# RIMHS RGs Meeting-
# Establishment of Sharjah Oasis Technology Park-SOTI

**THURSDAY, FEBRUARY 25, 2021, 12PM -2:30PM**

| Topic/Panel | People | Time | | Talking Points |
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| SOTI Propositions | **VCRGS Prof. Maamar** | 12:00-12:10 | | Introduction to SOTI Establishment |
| | **VC Medical Prof. Qutayba** | 12:10-12:20 | | Medical Fields Contributions to SOTI |
| | **VC community, Dr. Salah Taher** | 12:20-12:30 | | Purpose, Mission and Aims |
| | **RIMHS, Prof. Taleb** | 12:30-12:40 | | Start-Ups and SOTI |
| **Time** | **Presentation title** | **Moderator** | **Presenter** | **Aim** |
| **12:45-12:50** | The role of the "Clinical Epidemiology Research Group" in SOTI. | **Prof. Nabil Suleiman** | Dr. Basema Saddik/COM | Clinical epidemiology is the overlap between research and practice of clinical medicine and epidemiology. The role of the clinical epidemiology research group can be extended to the application of epidemiological principles and analytical methods to the problems challenging clinical medicine. |
| **12:50-12:55** | Consultation and training to the private sectors: Partnership with industry | | Dr. Hamzah Elzubaidi/COP | Research group has conducted several studies assessing health professionals' practice in areas of importance to the UAE, such as Alzheimer's, smoking, multimorbidity. Training and certification programs in collaboration with the MOHAP and other vital parties can be developed to improve the quality of patient care in these areas and others, leading to the development of practice guidelines and models of care in regulation and policy changes. This would enable the UAE to become a national leader in health care practice and policy. |
| **12:55-1:00** | Potential novel antidiabetic drugs | **Prof. Rabih Halwani** | Dr. Jalal Taneera/COM | We have discovered several receptors/genes in pancreatic β-cell that play a vital role in β-cell function. Identification of novel agonist molecules with antidiabetic capabilities, either alone or in combination with currently used drugs, is of great importance in controlling diabetes. *In silico* docking studies for the GPR183 receptor, revealed two potential agonist compounds, one of which is a currently used drug in the market for the treatment of other diseases. Our preliminary data showed one of the two GPR183-agonist exhibits a remarkable increase in insulin secretion. |
| **1:00-1:05** | Discovery of Novel Heterocyclic Systems and their Pharmaceutical Applications as Antibiotics against Multidrug Resistant Bacterial pathogens | | Dr. Mohamad Hamad/COHS | We have discovered small molecules that are extremely effective at killing Multidrug Resistant Bacterial pathogens. These novel molecules can be cheaply mass produced, are fast acting, can kill persister cells, and cannot be resistance by bacteria. Additionally, they display a good safety profile making them ideal for development as novel therapeutics against hard-to-treat bacterial infections. |
| **1:05-1:10** | Discovery of Novel Lead Drug candidates as prophylactic, prevention and treatment of MS | **Prof. Rifat Hamoudi** | Prof. Azzam Magazachi/COM | We have examined several SIMR compounds for alleviating the multiple sclerosis (MS) clinical score, using the mouse model experimental autoimmune encephalomyelitis (EAE). Our results demonstrate that two compounds, namely SIMR1281 and SIMR1707 exert significant effects in ameliorating the disease when used preventively, prophylactically, or therapeutically. The effects of these compounds were compared to an FDA approved drug for MS, i.e. Tecfidera (Biogen). In addition to the clinical scores, we performed extensive immune-histochemical analysis to demonstrate the function of the compounds in reducing inflammation and inducing re-myelination. In summary, these compounds might have important implications for treating MS patients, and could be commercialized after further studies. |

