

IRB#: _____

DATE REC'D

(For IRB Use Only)



SYRACUSE UNIVERSITY Institutional Review Board

APPLICATION FOR DESIGNATION AS RESEARCH EXEMPT FROM IRB REVIEW

Initial review generally requires 5-7 business days from the date an exempt application is received by the IRB Office. Should modifications and/or clarifications be requested by the IRB, additional review time may be required.

On average the IRB advises it may take 4 weeks for the IRB exempt review process. (This includes the investigators response time.)

***NOTE*: The Principal Investigator (PI) must be a person who holds a faculty appointment or other administrative position of Director or higher. If you have any questions regarding this IRB requirement call the IRB office at 315.443.3013 for guidance.**

Principal Investigator/Faculty Member Information

First Name: Kevin	Middle Initial:	Last Name: Crowston
Position: Professor		
Department: NA	College: School of Information Studies	
Campus Address: Hinds Hall 348		
Campus Phone : x1676	Fax :	
Email: crowston@syr.edu	Cell Phone (optional):	

Student/Research Staff Information

☐ NA

First Name: Carsten	Last Name: Østerlund
<input type="checkbox"/> Graduate Student <input type="checkbox"/> Undergraduate Student	<input checked="" type="checkbox"/> Other: Faculty, co-I on grant
Department:	College: School of Information Studies
Local/Campus Address: Hinds Hall 309	
Local/Campus Phone: x8773	Fax:
Email: costerlu@syr.edu	Cell Phone (optional):

TITLE OF PROPOSAL: In concept only: Glitch Zoo: Teaming Citizen Science with Machine Learning to Deepen LIGO's View of the Cosmos

NOTE: Collaborative Institutional Training Initiative (CITI) is **not** required for research determined to be exempt. CITI is required for researchers involved in expedited or full board studies.

1A. IS IT RESEARCH?

The definition of research as defined by the Department of Health and Human Services (DHHS) regulations: “Research means a ***systematic investigation***, including research development, testing and evaluation, designed to develop or contribute to ***generalizable knowledge***.” 45 CFR 46.102 (d)

To be considered a “systematic investigation”, the concept of a research project must:

- Attempt to answer research questions (in some research, this would be a hypothesis).
- Be methodologically driven, that is, it collects data or information in an organized and consistent way.
- Analyze data or information in some way, be it quantitative or qualitative data.
- Draw conclusions from the results.

A. Is your project a systematic investigation? ☒ Yes ☐ No

B. **Provide an explanation for your response:** The project includes systematic studies of the performance of a citizen science project. Data are collected from performance of the participants on a citizen science task and are used to develop and test hypotheses. The project includes systematic field research with participants in citizen science projects run by the Zooniverse (<http://zooniverse.org/>). Our collaborator on the project is a Zooniverse developer at the Adler Planetarium and LIGO astronomers at Northwestern University and California State University Fullerton. Collectively, the Zooniverse projects have attracted more than 1,300,000 participants (not all active) who contribute to scientific research by such activities as classifying the shape of galaxies, transcribing manuscripts or identifying whale calls.

“Generalizable knowledge” would include one or more of the following concepts:

- The knowledge contributes to a theoretical framework of an established body of knowledge.
- The primary beneficiaries of the research are other researchers, scholars and practitioners in the field of study.
- Publication, presentation or other distribution of the results is intended to inform the field of study.
- The results are expected to be generalized to a larger population beyond the site of data collection.
- The results are intended to be replicated in other settings.
- Web based publication for professional purposes.

C. Will your project contribute to generalizable knowledge? ☒ Yes ☐ No

D. Provide an explanation for your response: The goal of the project is to build knowledge about how to design citizen science and related systems. The project contributes to advancing knowledge and understanding in multiple domains of science. First, the work will contribute to developing new methods of computational data analysis, initially with analysis of astronomical images, which also contributes to astronomy, and later extending to additional fields. Second, the project includes social science research to test and apply theories of human learning in an online context, which can then be applied to a broad range of social-computational problems.

