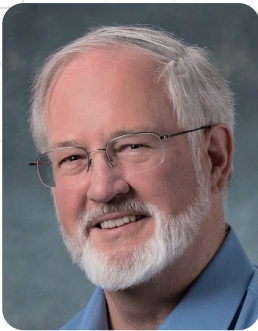


ASHBi DISTINGUISHED SEMINAR

How evolutionary medicine makes psychiatry more sensible and effective

Lecturer: **Randolph M. Nesse Ph.D.**

Research Professor, School of Life Sciences, Arizona State University
Professor Emeritus of Psychiatry, Professor Emeritus of Psychology,
Research Professor Emeritus of Social Research, The University of Michigan



Date: Thursday, 25 September 2025

Time: 17:00 - 18:00

Venue: Conference Room
B1F, Faculty of Medicine Bldg. B

Eligibility: Academic Researchers and Students

Register here



Evolutionary medicine uses the basic science of evolutionary biology to better understand, prevent, and treat diseases. It asks a fundamentally new question. Instead of asking what mechanisms cause a disorder in some individuals it asks why natural selection has left all individuals in a species vulnerable to a disease. The eight possible explanations are illustrated by Alzheimer's disease. A evolutionary approach to anxiety and depression recognizes them as protective responses like pain and cough, providing a foundation for distinguishing normal from abnormal and for recognizing that false alarms are normal in optimal control systems. Positive feedback can escalate ordinary anxiety into anxiety disorders. Low mood is useful in situations where effort would be wasted including infection, loss, and failing efforts to reach a goal. It escalates into depression when it fails to disengage useless efforts. Medications relieve anxiety and depression by disrupting normal emotion-mediating mechanisms just as analgesics disrupt pain-mediating mechanisms. Eating disorders result when media-induced ideals of thinness motivate crash dieting initiates a vicious cycle of adaptive gorging and weight gain that motivate more intense attempts at control. Addiction is also a product of a vicious cycle induced by mismatch; ready access to drugs that directly influence learning mechanisms hijack behavioral control creating cycles increasing use. The high heritability of autism and schizophrenia pose a fascinating evolutionary mystery that may be partially explained by traits pushed to a fitness peak near a cliff edge. Evolutionary psychiatry offers a fundamentally new framework for understanding these and other mental disorders.

Hosted by Institute for the Advanced Study of Human Biology (WPI-ASHBi)

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