

# Regulated Research Institutional/Industrial Setting Form (1C)

This form must be completed AFTER experimentation by the adult supervising the student research conducted in a regulated research institution, industrial setting or any work site other than home, school or field.

Student's Name(s) Jordan Klein

Title of Project Prevalence of Tick-Borne Diseases in Fire Island Deer Ticks

**To be completed by the Supervising Adult in the Setting (NOT the Student(s)) after experimentation:**

(Responses must be on the form as it is required to be displayed at student's project booth; please do not print double-sided.)

The student(s) conducted research at my work site:

1. Did you or your proxy (e.g. graduate student, postdoc, employee) mentor or provide substantial guidance to the student researcher? ☒ Yes ☐ No
  - a. If no, describe your and/or your institution's role with the student researcher and his/her project (e.g. supervised use of equipment on site without ongoing mentorship and sign below).
  - b. If yes, complete questions 2 –5.
2. Is the student's research project a subset of your ongoing research or work? ☒ Yes ☒ No

Use questions 3, 4 and 5 to detail how the student's project was similar and/or different from ongoing research or work at your site.
3. Describe the independence and creativity with which the student:
  - a. developed the hypotheses or engineering goals for the research project  
Jordan's research project was part of a large-scale project conducted in our laboratory that aimed to study the polymicrobial infections in three tick species established on Long Island and Fire Island.
  - b. designed the methodology for his/her research project  
As part of a larger-scale project, Jordan had to be familiar with the methodology applied in our study (Sanchez-Vicente et al. 2019, mBIO e02055-19) as a basis for determining proper comparisons. Jordan also had to adapt these methods to the specifics of his project.
  - c. analyzed and interpreted data  
Jordan constructed the two-proportion z-tests to compare the prevalence of pathogens between nymphal and adult life stages and compare it to our previous study of Long Island (Sanchez-Vicente et al. 2019, mBIO e02055-19). This was the appropriate statistical test and Jordan correctly analyzed and interpreted the data.

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## Regulated Research Institutional/Industrial Setting Form (1C) Continued

Student's Name(s) Jordan Klein

4. Detail the student's role in conducting the research (e.g. data collection, specific procedures performed). Differentiate what the student observed and what the student actually did.

During his stay in our laboratory, Jordan learned how to properly identify *Ixodes scapularis* and how to differentiate this tick species from the other two common ticks inhabiting Long Island (*Amblyomma americanum* and *Dermacentor variabilis*). He also learned how to distinguish the gender of a tick by looking at the proper anatomical structures. Jordan was never in contact with live ticks or microbes.

Among the molecular biology skills he acquired, he learned how to quantify DNA using a NanoDrop spectrophotometer. He also became proficient in the use of both real-time PCR and qualitative PCR. He also learned the essentials of a nested PCR when further characterization of a pathogen is needed. He also learned how to run the PCR products through agarose gel electrophoresis.

5. Did the student(s) work on the project as part of a group?

☐ Yes

☒ No

If yes, how many individuals were in the group and who were they (e.g. high school students, graduate students, faculty, professional researchers)?

I attest that the student has conducted the work as indicated above and that any required review and approval by institutional regulatory board (IRB/IACUC/IBC) has been obtained. Copies are attached if applicable.  
I further acknowledge that the student will be presenting this work publicly in competition and I have communicated with the student research regarding any requirements for my review and/or restrictions of what is publicized.

Jorge Benach

Supervising Adult's Printed Name

Signature

Distinguished Professor

Title

Centers for Molecular Medicine, Stony Brook University

Institution

11/2/2019

Date Signed (must be after experimentation) (mm/dd/yy)

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