Answering 1B below: The work done by the participants on the various Zooniverse projects (e.g., classifying galaxies) does not involve human subjects data. However, we are seeking to improve participants' learning and motivation to contribute to the projects through experiments with the design of the site, which will involve learning about what aspects of the project are motivating and tracking individual reactions to various site features. To design and carry out these experiments will require collecting human subjects data.

If "yes" to question A. **AND** C above the activity is considered research. Continue completing the application.

1B. IS IT HUMAN SUBJECTS RESEARCH?

- A. Is the data that is being obtained about living individuals? ☒ Yes ☐ No
- B. Are data collected through interaction or intervention with individuals (e.g., interviews, surveys, or any direct contact)? ☒ Yes ☐ No
- C. Is identifiable individual private information being obtained (e.g., chart reviews, information from data or tissue repositories)? ☐ Yes ☒ No
- D. Are data or specimens received by the investigator with identifiable private information? ☐ Yes ☒ No
- E. Are the data/specimens coded with a link back to the individual? ☐ Yes ☒ No

If "yes" to question A. above **AND** "yes" to one or more questions from B-E in section 1B, the activity is considered human research. Continue completing the application.

Protocols that do not meet the criteria for *research* **AND** *human subjects research* need not be submitted to the IRB for review or for a determination that the project falls into an exempt category.

Additional guidance for publically available data:

Some research involves the analysis of data about humans for which the regulatory definition of "human subject" is not met. One example is research that involves only the analysis of de-identified data contained within publicly available datasets (available to any one regardless of occupation, purpose, or affiliation, and those individuals who are responsible for posting the dataset had legitimate access to the data and have employed the necessary mechanisms to ensure the privacy and confidentiality of the individuals about whom the data were collected).

While the activity described above meets the regulatory definition of research, the definition of human subject is not met because data about a living person is not obtained through interaction or intervention, and no private, identifiable information about a living individual is obtained.

2. CATEGORIES FOR EXEMPTION

I/We certify that the above research project involves human subjects only in one or more of the following categories, and will be carried out using standard methods. Please check the number next to category(ies) pertinent to the research.¹

- ☐ 1. Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as:
 - (a) research on regular and special education instructional strategies, or
 - (b) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods, and
 - (c) the research must not involve prisoners as participants
- ☒ 2. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior unless:
 - (a) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and
 - (b) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.
 - (c) If the research involves children, the procedures must be limited to educational tests and observation of public behavior where the investigators do not participate in the activities being observed.
 - (d) The research must not involve prisoners as participants.
- ☐ 3. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under paragraph (2) of this section, if:
 - (a) the human subjects are elected or appointed public officials or candidates for public office; or
 - (b) federal statute(s) require(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.
 - (c) The research must not involve prisoners as participants.
- ☐ 4. Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects. [Note: *To qualify for this exemption ALL of the data, documents, records, or specimens must be in existence **before** the project begins.*]
 - (a) The research must not involve prisoners as participants.
- ☐ 5. Research and demonstration projects which are conducted by or subject to the approval of department or agency heads, and which are designed to study, evaluate, or otherwise examine:
 - (a) public benefit or service programs;
 - (b) procedures of obtaining benefits or services under those programs;
 - (c) possible changes in or alternatives to those programs or procedures; or
 - (d) possible changes in methods or levels of payment for benefits or services under those programs.
 - (e) The protocol must be conducted pursuant to specific federal statutory authority.
 - (f) The protocol must have no statutory requirements for IRB review.
 - (g) The protocol must not involve significant physical invasions or intrusions upon the privacy interests of the participants.
 - (h) The protocol must have authorization or concurrence by the funding agency.
 - (i) The research must not involve prisoners as participants.

¹ The Federal Regulations also include a sixth category for exempt research, the Institutional Review Board has the discretion to determine what categories to recognize and does not recognize research under category 6 as qualifying for exemption. If you have questions, please contact the IRB at 315.443.3013 or orip@syr.edu.

