**2011 Community College Undergraduate Research Colloquium**

**Rules for Abstract Submission**

All abstracts must be in the English language. The abstract must be submitted through this form no later than December 1, 2010. Research presented may not have been published in other Forum, Symposium, or Proceeding abstracts prior to the Colloquium. To submit this form first save it to your computer with a file name “CCURC Abstract *Students Name*”, then paste in the body of your abstract and complete the bottom portion. E-mail the completed abstract as a PDF to [jacobj@tc3.edu](mailto:jacobj@tc3.edu). CCURC abstracts are only accepted electronically. This is the only form that is required by December 1, 2010.

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Space is included on the abstract form for authors to indicate their preference for the poster category in which they wish to present. The final decision of which category the poster is presented rests with the CCURC Coordinator. This decision will be guided, but not bound, by the preference of the authors.

All abstracts must follow the following guidelines:

* You MUST use the form below to submit your abstract.
* Single-Spaced, Arial 11 pt font.
* Abstract text is limited to 2500 characters (with spaces).
  + This limit does not include the abstract title, authors and institution name.
* CAPITALIZE THE ENTIRE TITLE, making the title as brief as possible.
  + **DO NOT** mention support of work by a research grant and,
  + **DO NOT** mention the participants department, degrees, titles, institutional appointments, street address, or zip code in the title or abstract.
* **DO NOT** include charts, graphs or pictures in the body of the abstract.
* ABSTRACTS THAT DO NOT FOLLOW THESE SPECIFIED GUIDELINES WILL BE REJECTED WITHOUT CONSIDERATION!

Below is the recommended format for the abstract. Abstracts do not need to contain each field for consideration and acceptance to the Colloquium:

ABSTRACT TITLE: (ALL CAPS)

Authors Names: (Student First and Faculty Last)

Institution: Name Community College, City, State

Background - describe the background and significance of the research to be presented.

Objective - a statement of the objective and/or hypothesis of the research.

Methods - a brief description of the methods used in the research.

Results - results may be stated, but it is understood final results may not be ready until the poster presentation at the ESATYCB conference.

Conclusions - briefly discuss the impact on future studies.

* **DO NOT** acknowledge funding sources and/or collaborations in the Abstract

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| ENRICHMENT OF CELLULASE ACTIVITY IN CUTURES OF TRICHODERMA REESIE  Bambidaaye Sinon and James R. Jacob  Tompkins Cortland Community College, Dryden, New York  The goal of the Microbial Production of Biofuel project is to develop a backyard ethanol production unit that utilizes grass clippings. The use of renewable resources for biofuel production is dependent on increasing the efficiency of the process to break down complex sugars and convert them into alcohols. Although cellulytic biomass is the favored resource, use of chemicals for hydrolysis and maintaining conditions for strict anaerobic bacterial degradation are difficult for backyard production. The objective of this research is to increase the secretion of cellulase by the fungus *Trichoderma reesei* in an attempt to degrade grasses more efficiently. Pure cultures of *T. reesei* Simmons (ATCC 65765) maintained at room temperature on Potato Dextrose Agar plates are grown in suspension in conventional medium. The influence of cell density, pH, and salinity on cellulase secretion will be examined. Cellulase activity in the culture medium will be monitored by the Filter Paper Assay. This assay employs Benedict’s solution to measure reducing sugars released upon degradation of the cellulytic fibers after 1 hour at 50oC in citrate buffer pH4.8. Preliminary results show commercially available cellulase (36 ug/ml) released 50 ug/ml reducing sugars. No activity has been detected in *T. reesei* cultures grown in conventional media. The development of a quantitative Benedict’s assay, comparing intracellular and extracellular cellulase activity, and the influence of the fore mentioned parameters on cellulase production will be addressed. Increasing secretion of cellulase from suspension cultures of *T. reesei* bridges other biofuel projects. Availability of higher concentrations of cellulase may allow development of less harsh hydrolysis treatment(s) facilitating the breakdown of cellulose. Additionally, combination of *T. reesei* with other cellulase producing organisms under investigation (*Cellulomonas sp.)* may also lead to more efficient hydrolysis of grasses for the fermentation process. | | | | | | | | | | | | |
| Name of Student Author: | | |  | | | | | | e-mail address: | |  | |
| Please mark how your research was supported: | | | | | | | | | | | | |
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| Presentation Category Preference, please mark #1, #2, and #3: | | | | | | | | | | | | |
|  | Anat. & Phys. |  | | Biology |  | | Biochemistry | | |  | Biotechnology |
|  | Cell Biology |  | | Ecology |  | | Environmental | | |  | Evolution |
|  | Genetics |  | | Immunology |  | | Microbiology | | |  | Virology |
|  | Other (please specify): | | |  | | | | | |  |  |
| There will be awards for Best Research, Best Poster Presentation, and Best Student Presenter. | | | | | | | | | | | | |
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