

Fred R. Dee, MD



Professor of Pathology (Emeritus)

Contact Information

Primary Office: 1036 Medical Laboratories
Iowa City, IA 52242
Phone: 319-321-3321
Email: fred-dee@uiowa.edu

Education

1963 BA University of Iowa
1967 MD University of Iowa
1967-68 Rotating Intern St. Paul-Ramsey Hospital, St. Paul, MN
1968-72 Resident, Anatomic and Clinical Pathology University of Minnesota

Licensure and Certifications

American Board of Pathology AP/CP/Hematology Subspecialty

Education/Training Program Affiliations

Current roles include: Management of the computer delivery and content of Case Analysis in the Carver College of Medicine's Mechanisms of Health and Disease (MOHD) curriculum; and facilitation of Case Analysis small groups for MOHD 2, 3 & 4.

Educational Development and Research

Summary of Current Projects:

"Validation of a Case Diagramming Tool to Assess Higher-order Thinking Skills" is currently funded by the Edward J. Stemmler MD Medical Education Research Fund of National Board of Medical Examiners. The research question for this project is to determine whether a computer-based mechanistic case diagramming technique can reliably and validly assess students' ability to understand concepts in an integrated fashion within a curriculum based on mechanisms of health and disease. As medical schools move from discipline-based courses to a more integrated approach, identifying assessment tools that parallel this change is an important goal. See [New web-based applications for mechanistic case diagramming](#).

"[The Iowa Virtual Slidebox](#)" is a comprehensive 300GB set of 971 peer reviewed virtual slides for teaching Histology and Histopathology, initially funded by the National Library of Medicine in 2002. This set continues to be distributed to Medical Colleges worldwide for serving from their campus server. We are currently investigating innovative ways to make this resource more widely available via the cloud.

“Development of a Virtual Laboratory and Game-based Testing Application to Facilitate Self-directed Learning in Histology and Histopathology” is currently supported by a 2016 Innovations in Teaching with Technology Award from the Iowa Academic Technologies Advisory Council.

Selected Education Related Publications

- 1 Heidger P, Dee FR, Consoer D, Leaven T, Kreiter C. An Integrated Approach to Teaching and Testing in Histology with Real and Virtual Imaging. *The Anatomical Record (The New Anatomist)* 269:107-112, 2002.
- 2 Dee FR, Lehman JM, Consoer , Leaven T, and Cohen M. Implementation of Virtual Microscope Slides in the Annual Pathobiology of Cancer Workshop Laboratory. *Human Pathology* 34:430-436, 2003.
- 3 Kumar RK, Velan GM, Korell SO, Kandara M, Dee FR, Wakefield D. Virtual microscopy for learning and assessment in Pathology. *Journal of Pathology* 204:613-618, 2004.
- 4 Dee FR. Virtual microscopy for comparative pathology. *Toxicol Pathol* 34:966-7, 2006.
- 5 Dee F, Donnelly A, Radio S, Leaven T, Kreiter C, Zaleski MS. Utility of 2-D and 3-D virtual microscopy in cervical cytology education and testing. *Acta Cytol* 51:523–529, 2007.
- 6 Dee F, Meyerholz D. Teaching pathology in the 21st century - virtual microscopy applications. *Journal of Veterinary Medical Education*. 34:431-436, 2007.
- 7 Bruch LA, De Young BR, Kreiter CD, Haugen TH, Leaven TC, Dee FR. Competency Assessment of Residents in Surgical Pathology Using Virtual Microscopy. *Human Pathology*. 40:1122-1128, 2009.
- 8 Dee FR. Virtual Microscopy in Pathology Education (invited review). *Human Pathology*. 40:1112-1121, 2009.
- 9 Kreiter CD, Haugen T, Leaven T, Goerdts C, Rosenthal N, McGaghie WC, Dee FR. A Computer-Based Medical Case Simulation to Assess Clinical Reasoning in Diagnostic Laboratory Testing. *Medical Education On-Line*. 16: 5646-DOI, 2011.
- 10 Kumar S, Dee F, Kumar R, Velan G. Benefits of Testable Concept Maps for Learning About Pathogenesis of Disease. *Teaching and Learning in Medicine*. 23:137-143, 2011.
- 11 Dee FR, Haugen TH, Kreiter CD. New web-based applications for mechanistic case diagramming. *Med Educ Online*. 2014; 19: 10.3402/meo.v19.24708, 2014.
- 12 Dee, FR. [Web-based Diagramming Exercises Facilitate Student-Centered Learning in Science Education](#). In *Proceedings of Global Learn 2016* (pp. 453-459).