



BIOLOGY UNDER EXTREME CONDITIONS

A CHESS 2030 WORKSHOP

July 15-16, 2021

the Cornell High Energy Synchrotron Source is hosting a series of talks and fun informal discussions on the future directions of extreme biology research with special emphasis on structural and biophysical methods.

Featuring sessions on:

Extreme Experiments

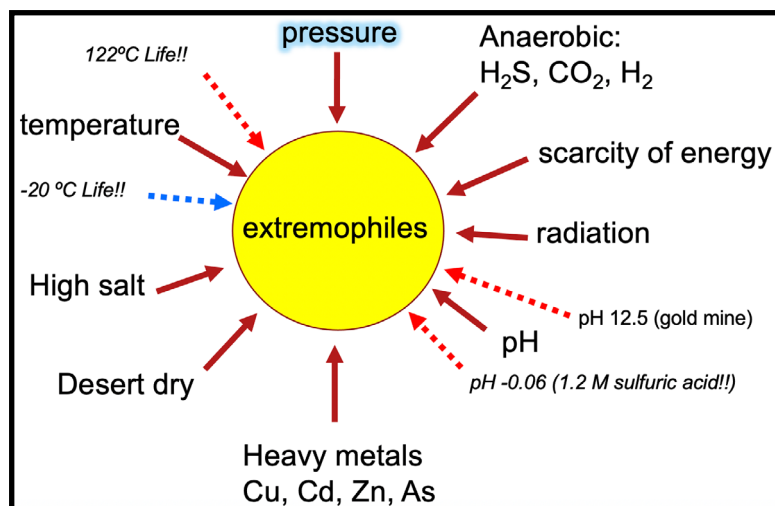
High speed pressure/temperature jump and time-resolved experiments. Structural biology under extreme conditions. Anaerobic conditions, noxious gasses and nasty compounds. Extreme magnetic fields?

Extreme Biophysics

Pressure perturbation, protein folding, lipid phases and phase diagrams, liquid-liquid phase separation (LLPS), intrinsically disordered proteins (IDP's), structural biology under extreme conditions.

Extreme Life

Extremophiles and adaptation, weird metabolisms and pathways, membraneless organelles (MLO's), geomicrobiology, industrial applications.



Extreme Phylogenetics

Ancestral sequence reconstruction, evolutionary biophysics and structure, exobiology and environment of ancient earth.

Featuring invited presentations by:

Eric Boyd (U. Montana)
Itay Budin (UCSD)
Tzanko Doukov (SLAC)
Kevin Gardner (CUNY)
Mackenzie Gerringer (SUNY Geneseo)

Martin Greubele (UIUC)
Amir Haji-Akbari (Yale)
Birte Hocker (U. Bayreuth)
Betül Kacar (Univ. of Arizona)
George Makhatadze (RPI)
Sabrina Marecos (Cornell)
Erik Martin (St. Jude Children's Research Hospital)
Sean Medin (Cornell)
Julian Roche (Iowa State)
Douglas Theobald (Brandeis)
Michael Thompson (UC Merced)
Jacob Winnikoff (MBARI)