

## **Program, 2005 INIP Biodefense Workshop:**

### **Introductory Session:**

- 8:30 – 8:35 Welcoming remarks – Tom Insel, Director, NIMH)  
8:35 – 8:55 Opening remarks: Biodefense Update – Anthony Fauci, Director, NIAID  
8:55 – 9:10 Introductory Overview: Neural & humoral pathways in shock & tissue damage.  
- Esther Sternberg, INIP/NIMH/NIH  
9:10 – 9:30 Clinical features of biological threat agents. - Arthur Friedlander, USAMRIID  
9:30 – 9:50 Innate immunity: Cellular and molecular mechanisms of inflammatory response.  
- Alan Ezekowitz Harvard, MGH  
9:50 – 10:15 **Coffee Break**

### **Morning Session**

- Sympathetic Nervous System/Norepinephrine and Immunity  
10:15 – 10:35 Noradrenergic regulation of immunity. - Virginia Sanders, OSU  
10:35 – 10:55 Norepinephrine, bacterial growth and trauma – Why bacterial-neuroendocrine interactions matter to biodefense. - Mark Lyte –  
Minneapolis  
Medical Research Foundation, UMN  
10:55 – 11:05 Questions  
Interactions of Heat Shock Proteins (HSPs) and Central Nervous System  
in Shock  
11:05 – 11:25 Molecular & Cell Biology of HSP70. - Alexzander Asea, Boston Univ.  
11:25 – 11:45 Sympathetic nervous system activation stimulates the release of heat shock  
protein 72 into the circulation: Potential immunological consequences. –Monika Fleshner, U Col, Boulder  
11:45 – 11:55 Questions  
11:55 – 1:00 **Lunch**

### **Afternoon Session**

- Sex Hormones, Immunity & Shock  
1:00 – 1:20 Gender Dimorphism And The Use Of Sex Steroid/Receptor Antagonist  
For  
Improving Immune And Cardiovascular Functions Following Trauma And  
For  
Decreasing Mortality From Subsequent Sepsis. - Irshad Chaudry UAB,  
Birmingham  
1:20 – 1:40 Estrogen modulation of inflammatory and immune responses in a burn  
shock  
and ethanol model. - Elizabeth Kovacs, Loyola University of Chicago  
1:40 – 2:00 Activation of Insect Immunity by Gram Negative Bacteria and role of  
insect hormones in immune response. - Neil Silverman, U Mass  
2:00 – 2:15 Questions

- 2:15 – 2:30     **Coffee Break**
- 2:30 - 4:00    Panel Discussion: Co-chairs\* - Kevin Tracey & Michail Sitkovsky
- 2:30 - 2:50    Introductory Remarks by Co-Chairs:
- Humoral response pathways in shock (the inflammatory reflex)– Kevin Tracey
  - Adenosine in shock and immune tissue damage – Michail Sitkovsky
- 2:50 - 4:00    Panel Discussion: Integration and Therapeutic Implications, including mathematical modeling of multiple host defense systems (immune, CNS, hormonal, bacterial, pro-inflammatory) & methods for development of biodefense treatment strategies incorporating knowledge of multiple host factor responses to bacterial, pro-inflammatory or infectious triggers.

\*All speakers from previous sessions will participate in the panel discussion. Additional panel members selected for their particular area of expertise will be invited to comment during the discussion period and provide synthesis in their subject area but will not be presenting separate talks.

Panel discussants:

- Tim Buchman (Washington Univ., St. Louis MO) - Mathematical analyses multiple host defense systems in hemorrhagic shock.
- Joost Oppenheim (NCI) – Opiates & chemokines.
- Jane Welsh (Texas A&M) – HPA axis, glucocorticoids and shock
- Sabra Klein (Johns Hopkins Sch. Public Health) – Sex hormones and male/female differences in infection.
- Paul Green (UCSF)- Adrenergic responses and inflammation.
- David Goldstein (NINDS) - Sympathetic/noradrenergic stress responses.
- Julian Thayer (NIA) – Parasympathetic responses.

4:00 – 4:30    **Closing Remarks**