

# 國立台灣大學技術行銷表

台大案號: 06A-091106

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產品/技術名稱	旋轉觸媒床生產生質柴油的技術
發明人/單位	林欣玫、謝立珊、吳紀聖 / 化工系
產品/技術說明	混合生質油類與醇類在旋轉觸媒床反應器進行轉酯化生產生質柴油。將固體觸媒填充於表面有空隙的葉片內，當攪拌葉片旋轉時，同時帶動攪拌葉片上的觸媒一同旋轉，可以達到原本不互溶的油類與醇類充分攪拌混合，使轉酯化反應加速進行生成生質柴油。
應用範圍	應用任何油脂生產生質柴油
產品/技術優勢	本技術當攪拌葉片旋轉時，同時也帶動攪拌葉片上的觸媒一同旋轉，由於旋轉產生的剪切力，降低觸媒邊界層(boundary layer)厚度，有效降低質傳阻力，使轉酯化反應加速進行，合成生質柴油。
市場潛力	目前國內柴油已規定 1%生質柴油加入石化柴油(B1)，將來將增加到 5%(B5)，預計生質柴油的需求將大增。
產品/技術 智財權保護方式	

## Marketing Abstract of NTU's Invention Disclosure

NTU's docket no: \_\_\_\_\_ (由技轉室填寫)

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<b>Title</b>	Production of biodiesel using rotated catalyst bed
<b>Inventor (s)</b>	Lin, Hsin-Mei; Hsieh, Li-Shan; Jeffrey Chi-Sheng Wu
<b>Brief Description</b>	Biodiesel is produced by the transesterification of bio-oils and alcohols using a stirred-catalyst reactor. The solid-catalyst is packed inside a paddle with outer porous shell. The catalyst is rotated simultaneously when the paddle is rotated. The immiscible oils/alcohols solution can be well mixed by the catalyst paddle, and fully contacted with catalyst. Therefore, the biodiesel production is increased due to the accelerated transesterification.
<b>Fields of Application</b>	Biodiesel synthesis from any kind of oils.
<b>Advantages</b>	When the catalyst paddle is stirred. The immiscible oils/alcohols solution can be sufficiently agitated. Furthermore the mass-transfer resistance is reduced because of the thinner boundary layer on catalyst by high shearing rate. Therefore, the biodiesel production is increased due to the accelerated transesterification.
<b>Market Potential</b>	1% biodiesel has been added in fossil diesel as B1 in Taiwan currently. The content of biodiesel will increase to 5% as B5 in the near future. Thus the demand of biodiesel will increase significantly.
<b>IP Right(s)</b>	