Trace Metals and Infectious Diseases (Strngmann Forum Reports)

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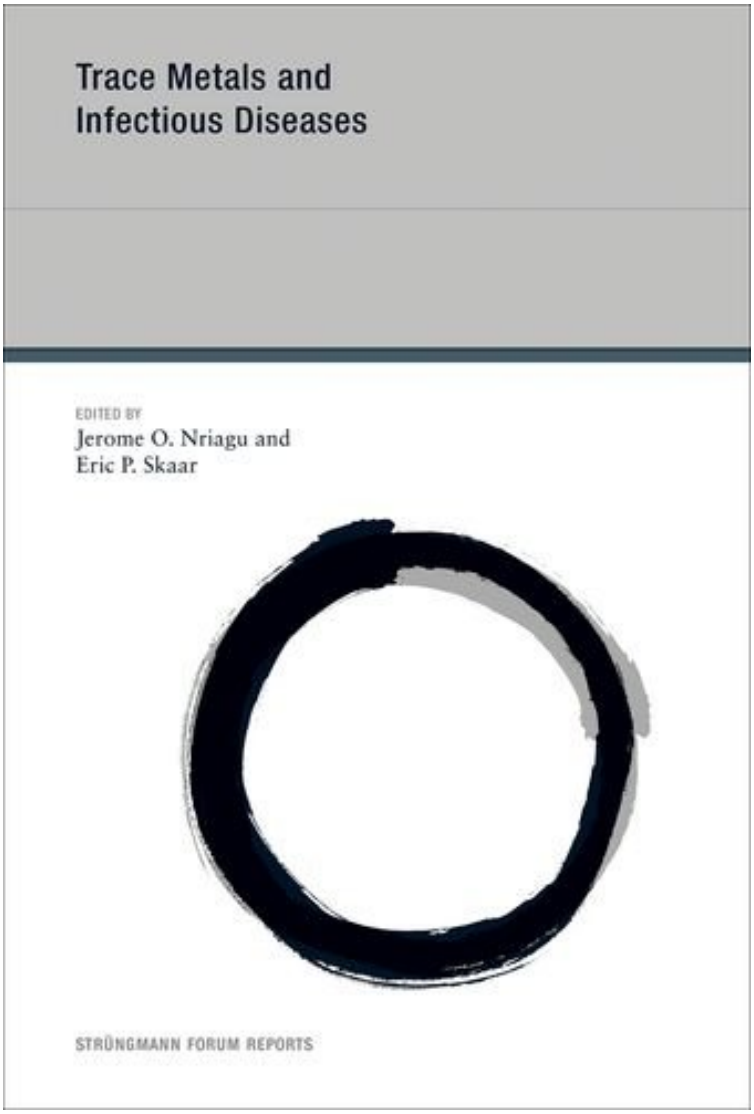

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From The MIT Press : Trace Metals and Infectious Diseases (Strngmann Forum Reports) before purchasing it in order to gage whether or not it would be worth my time, and all praised Trace Metals and Infectious Diseases (Strngmann Forum Reports):

Experts explore the influence of trace metals on the pathogenesis of infectious diseases.Many parts of the world in which common infectious diseases are endemic also have the highest prevalence of trace metal deficiencies or rising

rates of trace metal pollution. Infectious diseases can increase human susceptibility to adverse effects of metal exposure (at suboptimal or toxic levels), and metal excess or deficiency can increase the incidence or severity of infectious diseases. The co-clustering of major infectious diseases with trace metal deficiency or toxicity has created a complex web of interactions with serious but poorly understood health repercussions, yet has been largely overlooked in animal and human studies. This book focuses on the distribution, trafficking, fate, and effects of trace metals in biological systems. Its goal is to enhance our understanding of the relationships between homeostatic mechanisms of trace metals and the pathogenesis of infectious diseases. Drawing on expertise from a range of fields, the book offers a comprehensive review of current knowledge on vertebrate metal-withholding mechanisms and the strategies employed by different microbes to avoid starvation (or poisoning). Chapters summarize current, state-of-the-art techniques for investigating pathogen-metal interactions and highlight open question to guide future research. The book makes clear that improving knowledge in this area will be instrumental to the development of novel therapeutic measures against infectious diseases. ContributorsM. Leigh Ackland, Vahid Fa Andisi, Angele L. Arrieta, Michael A. Bachman, J. Sabine Becker, Robert E. Black, Julia Bornhorst, Sascha Brunke, Joseph A. Caruso, Jennifer S. Cavet, Anson C. K. Chan, Christopher H. Contag, Heran Darwin, George V. Dedoussis, Rodney R. Dietert, Victor J. DiRita, Carol A. Fierke, Tamara Garcia-Barrera, David P. Giedroc, Peter-Leon Hagedoorn, James A. Imlay, Marek J. Kobylarz, Joseph Lemire, Wenwen Liu, Slade A. Loutet, Wolfgang Maret, Andreas Matusch, Trevor F. Moraes, Michael E. P. Murphy, Maribel Navarro, Jerome O. Nriagu, Ana-Maria Oros-Peusquens, Elisabeth G. Pacyna, Jozef M. Pacyna, Robert D. Perry, John M. Pettifor, Stephanie Pfaffen, Dieter Rehder, Lothar Rink, Anthony B. Schryvers, Ellen K. Silbergeld, Eric P. Skaar, Miguel C. P. Soares, Kyrre Sundseth, Dennis J. Thiele, Richard B. Thompson, Meghan M. Verstraete, Gonzalo Visbal, Fudi Wang, Mian Wang, Thomas J. Webster, Jeffrey N. Weiser, Gnter Weiss, Inga Wessels, Bin Ye, Judith T. Zelikoff, Lihong Zhang

Metals, essential for all forms of life and yet toxic as well, are actors in the never-ending drama between microbes and their hosts. Now an international group of distinguished scientists has explored this unique intersection of the biological and physical worlds, providing new approaches to controlling infectious diseases. This frontier, rich in possibilities for health, extends into all areas in which we compete and cooperate with microbes. (Martin J. Blaser, M.D., Muriel and George Singer Professor of Medicine, Professor of Microbiology, and Director, Human Microbiome Program, New York University; author of Missing Microbes)This book provides an incisive and remarkably integrated analysis of interactions between metals -- both toxic and essential -- and microbes that mounting evidence indicates will be critical to gaining a more holistic understanding of the relationship between our daily environments and health. Kudos to the editors and contributors. (Howard Hu, M.D., Dean and Professor of Environmental Health, Epidemiology, Global Health and Medicine, Dalla Lana School of Public Health; Faculty of the University of Toronto) Trace Metals and Infectious Diseases should be on the 'must-read' list for anyone who studies metallobiology, physiology, or disease. The editors have assembled a unique and comprehensive volume with timely contributions by leaders that provide a broad perspective on how microbial or host access to trace metals impacts the onset or progression of disease. I predict this volume will be valuable in training the next generations of scientists and serving as a source of reference materials for established researchers in many fields. (Timothy Donohue, Professor of Bacteriology, University of Wisconsin-Madison)About the AuthorJerome O. Nriagu is Professor Emeritus in the School of Public Health and Research and the Center for Human Growth and Development at the University of Michigan. Eric P. Skaar is Ernest W. Goodpasture Associate Professor and Director of Host-Pathogen Interactions in the Department of Pathology, Microbiology, and Immunology at Vanderbilt University.