. & Sadeh, I. (2014, July). A Metacognitive-based instructional model designed to develop environmental literacy. Paper presented at the ERIDOB (European Researchers in Didactics of Biology) International Conference, Haifa, Israel.

20. Mor, M., **Zion, M.,** Agrest, B. & Mendelovici, R. (2014, July). The impact of combination of metacognitive awareness instruction and system thinking. Paper presented at the ERIDOB (European Researchers in Didactics of Biology) International Conference, Haifa, Israel.

21. **Zion, M.** (2014, July). Symposium 2: Special ERIDOB symposium: Current issues in biological education research at the ERIDOB (European Researchers in Didactics of Biology) International Conference, Haifa, Israel. One of the discussants.

22. Adler, I. **Zion, M.,** Mevarech, Z. (2015, Feb.). Embedding meta-cognitive, support within inquiry-which kind, when and why? The Learning Sciences International Conference, Jerusalem, Israel.

23. Adler, I. **Zion, M.,** Mevarech, Z. (2015, March). The effect of individual and social metacognitive support on students' involvement in the inquiry process, as expressed by their online dynamic inquiry performances. The first international self-regulated learning (SRL) workshop, Bar Ilan, Israel.

24. Adler, I. **Zion, M.,** Mevarech, Z. (2015, August). The Effect of metacognitive support, embedded within an open Inquiry process, on students' inquiry outcomes, evaluated by students' expression of NOS, procedural understanding and scientific practices. Paper presented at the ESERA (European Science Education Association) 11th Conference, Finland.

25. Berger Tikochinski, T., **Zion, M.,** & Spektor-Levy, O. (2015, july). Do students really like to learn in 1:1 laptop classes? Students' views and retrospective views of graduates. International Association for Cognitive Education and Psychology (IACEP). Harokopio University, Athens, Greece

26. **Zion, M.,** & Schwartz, R. (2015, August). Does a dynamic open inquiry course enable in-service science teachers to improve their Nature of Science understanding? Paper presented at the ESERA (European Science Education Association) 11th Conference, Finland.

27. Berger Tikochinski, T., **Zion, M.,** & Spektor-Levy, O. (2016, February). Up and down: trends in students' perceptions about learning in a 1:1 laptop model- A longitudinal study. Paper presented at the 11th Chais Conference: Learning in the Technological Era: Study of Innovation and Learning Technologies, Open University, Raanana, Israel.

28. Cohen, H. & **Zion, M.** (2016, Sep.). A Metacognitive guidance to increase drinking-related nutrition literacy-DNL. Paper presented at the ERIDOB (European Researchers in Didactics of Biology) International Conference, Karlstad, Sweden.

29. Adler, I., **Zion, M.** Schwartz, L. & Madjar, N. (2017, April). Reading between the lines. The effect of contextual factors on students' motivation throughout an open inquiry process. Paper presented at the NARST (National Association for Research in Science Teaching) Annual International Conference, Texas, USA.

30. Waxman P. T., Ram Tsur, R., & **Zion, M.** (2017, August). The interaction between visual perception, visual attention and graph processing. Paper presented at the ESERA (European Science Education Association) 12th Conference, Dublin, Ireland.

31. Berger Tikochinski, T., **Zion, M.,** & Spektor-Levy, O. (2018, March). Transformations in students' attitudes about learning with personal laptops: During the program and in retrospect. Paper presented at the NARST (National Association for Research in Science Teaching) Annual International Conference, Atlanta, GA, USA.

32. Snapir, Z., Karadi, G., & **Zion, M**. (2018, October). Characterizing the paths of logical transitions between inquiry questions in an open inquiry process and their correlation with inquiry practices and types of knowledge. Paper presented at the EARLY SIG 20-26 Conference 'Argumentation and Inquiry as Venues for Civic Education', Jerusalem, Israel.

33. Schwartz, L, Adler, I., Madjar, N., & **Zion, M**. (2019, Jan). The Correlation between motivation provided by the teacher and student motivation throughout an open inquiry process. The Learning Sciences International Conference, Technion, Israel.

34. **Zion, M**., Adler, I., & Rimerman-Shmueli, E. (2019, Aug). Metacognitive prompts facilitate teachers' reflections on dynamic open inquiry. Paper presented at the EARLI conference, Aachen, Germany.