6. Taste and food quality evaluation and consumer acceptance studies a) if wholesome foods without additives are consumed or (b) if food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe by the Food and Drug Administration or approved by the Environment Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture.

3. SCREENING QUESTIONS

- | | | |
|--|------------------------------|--|
| A. Does any part of the research require that subjects be deceived? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| B. Will research expose human subjects to discomfort or harassment beyond levels encountered in daily life? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| C. Could disclosure of the subjects' responses outside the research reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| D. Will individuals involuntarily confined or detained in penal institutions be subjects of the study? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| E. For research proposed under category 2, will research involve surveys, interview procedures, or observation of public behavior with children where the researcher will interact with the children? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| F. For research proposed under category 4, will any of the data, documents, records, pathological specimens, or diagnostic specimens be collected or come into existence after the date you apply for exemption? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| G. For research proposed under category 4, will any of the information obtained from data, documents, records, pathological specimens, or diagnostic specimens that come from private sources be recorded by the investigator in such a manner that subjects can be identified directly or through identifiers linked to the subjects? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |

If you checked **YES** to **ANY** of the questions above, your research is **NOT EXEMPT**. Do not complete this application. Submit an [**application for Expedited or Full Board Review**](#).

If you have checked **NO** to **ALL** of the questions above, your research may be exempt. Please complete the remainder of the exempt application.

4. RATIONALE FOR EXEMPTION

Please briefly describe the proposed research and explain in clear language why you believe this research should be exempted from IRB review.

The planned research meets the requirements of category 2 for exemption. Subjects are identified only by a self-selected user ID and are anonymous to the project members. Subjects can optionally provide a name, but the name is not used in our data analysis. No other identifying or demographic information is collected. Subjects are therefore not known to be children nor prisoners, nor to be international.

Collected data that are linked to a particular user ID will be kept confidential within the research group. Published reports of the data will not be linked to individual identities without the express permission of subject. However, even if the responses were to be disclosed, the subject of the data collection (the subject's practices as they interact with the citizen science systems) and the absence of an identifying information is such that disclosure would not place the subjects at risk of criminal or civil liability nor be damaging to the subjects' financial standing, employability, or reputation.

The analysis of existing data on participation from the Zooniverse projects will be done on anonymized data, thus meeting the exemption under category 4. We have no information that we know to be from prisoners, though since project participants were not asked if they were prisoners, it is impossible to know for sure that they are not.

5. RECRUITMENT

Please submit all recruitment materials including but not limited to: recruitment flyers, e-mails, letters and/or scripts.

Describe plans for recruitment and how contact will be made:

Subjects will be recruited from among current participants in the Zooniverse projects by an email announcing the new project. The recruitment emails have not yet been developed and will not be developed until the system goes live in year 2 of the project. However, an example of a recruitment email for a previous project is attached. Note that subjects are being recruited to contribute to the citizen science project. When they sign up for the project, they will receive further information about the social science research goals and the human subjects data collection as part of the informed consent process.

Will you be contacting participants through a contact list or list server provided by a department, organization, company or school? If yes, provide a letter of support from the individual authorized to provide you with this information. More than one letter may be required.

- ☒ Does not apply
☐ Letter(s) attached

Comments: The project is a collaborative project with multiple partners, including the Adler planetarium, which is home to the Zooniverse project. The recruitment contact will be made by the Zooniverse project partner, who own the mailing list that will be used.

Will you require support from the University for selection or contact information of participants? If the answer is yes, you will be required to obtain a letter of cooperation from the Office of Institutional Research and Assessment (OIRA).

- ☒ Does not apply
☐ Letter attached

Will this research be conducted in a school or is it funded by the US Department of Education?

