



# Case Study 1: Shady Spring Break

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## Part 1

The Genomics Education Partnership's (GEP) annotation protocol requires that student annotators identify and precisely map (accurate to the base pair) all coding exons (CDS's) for all isoforms of a gene in the target species. Dr. Cooper has assigned Penny to annotate the *Lar* gene in *Drosophila mojavensis*. The *Lar* gene in *Drosophila melanogaster* has 7 isoforms and 22 unique CDSs. Consequently, Penny will need to investigate whether the seven isoforms of *Lar* with unique coding regions exist in *D. mojavensis* and, if so, construct the corresponding gene models.

Penny has made significant progress on finishing the annotation of the *D. mojavensis Lar* gene. She has only three unique isoforms left to annotate. However, Penny really wants to finish her work in time to drive down to Panama City Beach with her friends to get together for spring break. Penny's friends are leaving tonight. Since the remaining three isoforms appear similar in the Genome Browser to the other four that she has already annotated, Penny decides to duplicate the coordinates of isoform A for the three remaining isoforms she has yet to annotate. She then submits her Annotation Form to Dr. Cooper.

When a much tanner Penny returns, Dr. Cooper notifies the class that he submitted their annotations to the GEP for possible inclusion in a future research publication. He congratulates the class for contributing to the scientific community.

1. What is the action or inaction that is the cause for concern?
2. Who are the stakeholders, how might they be affected, and what are the possible consequences?
3. Are there any laws, regulations, or unwritten disciplinary standards that may apply?
4. What actions would you recommend for the stakeholders in the short term and in the long term?

## Part 2

Two weeks went by, and Penny just could not shake the feeling that her actions might possibly reflect badly on others, including her family, Dr. Cooper, and her school. After tossing and turning several nights, Penny decides she needs to clear her conscience and tell Dr. Cooper that she fabricated some of her annotation data.

5. Did Dr. Cooper and the school that Penny attends engage in irresponsible research conduct when submitting Penny's data without first verifying its accuracy?