Dear Professor Al-Dahhan,

Thank you very much for your invitation to participate in the proposal entitled “Catalytic Nanofactories to Industrial Processes: An International Collaboration”. Based on the proposal we feel that we have the full capacity to participate in two of the three research areas, that is partial oxidation catalysis as well as conversion of synthesis gas. We are willing to host students, research fellows and professors from Iraq and other institutes. We recognize that your institute is leading this research program and would be happy to positively contribute in any manner you see fit.

As you know, our Chemical Reaction Engineering Group is world renowned for its measuring capabilities as well as reactor technology development including catalyst synthesis and kinetic modelling. Among our most recent contributions include catalyst nanoparticle production, transient partial oxidation catalysis, catalyst attrition modelling, multi-phase fluidization, and process development. Within our group, we have a wide range of reactor capability from the micro scale to pilot. The pilot scale reactors are truly unique in the academic community and have been used on various occasions by multinational corporations to assess the problem areas of commercial facilities. Catalysis synthesis (perovskites) and modelling (butane oxidation to maleic anhydride over a vanadium phosphorous oxide catalyst) are two particular areas of expertise that we have that seem to fit well with the proposed outline. We also consider fluidization and hydrodynamic modelling another of our key competencies and have published and consulted in the area for over twenty years. Together with extensive reactor facilities, our laboratory has developed very sophisticated measurement techniques to study hydrodynamics – gas-solid, liquid-solid and gas-liquid-solids systems. Much of this work is based on the use of radioisotopes and the tremendous advantage we have at our institute is easy access to a nuclear reactor.
We will be happy to work with you and our members of the international collaboration. Of course, we will work to seek financial support from our country for this international project.

Yours sincerely,

Professor J. Chaouki, Eng. Ph.D.                   Professor G.S. Patience, Eng. Ph.D.