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| **1:10-1:15** | "Selective and Safe Anti-Fungal (Novel Candida Inhibitor )" | | Dr. Sameh Soliman/COP | Candida is one of the most common nosocomial infection that leads to candedimia with mortality rate up to 40%. Candida can generate a very strong multi-drug resistant shield by developing a biofilm that prevent the action of any antifungal following the formation of hyphae. In our patent, we have developed compounds that target specific genes required for hyphae formation. This product prevent hyphae formation and hence stop the biofilm, which ease the action of normal defense system. This compound could be the second in the market and with excellent safety profile. |
| **1:15-1:20** | Sublingual Tablet for the Treatment of Nerve Gas Attack And Hypersalivation | **Prof. Sameh Soliman** | Dr. Mark Rawas Qalaji/COP | A novel rapidly disintegrating sublingual tablet (RDST) for atropine sulfate that can be placed under the tongue and disintegrate in less than 30 seconds was developed, optimized and evaluated by our team. These tablets can treat accidental poisoning by organophosphates agricultural products, protect soldiers and civilians against possible attacks with chemical weapons containing organophosphates, and reduce hypersalivation caused by cerebral palsy, Parkinson's disease, stroke or any other condition.<br>Patent Applications were filed in US, Canada, and Europe (Granted) and assigned to UoS. These patents are currently issued and registered in UK, Germany, France, Spain, and Italy. |
| **1:20-1:25** | Development of Multifunctional Nanoscale Magnetic Materials for Magnetic Hyperthermia and MRI | | Prof. Bashar Afif Issa/COHS | Magnetic Nanoparticles have emerged as multifunctional tools for a variety of biomedical applications due to their unique physical and chemical properties. We propose optimizing magnetic particles as multifunctional tools in competing objectives of Hyperthermia and MRI. |
| **1:25-1:30** | Novel contact lens solution | **Prof. Azzam Magazachi** | Prof. Navid Khan/COM | For the first time, we have formulated a novel contact lens disinfectant that can effectively target the eye parasite |
| **1:30-1:35** | Nanotechnology based therapeutic approaches for steroid resistant chronic pulmonary inflammation | | Prof. Rabih Halwani/COM | Drug resistance and the harmful side effects accompanying the prolonged corticosteroid treatment of chronic pulmonary diseases prompted the development of more specific anti-inflammatory approaches. As an alternative targeted approach, we have shown that PEGylated dextran nanoparticle conjugated with anti-IL4Rα blocking antibodies is more efficient than free IL4Rα antibodies in suppressing lung tissue inflammation. We propose to use different Nanoparticle modalities for regulating inflammation in the context of steroid resistant chronic pulmonary diseases. |
| **1:35-1:40** | Diagnostic And Prognostic Liquid Biopsy Biomarkers For Asthma | **Prof. Saleh Ibrahim** | Prof. Rifat Hamoudi/COM | • Through applying A.I. and machine learning to BIG Data derived from publicly available transcriptomics experiments related to asthma, we managed to identify a panel of 140 biomarkers that can stratify patients according to asthma severity<br>• The biomarkers identified were cross referenced with blood and FFPE asthmatic samples from asthma patients with different severity<br>• Using patients from Rashid Hospital we were able to validate the biomarkers on blood and saliva samples obtained from asthmatic patients of different levels of severity using transcriptomic analysis<br>• Currently we identify around 30 biomarkers that can be used to differentiate asthma severity and therefore management from saliva<br>• Patent was successfully filed on 26/9/2019. The patent is fully owned by University of Sharjah. The patent no is: **16/562,861** and is available for exclusive/non-exclusive licensing, Joint Venture or Startup |
| **1:45-1:50** | Discovery of Novel Lead Drug Candidates for COVID19: Potent Inhibitors of S-Spike proteins and PlPro Protease | **Prof. Hany Omar** | Prof. Taleb Al-Tel/COP | In collaboration with our colleagues at Harvard University, we have identified several lead compounds with unique chemical structures that strongly inhibit in a sub-nano Molar range the key enzyme, Papaine-like Protease and the S-Spike Protein of COVID19. These findings might form the foundation to combat the COVID-19 with first-in-class small molecules. |
| **1:50-2:30** | General Discussion:<br>What do we need to go from these ideas to SOTI implementations? | **Prof. Taleb AlTel** | | ▪ Do we have the necessary resources?<br>▪ Do we have a plan to market and/or partner on these inventions?<br>▪ Are these ideas Significant/Highly Probable opportunities for commercialization?<br>▪ Opportunities for launching startups, spinoffs, service companies… etc<br>▪ Opportunities for engaging and supporting students' innovative and unique ideas and potential opportunities<br>▪ Key requirements that may be needed in SOTI to maximize success.<br>▪ other relevant issues. |