<table>
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<tr>
<th>Title of Presentation:</th>
<th>ROSS C TERRELL LECTURE: Anesthetic Research and 'Esprit du Temps': 160+ Years of Theorizing</th>
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<tr>
<td>Speaker:</td>
<td>Misha Perouansky</td>
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<td>Affiliation:</td>
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**Learning Objectives: (minimum of 2):**

What can participants expect to be able to do differently as a result of attending?

1. Recognize the importance of paradigms in framing science in general and research into anesthetic mechanisms in particular
2. Understand how ‘Zeitgeist’ and interaction between scientific disciplines determine the dynamics of research into anesthetic mechanisms from the 19th and into the 21st century
3. Learn about the influence of paradigms in other fundamental research

**Background:** Research into mechanisms began immediately after the demonstration of anesthesia. The conventional understanding its history largely disregards the circumstances of its inception and the forces that have determined its trajectory for more than a century. The sociological context of mid- and late 19th century science rather than a purposeful research agenda determined direction, progress and stagnation in anesthetic research. Its remarkably long history allows a historic-philosophical approach which illuminates the tortuous trajectory and reveals fundamental similarities between the development of anesthetic research and that of other scientific fields.

**Major Teaching Points (minimum of 3):**

1. Textbook renditions of the history of science are misleading
2. Paradigms, which are rarely explicitly articulated, determine to a large extent the questions posed to science and constrain the way these are answered.
3. Anesthetics were the first pharmacologic agents to prompt scientific theorizing in a modern sense and ironically also the most complex ones.
4. For the longest periods of time, research into anesthetic mechanisms was shaped by a possibly counterproductive ‘metaphysical desire for unification’ (Butler, 1951) and neglected the complexity of neurobiology.
5. Proteins, not lipids have been considered the most likely targets for most of the time since the 1870s.
6. A better understanding of anesthetic mechanisms depends on a more profound understanding of the neurobiology of the affected behaviors.

**Potential Clinical Implications:**

1. This audience consists of postgraduate professionals, therefore the aim is not to spoon-feed standard text material
2. The goal is to develop a more critical appraisal of the foundations of ‘accepted knowledge’ and a healthy skepticism towards innovations especially the more sensational ones.
3. History teaches us that most conclusions reached on the basis of correlations turns out to be wrong in biology.
4. Beware of sensationalism and fear mongering, especially when commercial interests might be involved.
5. *While it is true that the present is our only fact, nevertheless we cannot see the present so long as we are immersed in it; we need the perspective afforded by distance in time and in space* Report of the Harvard Committee 1945

**Future Areas of Research (suggest at least 2):**

1. Research into anesthetic mechanisms should adopt a neurobiology not a pharmacology-driven approach.
2. Identified molecular effects must be analyzed from and embedded into a systems perspective, not interpreted in isolation.
3. Outcomes study for relevant endpoints are the only guides for changes in clinical practice

Please forward completed outline to cassessions@mci-group.com no later than May 26, 2014.
**Key References / Further Reading (no more than 10 – please see end of document for proper examples):**

**Journal articles**

**Books and monographs**