

The 21 Club

Social Hour, Dinner and a Presentation—First Announcement **Monday, February 20th, 2017**

Please mark your calendars: the third meeting of the 2016-17 academic year will be held on **Monday, February 20th, 2017**, starting at **6:00 PM**. The meeting will be held at the **UNM University Club**, starting with the social hour at 6 p.m., dinner at 7 p.m. and at 7:45 p.m., the presentation will be delivered by Emeritus Professor Larry Barton (see title and abstract of the presentation below, and a biographical sketch.

Dinner choices

Smoked Gouda and Lobster Macaroni and Cheese with chef's choice of fresh vegetable
Vegetarian option: Seasonal Vegetable Terrine

Also included are pre-meal appetizer (Goat cheese Brushetta, chips and salsa/guacamole), a traditional salad and desert. Bread and Butter, as well as Water, Iced Tea and Coffee service at the table. Hot tea will be available upon request.

You can register for the meeting simply by paying for the dinner, etc. using the Paypal application, which is included for your convenience on the 21 Club website (<http://21club.unm.edu/current/current.html>), or you can simply mail a check to club treasurer, Daniel Finley:

The 21 Club
Physics and Astronomy MSC07 4220
University of New Mexico
Albuquerque, NM 87131-0001

Note: to guarantee your reservation(s) your online payment or your check (payable to “The 21 Club”) must be **received** on or before **Thursday, February 16, 2017**. This enables us to provide the caterer and the University Club with an accurate head count. Also, **please email me** at lmcfadnm@unm.edu should you wish to opt for the **vegetarian plate**.

Biographical Summary for **Larry L Barton**, Emeritus Professor, Biology Department
He received his doctorate from the University of Nebraska – Lincoln with majors in Microbiology and Biochemistry. After a postdoctoral position in the Department of Biochemistry at the University of Georgia where he worked on energetics of anaerobic bacteria, he moved to Baltimore where he held an appointment as Assistant Professor in the School of Health and Hygiene at Johns Hopkins University and became involved in an international leprosy research program. In 1972, he joined the Biology Department at the University of New Mexico and since that time his research has focused on bacterial metabolism of metal ions. In 2014, Larry received the Heritage Award from the International Society of Biometals. He has published seven books on the topics of metals in biology, two text books in Microbiology and he is the series editor of SpringerBriefs in Biometals. Over the years he has directed many graduate and undergraduate

students in research projects and has published numerous research articles on the topic of inorganic metabolism. He was the organizer and initial Editor in Chief of the international journal ANAEROBE. He hosted two international meetings on metal ions in biology, is a reviewer for numerous international journals and reviews placement of scientists from Iraq, Afghanistan and Georgia into US universities. Along with Dr. H. Lin at the UNM medical School, Larry is currently focusing on controlling intestinal diseases due to the imbalance of anaerobic bacteria.

Abstract of presentation: “Bacteria meddling with metals”

Bacteria have a unique capability to detoxify metals and in some instances corrode iron pipes or structures. This interaction with metals is attributed to several properties including a highly effective system of communication which enables individual cells to cooperate as if a single unit. One example of cooperative activity by bacteria which is the production of nanowires for extracellular metabolism and another is corrosion of metallic iron. Drawing from research conducted with Tim Ross, I will discuss the bacterial activity associated with solubilizing iron. Another research project which I conducted as an interdisciplinary activity involving numerous faculty at UNM Engineering School, I will summarize the bioremediation of ground water contaminated with uranium at Tuba City Az. As an extension of an electron microscopy study involving mapping bacteria for different metals, I will indicate that metal metabolism by bacteria is at specific regions in the cell and not dispersed throughout the cytoplasm of the cell. The final topic I'll discuss deals with my experience in travels at the invitation of the Chinese Academy of Science to discuss bacterial metal bioremediation with faculty and students at the University of Nanjing.