STUDENT SUSTAINABILITY COMMITTEE

Funding Award and Acceptance Letter

December 13, 2019

Project: Diversion of Non-Recyclable Plastic using Pyrolysis Process to Produce Fuels for Campus

Dear Mx. Brajendra K Sharma:

On behalf of the University of Illinois at Urbana-Champaign Student Sustainability Committee (SSC), I would like to thank you for considering the funds raised by the Sustainable Campus Environment Fee to implement a project that improves the sustainability of our campus. SSC is pleased to inform you that we are recommending to the Institute for Sustainability, Energy, and Environment (iSEE) that your project receives **$140,000** in grant funding.

In order to remain eligible for this award, you must agree to the following conditions:

1. A final report of all work completed should be provided to the SSC Program Coordinator by **December of 2021.**
2. Project status updates and detailed account statements must be provided at the end of each semester, in the method requested, until the project is completed.
3. The Contact Person will be individually responsible for all official communication and the execution of this agreement.
4. The CFOP provided for this award shall strictly be used for the money awarded in this proposal.
5. Any substantial modifications to project scope, budget, or timeline must first be approved by SSC. These requests must be submitted in a formal letter to the Chair and Coordinator.
6. All projects will be expected to follow campus policies and procedures as well as any applicable State and Federal laws.
7. SSC reserves the right to revoke funding if the project does not comply with the terms and conditions outlined in this letter.
8. Any press releases or educational/promotional materials involving the project should acknowledge SSC funding.
9. Any signage involving the project or events surrounding this project should include SSC's logo and/or a statement of which fee funded the project. Projects must coordinate with SSC to ensure promotion appropriately highlights the SSC's contributions to the project.

If you agree to the terms and conditions for the funding, please sign on the designated line at the bottom of this letter. If you have any questions regarding these requirements please contact the SSC, at sustainability-committee@illinois.edu. You will be notified when the Institute for Sustainability, Energy, and Environment and Vice Chancellor for Student Affairs officially approves this project. Again, thank you for your interest in improving the sustainability of the University of Illinois at Urbana-Champaign. We look forward to working with you in the future.

STUDENT SUSTAINABILITY COMMITTEE

SSC Signatories

Joseph Edwards, Chair
Student Sustainability Committee

Jonah Messinger, Treasurer
Student Sustainability Committee

Awardee Signatory

BK Sharma

Brajendra K Sharma
Applicant

iSEE Signatory

Evan H DeLucia

Dr. Evan DeLucia, Director
Institute for Sustainability, Energy & Environment

Student Affairs Signatory

Danita M. B. Young

Dr. Danita Brown Young
Division of Student Affairs

STUDENT SUSTAINABILITY COMMITTEE

Project Information

Project: Diversion of Non-Recyclable Plastic using Pyrolysis Process to Produce Fuels for Campus

Funding Source: Sustainable Campus Environment Fee

Funding Amount: $140,000

Receiving Campus Unit: Prairie Research Institute-Illinois Sustainable Technology Center

Unit Financial Contact: Laura A. Kohlmann

E-mail: lkohlman@illinois.edu

Project Description:

The overarching goal of work that will be initiated under this project is to end landfilled plastic waste forever, by collecting, processing, and converting the plastic waste from the U of I waste transfer station MRF to a usable fuel that can be used in University vehicles. This will be achieved by demonstrating the continuous pilot scale catalytic pyrolysis system for distributed production of most desirable fuel for use in University trucks, and generating data including mass/energy balance to make a business case for commercial scale system capable of using all plastic waste produced on campus. It also involves introduction of this technology to students and involves them in conducting detailed process characterization with the aim of improving process yields and product quality and develop a student led/run initiative similar to the Illini Biodiesel Initiative.

The specific objectives of this project are:

i) Demonstrate the feasibility of converting waste plastic to fuels by installing a continuous catalytic pilot scale system capable of processing 200 lbs of waste plastic every day

ii) Engage students to identify the parameters of the continuous pilot scale catalytic pyrolysis process for producing high yields of most desirable fuel (gasoline, diesel, and NC gases)

iii) Support the education and training of students from various disciplines to study the effect of continuous operation on catalyst life

iv) Involve students to study the impact of feedstock quality and composition on yield and quality of fuels

v) Evaluate and compare various fuels thus produced with petroleum fuels and demonstrate their potential as blend component in petroleum diesel

vi) Engage students to generate mass/energy balance data

vii) Create awareness in the larger community by participating in outreach activities

This proposal directly funds:

1. Wages
2. Supplies and materials for analysis
3. Pilot scale system