Biology of agents

- 1918 influenza viruses, highly pathogenic avian influenza viruses, and SARS-CoV have unique biologies that require/allow novel rDNA studies. What biosafety levels of containment are currently being used for recombinant research with these viruses? How has containment differed depending on the type of experiment?

Biosafety Containment Levels

- These pathogenic viruses have initially been studied at containment levels is excess of BSL3. Several containment levels have been used; BSL3, BSL3+, BSL3-Ag, and BSL4. Some are not defined in the NIH Guidelines for Research Involving Recombinant DNA Molecules or the Biosafety in Microbiological and Biomedical Laboratories (BMBL). What are these BSL and how do they differ?

Risk Assement

- *NIH Guidelines* Section II-A-3. Comprehensive Risk Assessment states, “In deciding on the appropriate containment for an experiment, the initial risk assessment from Appendix B, Classification of Human Etiologic Agents on the Basis of Hazard, should be followed by a thorough consideration of the agent itself and how it is to be manipulated.”

Risk Assesment

- What factors should IBCs consider when assessing the risks of research focusing on the determination of as yet unidentified virulence factors?
- When necessary, IBCs should consult with *ad hoc* experts who can provide appropriate expertise for specific reviews.