Ahmet Uysal

Argonne National Laboratory
Chemical Sciences and Engineering Division
9700 South Cass Ave. Building 200
Argonne, IL 60439
Tel: (630)252-9133
E-mail: ahmet@anl.gov

Professional Experience:

2012 - present Post-Doctoral Appointee, Argonne National Laboratory
2007 - 2012 Research/Teaching Assistant, Northwestern University
2005 - 2007 Teacher, Chicago Math and Science Academy
2003 - 2005 Research/Teaching Assistant, University of Pittsburgh

Education:

- Ph.D. (Physics) Northwestern University, Evanston, IL 2012
- M.S. (Physics) University of Pittsburgh, Pittsburgh, PA 2005
- B.S. (Physics) METU, Ankara, Turkey 2003

Research Activities:

- Physics of organic molecule-inorganic crystal interfaces, i.e. biomineralization
- Biomolecule adsorption at liquid-solid interfaces
- Molecular ordering at liquid surfaces and liquid-solid interfaces
- Physics of thin films on aqeous substrates (Langmuir monolayers)
- Grazing incidence x-ray diffraction, x-ray reflectivity, diffuse x-ray scattering.

Awards:

- Invited Student Talk Award, APS/CNM/EMC User Meeting, ANL, 2012
- Huang Fellowship, Northwestern University, 2007
- Bronze Medal in National Physics Olympiads, Scientific and Technical Research Council of Turkey, 1998

Professional Societies:

- American Physical Society

Publications:

- **A. Uysal**, B. Stripe, B. Lin, M. Meron and P. Dutta, *"Reverse self-assembly: (111)-oriented gold crystallization at alkylthiol monolayer templates"* Phys. Rev. Lett., **107**, 115503 (2011) Higlighted by: APS, PHYSORG.COM, NANOWERK

- B. Stripe, **A. Uysal**, B. Lin, M. Meron and P. Dutta, "*Charge, stereochemistry or epitaxy? Toward controlled biomimetic nucleation at mixed monolayer templates",* Langmuir, **28**(1), 572-578, (2012)

- B. Stripe, **A. Uysal**, and P. Dutta, *"Orientation and morphology of calcite nucleated under floating monolayers: A magnesium-ion-enhanced nucleation study",* Journal of Crystal Growth, **319**(1), 64 (2011)

- **A. Uysal**, B. Stripe, K. Kim and P. Dutta, "*Epitaxy driven interactions at the organic-inorganic interface during biomimetic growth of calcium oxalate*", CrystEngComm, **12**, 2025 (2010)

- S. Chattopadhyay, **A. Uysal**, B. Stripe, Y. Ha, T. J. Marks, E. A. Karapetrova and P. Dutta, "*How water meets a very hydrophobic surface*"**,** Phys. Rev. Lett., **105**, 37803 (2010)

- S. Chattopadhyay, **A. Uysal**, B. Stripe, S. Ehrlich, E.A. Karapetrova and P. Dutta, "*Surface order in cold liquids: X-ray reflectivity studies of dielectric liquids and comparison to liquid metals*", Phys.Rev.B., **81**, 184206 (2010) (PRB Editor's Suggestion)

- **A. Uysal**, "*Determining the thickness and refractive index of a mirror",* The Physics Teacher, **48**, 602 (2010)

- S. Chattopadhyay, **A. Uysal**, B. Stripe, G.Evmenenko, S. Ehrlich, E. A. Karapetrova and P. Dutta, "*Structural signal of a dynamic glass transition*", Phys. Rev. Lett., **103,** 175701 (2009)

- K. Kim, **A. Uysal**, S. Kewalramani, B. Stripe and P. Dutta, "*Effects of chitosan on the alignment, morphology and shape of calcite crystals nucleating under Langmuir monolayers*", CrystEngComm, **11**, 130 (2009) (Cover Article)