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So You Want to Work on Integral Membrane Proteins: Comparing and Contrasting the Soluble and Membronic Worlds. Michael Wiener, Dept. of Molecular Physiology and Biological Physics, Univ. of Virginia, Charlottesville, VA, 22908.

The elucidation of integral membrane protein structures is a frontier area of modern structural biology. Integral membrane proteins comprise 15-30% of the ORFs of an organism's genome, are the current (and likely future) target of the majority of drugs, and carry out many biological processes of fundamental import. However, the number of membrane protein structures solved to date is time-shifted by approximately 25 years with respect to soluble proteins. Nontrivial technical challenges have impeded progress in this field. Nonetheless, increasing numbers of crystallographers are making the jump, or contemplating it. The charge of this presentation is to compare and contrast methods of production, crystallization and structure determination of soluble proteins vs. membrane proteins. What is essentially the same? What (if anything) is fundamentally different? How can expertise in soluble protein crystallography and structural biology be used for leverage, into membrane protein projects? An amalgam of general comments and themes, along with specific technical points, will be presented.