

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) Suhana Singh

Title of Project Generation Project: Prenatal Autoimmune Risk Factors in the Mother with Brain-reactive Antibodies for Neonate Outcome.

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

The idea for this project was conceived during my discussion with Suhana. She was interested in the fields of genetics and neuroscience and expressed her desire to pursue a research project in this area. We discussed several possible projects. Once I mentioned the Generation Project-ECHO and the fact that it focuses on Autism/Autism spectrum, it was clear that this was what she wanted to work on. In this study we decided to look at the effect of presence of autoimmunity and the role of maternal anti-brain antibodies on neonatal outcome. The hypothesis of this project is that there is a relationship between maternal autoreactivity and a decrease in head circumference, birth weight, and prematurity of the offsprings.

b. designed the methodology for his/her research project

Although Suhana was not involved in the original data collection, she was involved in data coding and grouping to allow for SPSS data analysis and the actual analysis of the data. She was also involved in data cleaning by looking for outliers and data entry errors. While performing these tasks, she showed an impressive work ethic and strong attention to detail, as well as an ability to work through complex tasks.

c. analyzed and interpreted data

We reviewed statistical tests required to address the research question. We also went over the importance of the sample size and statistical significance as well as the difference between the statistical significance and the clinical significance. Suhana previously took Advanced Science Research and AP statistics classes and was already knowledgeable in these topics, which was extremely helpful when performing this task.

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

Student's Name(s) Suhana Singh

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.

Although Suhana was not involved in the original data collection, she was involved in data coding and grouping to allow for SPSS data analysis. She was also involved in data cleaning by looking for outliers and data entry errors. Her major roles included data cleaning, coding, and analysis. She also participated in scientific presentations, and prepared and presented her poster during Feinstein summer interns poster session. While performing these tasks, she showed an impressive work ethic and strong attention to detail, as well as an ability to work through complex tasks.

We reviewed statistical tests required to address the research question. We also went over the importance of the sample size and statistical significance as well as the difference between the statistical significance and the clinical significance. Suhana previously took Advanced Science Research and AP statistics classes and was already knowledgeable in these topics, which was extremely helpful when performing this task.

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)?

Although this particular project was not part of the group, Suhana was interacting with other scientists and trainees in our institution. My group is part of Pediatric Human Genetics and Robert S. Boas Center for Genomics and Human Genetics at the Feinstein Institutes for Medical Research. The center consists of over 30 individuals (scientists, clinical coordinators, laboratory technicians, and trainees, including medical school students, residents and post-doctoral fellows). My team consists of 4 clinical research coordinators and 1 research nurse. Suhana was able to interact with the entire team and observed follow-up surveying process.

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.

Dr. Dorota Gruber

Supervising Adult's Printed Name

Dorota Gruber DHS, MS, CGC
Signature

Assistant Professor in the Departments of Pediatrics and Cardiology

Title

Feinstein Institutes for Medical Research

1/25/2020

Institution

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

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