

# מתחים על רקע דתי בהוראת האבולוציה בישראל: התנסויות ומחשבות מהשטח

חיבור לשם קבלת התואר

"דוקטור לפילוסופיה"

מאת

**רעות סטאחי-חיטין**

מנחה:

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מוגש למועצה המדעית של מכון ויצמן למדע  
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## תקציר

Evolution is one of the most controversial scientific issues among the general public worldwide, mainly because of the presumed conflict between religion and evolution. This conflict also arises in school biology classes, where students' acceptance of evolution decreases as their religiosity increases. As many teachers in Israel avoided teaching evolution before it became an obligatory subject, I was interested in understanding whether the conflict regarding evolution is also relevant among the Jewish population in Israel since the implementation of evolution as obligatory subject in the curriculum. I found that teachers encounter religious based opposition to evolution among all sectors, especially among religious and traditional schools, which aligns with the low acceptance of evolution among Israeli high school religious and traditional students, relatively to secular students. However, I found no significant difference between sectors in the scores of matriculation exam questions of evolution, similarly to previous studies that found that knowledge of evolution doesn't necessarily increase its acceptance.

In order to examine ways of approaching this opposition, a unique population of religious teachers and scientists who study and teach evolution, was interviewed regarding their conception of the conflict, as they express the possible co-existence between religion and science. I found that among this population, both religion and science are compatible, and both are important parts of their lives. Religious teachers and scientists who rejected evolution in the past, eventually accepted it after they were

exposed to religious explanations that emphasized the compatibility between religion and evolution. However, should discussing students' religious faith be the role of a science teacher?

This question was presented to teachers and scientists, and I found that most participating teachers are willing to relate to students' religious faith in a science class, emphasizing the students' need to relate to their inner world to enable meaningful learning. While most participating scientists rejected the idea, emphasizing the importance of separating science from religion. Based on their experience, religious teachers and scientists offered different practices on how teachers can relate to religion in a science class, yet they emphasized the limitations and challenges of doing so, which are very important to consider when designing educational programs regarding the issue. This research's findings demonstrate that the need to relate to students' religious faith is coming from the field, and as many times teachers answer students' religious arguments with scientific explanations, teachers should be supplied with knowledge and tools regarding how they can answer students' religious based opposition to evolution. Therefore, based on this research findings, two implication programs were developed: a professional development course and an introductory lesson to evolution, both were shown to have a positive effect.

My research adds to the global interest in evolution education by shedding light on this topic in a Jewish population, which has been little studied. In addition, the research is offering teachers the opportunity to relate to students' religious opposition with sensitivity, and in doing so, potentially promote their students' positive perspective of science, thereby enhancing evolution and science education for all.