

Poster Presentation

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How to use "random" microseeding before you get your first crystals

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Random Microseed Matrix-Screening (rMMS), where seed crystals are added automatically to random crystallization screens, is a significant recent breakthrough in protein crystallization [1]. One industrial group used the method to solve 38 out of 70 structures generated in a three year period, finding particular success with antibody complexes [2]. rMMS not only produces more hits, it also generates better-diffracting crystals - because crystals are more likely to grow in the metastable zone. This assumes, however, that you have some initial crystal hits to make a seed stock from. This presentation will look at unusual methods of nucleation, including cross-seeding [3], heterogeneous nucleation, and nucleation with precipitants [4].

[1] [1] A. D'Arcy, F. Villard, M. Marsh, *Acta Crystallographica Section D: Biological Crystallography*, 2007, 63.4, 550-554., **[2]** G. Obmolova, *RAMC*, 2011, T11, **[3]** A. Abuhammad, E. D. Lowe, M. A. McDonough, P. D. Shaw Stewart, S. Kolek, E. Sim, E. F. Garman, *Acta Crystallographica Section D: Biological Crystallography*, 2013, 69(8), 0-0. et. al

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