- ☒ No. **(Skip to Section 6)**
☐ Yes. If yes, complete the form found at:

<http://orip.syr.edu/files/Research%20Sponsored%20by%20the%20US%20Department%20of%20Education%20and-or%20Conducted%20in%20Schools.doc>

6. METHODS

All research measures which will be used during this study including sample questions, questionnaires, recruitment scripts, etc. must be included with the application.

Provide a detailed description of what participants will be required to do.

Participants will be contributing to a citizen science project to classify "glitches" produced by the Laser Interferometer Gravitational-wave Observatory (LIGO) (that is, data that is believed to be caused by some error in the machine rather than by the phenomenon being sought).

The research project includes multiple phases. In the first year, no human subjects data will be collected. However, since the project will be funded by the National Science Foundation, we need to submit evidence of IRB approval to be funded, hence the current application.

In year 2, experiments (as yet to be designed) will be carried out to explore what kinds of interventions encourage participants to be involved in the project, and their effects on performance, continued participation and attitudes towards and beliefs about science. In year 3, further experiments will examine the impacts of different processes and organizational structures on participants' performance on clustering novel kinds of research objects.

Participants will be presented with images of glitches from LIGO and asked if they fit an existing category of known glitches or if the glitches represent a novel category. During their work on the system, participants will

see different kinds of experimental interventions (e.g., different presentations of glitches, training, motivational messages, suggested team processes, potential clusters of novel glitches) to identify which are most helpful in improving performance and other outcomes. The experiments will be designed during year 1 and implemented in year 2. As participants perform the citizen science task, various data about their performance can be tracked, specifically time spent on the task and agreement of their classification with others (and potentially with known results, for a subset of data). These system-level data will be analyzed in an aggregate fashion (e.g., average performance under different conditions).

Samples of participants will be surveyed periodically to obtain data about participant attitudes towards and beliefs about science and the science task. The surveys will be developed in year 1 and deployed in years 2 and 3.

Will this research be conducted by SU investigators in foreign countries?

☒ No.

☐ Yes. If yes, an additional form related to international research must be completed and submitted with this application: [International Research Appendix](#).

7. INFORMED CONSENT REQUIREMENT

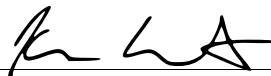
*(This is **not** required for Category 4)*

Please provide a copy of the written or electronic informed consent document or oral consent script you will use in your study. Please note this document must include the following minimum required elements:

1. A statement that clearly explains that the study is research. The purpose of the research should be described in lay language, avoiding the use of technical terms and using language appropriate to the targeted subject group.
2. A statement that describes what procedures will be followed, clearly explaining what participation in the study will involve.
3. It must be clear that participation is voluntary and participants can withdraw from the study at any time without penalty.
4. Contact information for the investigator.
5. For adult participants, a statement that the subject is 18 years or older must appear as part of the consent.
6. For internet research add the following statement:
Whenever one works with email or the internet there is always the risk of compromising privacy, confidentiality, and/or anonymity. Your confidentiality will be maintained to the degree permitted by the technology being used. It is important for you to understand that no guarantees can be made regarding the interception of data sent via the internet by third parties.

8. SIGNATURES

This is to acknowledge that I take full responsibility for the conduct of the research. **Investigators of studies exempt from IRB review are responsible for the ethical conduct of research and obtaining informed consent when appropriate.** (If this study is being conducted by a student, a faculty member must sign in the space provided). Electronic and /or faxed signatures are acceptable.

Signed:  Date: 2 July 2015
(Faculty member)

Name (printed): Kevin Crowston

Signed: _____ Date: _____
(Student, if applicable)

Name (printed): _____

Graduate ☐ Undergraduate ☐

All notifications will be sent via email. Hard copies will be only be provided upon request.

RETURN ONE COPY OF THE COMPLETED APPLICATION TO:

**SYRACUSE UNIVERSITY
INSTITUTIONAL REVIEW BOARD
Office of Research Integrity and Protections
121 Bowne Hall
Syracuse, New York, 13244-1200
Phone: 443-3013
Fax: 443-9889
orip@syr.edu**