



ACS Local Section
New York
Westchester Chemical Society

WHAT DO HEAVY METALS HAVE TO DO WITH COLLOIDS?

Speaker: Mary Virginia Orna, Ph.D.

Professor of Chemistry,
Emerita,
College of New Rochelle

**Date: Thursday,
September 17, 2026**

Time: Coffee Hour: 5:30 pm
Speaker: 6:00 pm

Place: Westchester Community
College
75 Grasslands Road
Valhalla, NY 10595
Gateway Center, Room 110
ZOOM LINK:



<https://fordham.zoom.us/j/86089763704>

Event is free of charge

**Please contact Peter Corfield at pcorfield@fordham.edu to
RSVP for the meeting or if you have any questions.**

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WHAT DO HEAVY METALS HAVE TO DO WITH COLLOIDS?

Abstract:

Metals are all around us and almost everything we touch in the modern world has some kind of a metal component. The study of metals, their properties and uses dates back to the Chalcolithic (copper/stone) Age, the Bronze Age and continues into the Iron Age, of which we are a part. Eight metals have been known since antiquity, all of which are considered “heavy” because of their densities. Study of the properties and uses of these metals took an entirely different turn in 1925 when the colloidal state of matter was recognized as a product of the reaction of metallic gold with aqua regia. Since that time, the study of colloids advanced exponentially, but most often centering on organic compounds used as foodstuffs. Only relatively recently have the colloidal properties of the other heavy metals, though studied and utilized extensively, been given much attention. For example, colloidal lead oxide nanoparticles are used in advanced technology fields like photovoltaics (solar cells), gas sensors, catalysis, and experimental X-ray medical imaging due to their unique optical and high surface-area properties. Examples of the uses of other heavy metals colloids will be discussed.

Biography:

Mary Virginia Orna is Professor of Chemistry, Emerita, College of New Rochelle. She received her Ph.D. in analytical chemistry from Fordham University and has lectured and published widely on the history of chemistry and chemical education. She is an active ACS member, a Past-Chair of the New York Local Section and Alternate Councilor for the ACS Division of the History of Chemistry. She is the author or editor of 22 books and the recipient of numerous awards for her work in chemical education, including the George C. Pimentel National Award and the CASE New York State Professor of the Year and National Gold Medalist in 1989.

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