

## تعبئة الإهتمامات البحثية (نموذج رقم 1)

Professor	المسمى الوظيفي Job title	Salman Alrokayan	Name / الاسم
5/22/2023	تاريخ تقديم النموذج Submission date	alrokayan@ksu.edu.sa	البريد الإلكتروني Email
نعم Yes			هل لديك الرغبة في الاشراف على الماجستير Do you wish to supervise MSc
نعم Yes			هل لديك الرغبة في الاشراف على الدكتوراه Do you wish to supervise PhD
My research interests include understanding of the cellular responses against different nanostructure using cell and animal based approaches. Oxidative stress, inflammation and apoptosis play major roles in determining the fate of cell in an event of internal or external threat. Studying the modulating effects of nanomaterials on these physiological processes will improve their application in cancer treatment.			Research interests (~200 words)
<p>Understanding the Effect of Metal Oxide Nanoparticles on Angiogenic factors in human cancer cells</p> <p>Metastasis is defined as the spread of cancer to other organs from the primary organ and is characterised by the cancer cells breaking away from the original tumor, traveling through the circulatory system and to forming new tumors in other organs. Angiogenesis is a hallmark of metastasis of human cancers which relies on the formation of new blood vessels for tumor growth. Nanomaterials are increasingly being utilized in medicine and more so in cancer treatment. However, the effect of nanomaterials on metastasis is poorly understood. In this study angiogenic factors, which play major role in angiogenesis, will be tested against metal oxide nanoparticles. The outcome of the study will enhance our understanding of the functional effects nanomaterials on these factors and may help in blunting cancer metastasis.</p>			<p>المواضيع المقترحة للمشاريع البحثية للطلبة الدراسات العليا (الماجستير)</p> <p>Proposed topics for master research projects</p>
<p>Elucidating apoptotic cell death and underlying signalling pathways in response to metal oxide nanoparticles in human cancer cells</p> <p>Cancer is one of the major threats to human health world over and there has been a continuous forage towards identifying novel technologies to improve cancer treatment. By this perspective, nanomaterials are increasingly being</p>			<p>المواضيع المقترحة للمشاريع البحثية للطلبة الدراسات العليا (الدكتوراه)</p> <p>Proposed topics for doctoral research projects</p>

<p>tested for their potential applications in cancer therapies. Apoptosis has been proposed as a major cell death type in response to different nanostructures. However, the underlying signalling pathways are incompletely understood. In this study, the effects of metal oxide nanoparticles on the apoptosis induction and the key signalling molecules that relay the interaction of nanomaterials with cell surface receptors will be investigated. The outcome of the study is expected to improve the application of nanomaterials in cancer treatment.</p>	
<p>Yes</p>	<p>الابحاث المنشورة مع طلبية الدراسات العليا Publishing with post graduate students</p>
<p>تقنيات ضمن خطة البحث, مواد و تجهيزات, عينات samples Techniques within the research plan, relevant expertise</p>	<p>توفر مستلزمات المشروع Availability of project supplies</p>
<p>2</p>	<p>العدد المقترح للاشراف على طلبية الماجستير وحسب اللائحة According to the regulations, proposed number of supervised MSc students</p>
<p>1</p>	<p>العدد المقترح للاشراف على طلبية الدكتوراه وحسب اللائحة According to the regulations, proposed number of supervised PhD students</p>
<p>I confirm that the information given in this form is true, complete and accurate.</p>	<p>إقرار Endorsement</p>