35. **Zion, M**. (2019, Dec). The contribution of metacognitive support to environmental literacy and drinking-related nutritional literacy. Paper presented at the 13th Health, Environment and Education Conference, Cologne, Germany.

36. Herman, S., Waxman, P, T. &, **Zion, M.** (2020, Feb). Molecular biology from science to learning in class: Israeli national project to promote the instruction of molecular biology in high school labs. Paper presented at the Ilanit International Conference of the Federation of the Israel Societies for Experimental Biology, Eilat, Israel.

37. Ortal-Ivri, G. & **Zion, M**. (2021, July). Fostering environmental literacy among education students using SRL Strategy. The Israel Society of Ecology and Environmental Sciences (ISEES), The Weizmann Institute of Science, Rehovot, Israel.

38. Aloni, O., **Zion, M**. & Spektor-Levy, O. (2021, Aug). Students' learning preferences in science studies. Paper presented at the ESERA (European Science Education Association) 14th Conference, University of Minho, Braga, Portugal.

39. Ortal-Ivri, G., Adler, I. & **Zion, M.** (2022, March). Fostering environmental literacy through self-regulated guidance. Paper presented at the 11th World Environmental Education Congress, Prague, Czech Republic.

40. **Zion, M.,** Ortal-Ivri, G., & Adler, I. (2022, March). Fostering Environmental Literacy through Engagement in Self-Regulation Learning Processes. Paper presented at the NARST (National Association for Research in Science Teaching) Annual International Conference, Vancouver, Canada.

41. Aloni, O., **Zion, M**. & Spektor-Levy, O. (2022, March). The Effect of Multi-Faceted Holistic Approach in Science Instruction on Students' Achievements, Preferences, and Needs. Paper presented at the NARST (National Association for Research in Science Teaching) Annual International Conference, Vancouver, Canada.

42. Sachyani, D. ….& & **Zion, M.** (2022, Aug). Future-oriented Pedagogy for Molecular Biology Inquiry-based Learning in High School Biology Laboratories. ERIDOB (European Researchers in Didactics of Biology) International Conference, Nicosia, Cyprus.

43. Waxman, P. T. ….& & **Zion, M.** (2022, Aug). The influence of international collaboration on open inquiry-based teaching - A case study. ERIDOB (European Researchers in Didactics of Biology) International Conference, Nicosia, Cyprus.

44. **Zion, M**. (2022, Nov). Take the garbage with you – An international challenge. A lecture presented in the 7th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP27), Sharm el-Sheikh, Egypt.

45. **Zion, M.** (2023, Feb). Take the garbage with you – A national challenge. Paper presented at the Ilanit International Conference of the Federation of the Israel Societies for Experimental Biology, Eilat, Israel.

46. Maor, R., Levi, R., Mevarech, Z, Paz-Baruch, N., Grinshpan, N., Milman, A., Shlomo, S., & **Zion, M**. (2023, Apr). Difference between online and classroom lesson plan performances in creativity and metacognition during COVID-19 outbreak. Paper presented at AERA Annual Meeting, Chicago, USA.

47. Maor, R., Levi, R., Mevarech, Z, Paz-Baruch, N., Grinshpan, N., Milman, A., Shlomo, S., & **Zion, M**. (2023, Aug). Metacognition, creativity, and critical thinking in teaching

performances in PBL settings. Paper presented at the EARLI conference, Thessaloniki, Greece.

48. Waxman, P. T., Girtain, C., Herman, S., Sachyani D., & **Zion, M.** (2023, Aug). International Molecular Biology Inquiry-Based Learning as a Catalyst for Future-oriented Pedagogy: A Case Study. Paper presented at the ESERA (European Science Education Association) 15th Conference, Cappadocia, Turkey.

49. **Zion, M.,** Batzon, N. (2024, March). From external to internal locus of control – identifying attitudes among adults and teens to the "Take the Garbage with you" imitative. Paper presented at the NARST (National Association for Research in Science Teaching) Annual International Conference, Denver, CO, USA.

50. Maor, R., Levi, R., Mevarech, Z, Paz-Baruch, N., Grinshpan, N., Milman, A., Shlomo, S., & **Zion, M**. (2024, Apr). Teaching creatively and teaching for creativity – between the ideal and reality. Paper presented at AERA Annual Meeting, Philadelphia, Pennsylvania, USA.