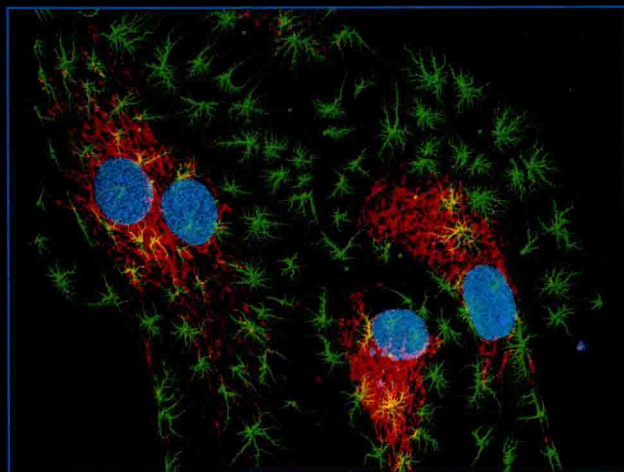


PROBLEM SETS IN BIOLOGICAL AND BIOMEDICAL SCIENCES

CASE STUDIES IN CELL BIOLOGY



Volume Author: Merri Lynn Casem
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Case Studies in Cell Biology

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Case Studies in Cell Biology

This volume is part of the
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Dedication

I dedicate this work to the memory of my husband, Edward P. Casem Sr, and to the two fine young gentlemen I am proud to call my sons. I would also like to express my gratitude to the professors that inspired my academic career; Marvin J. Rosenberg, C. Eugene Jones, Charles Lambert, and Leah T. Haimo.

Biography

Merri Lynn Casem earned her doctoral degree in Cellular and Molecular Biology from the University of California, Riverside, working in the laboratory of Dr Leah Haimo, where she investigated the role of the microtubule motor protein cytoplasmic dynein, in synaptic vesicle transport. She spent 5 years as a visiting assistant professor at the Keck Science Department of the Claremont Colleges before joining the faculty of the Department of Biological Science at California State University, Fullerton. There, she has been actively involved in curriculum development and biology education research in addition to her work on cellular and molecular aspects of the biology of spider silk and early spider embryogenesis. Dr Casem has also been a member of the Education Committee of the American Society for Cell Biology, and has recently been appointed as the Director of Nonmajors Biology, at CSU Fullerton.

Preface

The ability to read and critically evaluate primary literature is a fundamental skill in the sciences. The best way to develop this skill is through practice. I began writing case studies, as a way to introduce primary literature to my freshmen Cell Biology classes. Students have reported that this early exposure to the elements of primary literature had a positive impact on their subsequent upper division coursework.

Each case study in this collection is built around one or more core concepts in Cell Biology. By presenting concepts outside the context of a traditional textbook, I hope to help students appreciate the dynamic nature of science and relevance of those concepts to a broader understanding of our world. Questions are provided throughout each case study to engage students, challenge them to think critically, and make connections between concepts. Most importantly, each case study allows students to gain practice in the evaluation and interpretation of graphs, figures, and tables excerpted from the original article.

I use case studies for in-class, small group activities in my lecture sections. Group work in a large (200+) class is greatly facilitated by additional support personnel; either graduate teaching assistants, or as is the case for my course, advanced undergraduate supplemental instruction leaders. Additionally, the use of “clickers” or similar technology can provide immediate assessment of student understanding. I encourage you to be creative in the adaptation and implementation of these case studies in your courses.

Best regards
Merri Lynn Casem

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