10ᵗʰ Annual Botulinum Research Symposium, 2016

Program

Wednesday, August 17, 2016

1- 4 PM   Arrival and check-in at hotels of general delegates

4:00-5:00 PM   Registration and Welcome, **Wamsutta Club**, 427 County Street
               New Bedford, MA

5:00 PM   Social and dinner

7:00 PM   Welcome to the evening program

Session I   **Session Chair – Michael Adler**, US Army Medical Research Institute of
               Chemical Defense, Aberdeen Proving Ground, MD

7:05 PM   **Dr. B.R. DasGupta Memorial Lecture –Dr. Ornella Rossetto**, University of
               Padova, Italy; Topic: *New insights into the biological actions of botulinum neurotoxins*

7:50 PM   Q&A

Thursday, August 18, 2016, Wamsutta Club, First Floor Conference Room

8:00 AM   Registration and Continental breakfast,

8:30 AM   *Introduction*, Bal Ram Singh, Botulinum Research Center

<u>Session II</u>   **Session Chair – David Hodge**, US Department of Homeland Security

9:00 AM   **Symposium Speech – Dr. John Barr**, Centers for Disease Control and
                   Prevention, Atlanta, GA, USA; Topic: *The interface of biology and chemistry: how
                   advanced analytical techniques benefit our understanding of botulinum neurotoxins*

9:45 AM   *Detection Technologies,* **Kodumudi Venkateswaran,** Omni Array
                   Biotechnology, Inc., Rockville, MD

10:15 AM   **Coffee/Tea break**

<u>Session III</u>   **Session Chair – Klaus Fink**, MERZ, Germany

10:45 AM   *Adaptation of botulinum neurotoxin detection for the laboratory response network,*
                   Suzanne R. Kalb et al., Centers of Disease Control, Atlanta, GA.

11:15 Noon   *The beauty of Synergy--A tri-epitop molecular captures the potency of three monoclonal
                   antibody combination in BoNT neutralization,* **Jianlong Lou et al**., University of
                   California, San Francisco.

11:45 PM   Group Photo

12:00 PM   **Travel to Institute of Advanced Sciences, Fall River Facility, by Bus**

12:30 PM   Lunch

Session IV   **Session Chair – Shuowei Cai**, Department of Chemistry and Biochemistry,
                   UMass Dartmouth

1:15 PM   **Poster session**, Institute of Advanced Sciences, Fall River Facility

2:45 PM   Travel back to Wamsutta Club

Session V   **Session Chair – Shashi Kant Sharma**, Center for Food Safety and Applied
                   Nutrition, Food and Drug Administration, USA.

3:15 PM   *Structural basis for botulinum neurotoxin A recognition of glycosylated receptor SV2,* **Min Dong et al**., Boston Children Hospital, Harvard Medical School, Boston, MA

3:45 PM   *IGF-1 accelerates recovery of twitch tension in BoNT/A-intoxicated rat muscle,* **Michael Adler***,* US Army Medical Research Institute of Chemical Defense

4:15 PM   *Solution Structure of Type Botulinum Neurotoxin Endopeptidase,* **Raj Kumar**, Botulinum Research Center, Institute of Advanced Sciences, Dartmouth, MA

4:35 PM   *Computational drug discovery: developing efficient antidote against botulism*, **Valeri Barsegov**, Department of Chemistry, University of Massachusetts Lowell, Lowell, MA

5:00 PM   **Break**

Thursday, August 18, 2016, Evening Program: Wamsutta Club

6:00 PM   Social

6:30 PM   Lab Concert – Koyel Ghosal, Aisha Furey, Pedro DeSousa

7:15 PM   Dinner

Session VI   **Session Chair – Keith Foster**, IPSEN, UK

8:15 PM   **Evening Dinner Presentation –** *Treatment of depression with botulinum toxin A via the emotional proprioceptive pathway,* **Dr. Eric Finzi***,* George Washington University School of Medicine, Washington, DC, USA

8:45 PM   Comments and Q&A

Friday, August 19, 2016, Wamsutta Club, First Floor

8:00 AM – Breakfast

8:00 AM   **BRC Board** of Advisors meeting

Session VII   **Session Chair** – Min Dong, Boston Children Hospital, Harvard Medical School, Boston, MA

9:00 AM   *Botulinum and other biodefense programs at DHS,* **David Hodge**, Department of Homeland Security

