



**GIREP-EPEC**  
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*GIREP-EPEC conference 2023*  
*Physics learning promoting culture*  
*and addressing societal issues*

Contribution ID: 118

Type: **Oral presentation**

## **Student's Conceptions of the Greenhouse Effect: Consistent ideas or fragmented pieces?**

*Tuesday 4 July 2023 13:40 (20 minutes)*

This study examines students' conceptions about the greenhouse effect using multiple-choice questions and analyses student's answers from two perspectives: the "knowledge as theory" and "knowledge in pieces" perspectives. The former emphasizes coherence and stability, while the latter highlights context-dependency and fragmentation. Findings reveal that 30% of the 501 German A-level students chose an answer based on a reflection-based misconception, which correlated with other misconceptions concerning the greenhouse effect and increased in likelihood by holding those misconceptions. The study suggests that both perspectives may have validity, but coherence in students' ideas is less often present than it is.

### **How would you like to present your contribution?**

Live in Košice (time slot to be allotted based on the programme)

### **Target education level (primary)**

Upper-secondary education

### **Target education level (secondary, optional)**

Lower-secondary education

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