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RPPR Final Report

as of 16-Aug-2019

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Report Date: 28-Feb-2018

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Final Report for Period Beginning 01-Sep-2017 and Ending 28-Feb-2018

Title: 2nd International Symposium on Finding New alternatives to Combat Bacterial Infections

Begin Performance Period: 01-Sep-2017

End Performance Period: 28-Feb-2018

Report Term: 0-Other

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Distribution Statement: 1-Approved for public release; distribution is unlimited.

STEM Degrees: 0

STEM Participants: 0

Major Goals: In this second, international symposium, we discussed several alternative approaches to combat the imminent antibiotic-resistance crisis that has the potential to lead to a post-antibiotic era. The first symposium was held in Mexico City on September 24-25, 2017 at the Chemistry Institute, National Autonomous University of Mexico and led to the discovery of cisplatin as an effective DNA-crosslinking agent that eradicates a wide range of persister cells including enterohemorrhagic *E. coli*, *Staphylococcus aureus*, and *P. aeruginosa*. At this conference, for the confirmed speakers, Dr. Tomás will speak on "Iron metabolism of *Acinetobacter baumannii* as a new target for antimicrobial drugs", Dr. Licona Limón will speak on "Design of immunotherapies for combating bacterial opportunistic pathogens," Dr. García Contreras will speak on "Drug repurposing for treating *A. baumannii* and *Pseudomonas aeruginosa* infections," Dr. Martínez Vázquez will speak on "Discovery of plant secondary metabolites as virulence inhibitors for *P. aeruginosa* and *Chromatium violaceum*," Dr. Wood will speak on "New strategies for combating bacterial persister cells," Dr. Maeda will speak on "Metabolism of quorum sensing inhibitors," Dr. González Pedrajo will speak on "Type III secretion systems in pathogenic bacteria, roles in virulence and as possible targets for anti-virulence therapies," Prof. Castillo Juárez will speak on "in vitro and in vivo Quorum quenching and virulence inhibition," Prof. Soberón Chávez will speak on "Dissecting the quorum sensing circuitry of *Pseudomonas aeruginosa* clinical strains for the design of robust antivirulence therapies," Dr. Héctor Quezada will speak on "Applications of proteomics to the diagnosis and treatment of bacterial infections," Dr. González Tinoco will speak on "Inhibition of *Pseudomonas aeruginosa* virulence associated proteases. Therefore, the presentations will cover a wide range of topics related to antibiotic resistance and tolerance.

Accomplishments: 13 presentations were made and two poster sessions occurred over two days in Mexico City on 9 November 2017. The conference resulted in communication between researchers from around the world on alternatives for combatting microbial infections.

Training Opportunities: Postdoctoral researchers and graduate students were introduced to novel methods for combatting bacterial infections. Around 50 posters were presented from various labs.

Results Dissemination: Postdoctoral researchers and graduate students were introduced to novel methods for combatting bacterial infections. Around 50 posters were presented from various labs.

The web site was created for the conference:

<https://www.iquimica.unam.mx/nuevas-alternativas>

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as of 16-Aug-2019

Honors and Awards: Nothing to Report

Protocol Activity Status:

Technology Transfer: Nothing to Report

PARTICIPANTS:

Participant Type: PD/PI

Participant: Thomas Keith Wood

Person Months Worked: 1.00

Project Contribution:

International Collaboration:

International Travel:

National Academy Member: N

Other Collaborators:

Funding Support:

2° INTERNATIONAL SYMPOSIUM: NEW ALTERNATIVES TO COMBAT RESISTANT BACTERIAL INFECTIONS

**November 9th and 10th, Auditorio de la Unidad de Posgrado,
UNAM**

November 9, 2017

8:00-9:00	Registration
9-9:20	Inauguration
9:20-10:20	Prof. Thomas K. Wood, Penn State University, USA “Engineering Multi-Species Biofilms for Industrial and Medical Applications Through Signal Manipulation”
10:20-10:50	Dra. Bertha González Pedrajo, Instituto de Fisiología Celular, UNAM, México "Targeting a bacterial weapon: the type three secretion system"
10:50-11:50	Prof. Gloria Soberón Chávez, Instituto de Investigaciones Biomédicas, UNAM, México “ <i>Pseudomonas aeruginosa</i> in the absence of LasR: Is there more than one answer?”
11:50-12:20	Coffee Break
12:20-12:50	Prof. Mariano Martínez Vázquez, Instituto de Química, UNAM, México “A structure activity relationship of natural and synthetic furanone with anti-quorum sensing activity”
12:50-13:20	Dr. Rodolfo García Contreras, Facultad de Medicina, UNAM, México “Drug Repurposing as an Alternative to Combat Bacterial Infections”
13:20-13:50	TO BE CONFIRMED
13:50-14:20	Dr. Israel Castillo Juárez, COLPOS, México
14:20-16:00	Meal
16:00-17:30	Poster session

8:00-9:00	Registration
9:00-10:00	Prof. Tom Defoirdt, University of Ghent, Bélgica "The interference with indole signaling in vibrios to control disease in aquaculture"
10:00-11:00	Prof. Toshinari Maeda, Kyushu Institute of Technology, Japón "How can <i>Pseudomonas aeruginosa</i> adapt the environment of quorum quenching?"
11:00-12:00	Prof. Jintae Lee, Yeungnam University, South Korea
12:00-12:30	Coffee break
12:30-13:00	Dr. Héctor Quezada, Hospital Infantil de México "Féderico Gómez", México
13:00-13:30	Dr. Juan Rodrigo Salazar, Universidad La Salle, México
13:30-14:00	Dra. Ninfa Ramírez, Universidad La Salle, México
14:00-14:30	TO BE CONFIRMED
14:20-16:00	Meal
16:00-17:30	Poster session

November 10, 2017

2° Simposio Internacional: Nuevas alternativas para combatir infecciones bacterianas fármaco resistentes

9 y 10 Noviembre
Auditorio de Unidad de Posgrado,
Ciudad Universitaria

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Costo 500.00 MN