

Idea Submission Form for Solar Fuels Technology

Directions: Search the web and research articles in order to identify what you believe to be a promising new solar fuels technology that could be of interest for further analysis by the class. The ideas you choose can be entirely somebody else's, entirely your own, or a mix between your idea and one that you find during your search. Fill out the information in the boxes below. This technology must meet the following requirements: (i.) it uses sunlight or solar-derived electricity to produce fuels or chemicals by electrochemical or photoelectrochemical means (ii.) it has not yet been developed into a commercial product that you could buy today. You are encouraged to find solar fuels concepts that (i.) are scalable (ii.) have potential economic advantages over competing technologies, and (iii.) are interesting new ideas that you would like to learn more about by performing a detailed engineering analysis based on the engineering principles you are learning in class. Turn in your **2** idea submissions by **XXXX to XXX@columbia.edu**.

Short description (300 words max):

Potential advantages (list):

Potential disadvantages (list):

Provide 2-3 Links/references for additional information:

[1]

[2]

Figure:

Figure Caption:

Resources for searching for new ideas:

1. [Web of Science](#) This is a searchable citation database that allows for in-depth searches across 1000's of journals spanning many disciplines. Most universities have subscriptions to Web of Science and require that you use the software on campus or to sign in using your university id. You can find a quick guide to using Web of Science [here](#). Search for articles based by topic(s), author, year of publication, title key words, and more.
2. [Google scholar](#) (freely available to anybody). Similar features to Web of Science. More detailed search options available by clicking on the drop down menu to access "Advanced Scholar Search".

Having trouble getting started? Consider using some of the following search terms:
solar, electrochemical, solar fuels, electrocatalysis, photocatalysis, photoelectrochemistry, devices, processes, materials, high efficiency, scalable, novel