9:15 AM	*Immuno-PCR Assay for the Detection of Botulinum Neurotoxins Type A, B, E, and F in Food Matrices,* **Nagarajan Thirunavukkarasu,** US Food and Drug Administration, College Park, MD
9:45 AM	*Biothreat Detection Methods Assessment: Toxin Detection and Identification Tests Validation Paradigm,* **Aparajit Ram Venkateswaran**, , Nishanth Parameswaran, David Hodge, Segaran Pillai and Kodumudi Venkateswaran, University of Texas Medical Branch, Galveston, TX; Department of Homeland Security; Omni Array Biotechnology.
10:15 AM	*B-cell based biosensor for rapid detection of botulinum neurotoxin serotype A,* **Nishanth Parameswaran**, Senthamil Selvan, Raj Kumar, Paul Lindo, Jeanette Simpson, Bal Ram Singh, David Hodge, and Kodumudi Venkateswaran, Omni Array Biotechnology; Botulinum Research Center, Institute of Advanced Sciences; Prime Bio, Inc.
10:45 AM	**Coffee/Tea break**
Session VIII	**Session Chair** – Kodumudi Venkateswaran, Omni Array Biotechnology, Rockville, MD
11:00 AM	*Something New and Interesting about BoNT,* **Andy Pickett**, Toxin Science Ltd., Wrexham, UK
11:30AM	**Panel Discussion:** *Impact of Botulinum Therapeutic Industry on Research* Michael Adler, USAMRICD Min Dong, Harvard Klaus Fink, MERZ, Germany Keith Foster, IPSEN, UK David Hodge, DHS Suzanne Kalb, CDC
12:30 PM	Symposium conclusion, lunch, networking, departure

List of posters

1. *Quantitative structure activity relationships (QSAR) of psoralen nitro benzene analogs against Botulinum Neurotoxin type A* – **Kruti Birju Patel**, Shuowei Cai, and Bal Ram Singh; Department of Chemistry and Biochemistry, University of Massachusetts Dartmouth and Botulinum Research Center, Institute of Advanced Sciences, Dartmouth, MA

2. *In vivo toxicity and immunological characterization of detoxified recombinant Botulinum neurotoxin type A* - Easwaran Ravichandran, **Kruti Patel**, Pavithra Janardhanan , Steve Riding, Shouwei Cai, and Bal Ram Singh; Department of Chemistry and Biochemistry, University of Massachusetts Dartmouth; Botulinum Research Center, Institute of Advanced Sciences, Dartmouth' Prime Bio, Inc., Dartmouth, MA

3. *Investigation of the Cellular Binding and Effect of P-80 on Caco-2 Cells* - **A Furey**, R Kumar and B R Singh; Botulinum Research Center. Institute of Advanced Sciences, Dartmouth, MA

4. *The effects of long-term continuous passaging on the stability of Clostridium botulinum genome* - Ping-Ke Fang, Shashi Sharma, Brian H. Raphael, Narjol Gonzalez-Escalona, Jenny Davis, **Koyel Ghosal**, Susan E. Maslanka, Shuowei Cai, and Bal Ram Singh; Botulinum Research Center, Institute of Advanced Sciences, Dartmouth, MA; CFSAN, USFDA, College Park, MD; CDC, Atlanta, GA; Prime Bio, Inc., Dartmouth, MA

5. *Quinolinol based BoNT inhibitor* – **Menlong Yu**, Siva Rasappalli, Kruti Patel, Shuowei Cai, and Bal Ram Singh; Department of Chemistry and Biochemistry, University of Massachusetts Dartmouth; Botulinum Research Center, Institute of Advanced Sciences, Dartmouth, MA

6. *Development of Oroidin based anti-bacterial compounds* - **Vamshikrishna Reddy Sammeta** and Siva Rasapalli, Department of Chemistry and Biochemistry, University of Massachusetts Dartmouth

7. *Natural product based medicinal chemistry* – **Umair Javed** and Siva Rasapalli, Department of Chemistry and Biochemistry, University of Massachusetts Dartmouth

8. *Sizes and structures of SNAP-25 substrates and botulinum neurotoxin endopeptidase influence enzyme assays* - BR Singh, R Kumar, W Yang, T Feltrup, G Ambrin, TW Chang, **L Wang**. P Lindo, and S Cai; Botulinum Research Center, Institute of Advanced Sciences, Dartmouth, MA; Prime Bio, Inc., Dartmouth, MA; Department of Chemistry and Biochemistry, University of Massachusetts Dartmouth, North Dartmouth, MA

9. *The implications of the BoNT/A endopeptidase C-terminus on substrate binding, enzyme activity, and maintaining a functionally disordered structure in solution* - **Thomas Feltrup**, Kruti Patel, Raj Kumar, Shuowei Cai, and Bal Ram Singh; Department of Chemistry & Biochemistry, University of Massachusetts Dartmouth, North Dartmouth, MA; Botulinum Research Center and Institute of Advanced Sciences, North Dartmouth, MA

10. *Institute of Advanced Sciences: Evolution of an Idea* – **Team INADS**