



Faculté des arts et des sciences
Département de chimie
SÉMINAIRE CRMAA



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Structures and Growth Mechanisms of Rhythmic Precipitates of Simple Compounds



The success of X-ray crystallography had for a long time directed attention of chemists away from highly structured patterns of microcrystals, common growth products far from equilibrium that do not yield single crystal structures. However, as biomineralogists and mesocrystallographers have shown in recent years, the chemist's outlook and experience are well suited to investigations of the structures and growth mechanisms of polycrystalline ensembles. Of Nature's innumerable patterns of polycrystals, banded spherulites of small, organic compounds, 135 of which were described in Bernauer's "Gedrillte" Kristalle (Twisted Crystals) are our focus. These structures represent a major class of self-assembling, crystalline, mesoscale patterns. Bernauer interpreted his objects of interest through a single growth mechanism, twisting of radii. We show with contemporary methods of polarized light imaging that twisting is not the universal explanation of optical banding. To clarify these assessments, Mueller matrix imaging polarimetry, a method for the complete characterization of the optical properties of complex anisotropic, heterogeneous samples, will be applied to crystallographic problems (at long last) through the reanalysis of "Gedrillte" Kristalle.

Le mercredi 17 septembre 2008
Salle N-615, Pavillon Roger Gaudry
11 h 30

Le Département de chimie organise annuellement plusieurs séries de conférences et séminaires et tient à remercier particulièrement ses commanditaires qui rendent ces programmes possibles : **AstraZeneca, Boehringer Ingelheim, Centre de recherche sur les matériaux auto-assemblés du FQRNT, Eisai, Fondation Barré, Isis Pharmaceuticals, IUPAC-Macro '90, MethylGene, Merck Frosst**. Les conférenciers prestigieux invités, dans le cadre des grandes conférences, offrent à la communauté scientifique de Montréal les meilleures présentations dans les différents domaines de pointe de la chimie.