

2017 Annual Scientific Meeting  
FIT Open Mic Abstracts

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PRESENTATION INFORMATION

Title of Presentation:

Ferric ferrocyanide - an antidote out of the blue

Abstract:

Ferric ferrocyanide or, as it is better known, Prussian blue, is a substance of marked historical importance. In the world of toxicology, we know it as an antidote used for the relatively rare cases of thallium and cesium toxicity. Although we claim the antidote as our own, its importance extends far beyond interrupting the enterohepatic circulation of the aforementioned metals. In the history of art, the substance is of far greater importance. The accidental discovery of the pigment by a “color-maker” in the early 18th century, went on to - quite literally - change the color palate of art as we know it today. Blue had previously been a very difficult and expensive color to bring into art, as the only available blue paint was derived from the rare ultramarine pigment. Thus, the color blue was reserved for only the most important figures depicted in paintings (e.g., the Virgin Mary). After the discovery of the far less expensive Prussian blue, the color was used extensively - from the Great Wave off Kanagawa to Starry Night. Today Prussian blue has been used in myriad other applications - including by architects in blueprints, by pathologists as a histology stain, and of course by toxicologists as an antidote for two rare but exceptionally toxic metals. This presentation will explore the unlikely discovery of the pigment, its unique chemical structure and properties, as well as its role in modern toxicological practice.

Objective 1:

To learn about the development of prussian blue.

Objective 2:

To be reminded of the mechanism of action of prussian blue in thallium toxicity.

Objective 3:

To become familiar with the role of prussian blue in the non-toxicologic setting.