References and Reading Lists for Imaging Informatics Professionals: Preparing for Certification

Janice Honeyman-Buck, Ph.D.

As most picture archiving and communication system (PACS) administrators or imaging informatics professionals are aware, the Society for Imaging Informatics in Medicine (SIIM, formerly SCAR) is sponsoring an effort to provide certification in the growing field. SIIM members believe that this society is the most qualified to provide guidance in the development of an exam and certification because we are an unbiased nonprofit organization. We are working with the American Registry of Radiologic Technologists (ARRT) to help develop and administer the test, not because we believe a Certified Imaging Informatics Professional should have a background in radiologic technology but because the ARRT has vast experience with developing and administering examinations.

Many of the people who intend to take the examination have asked how to prepare for it. Of course, attending professional meetings and PACS Administration courses, including those offered by SIIM, are a good way to meet others in the profession as well as to learn new ways to solve problems. We have attempted to put together a reading list for those who also wish to prepare for the examination by reading and studying at home.

THE FIRST SET OF RESOURCES ARE FOR MEETINGS, PUBLICATIONS, AND WHITE PAPERS PREPARED BY SIIM

SIIM/SCAR Annual Meeting, <http://www.siimweb.org/meetings>

SIIM/SCAR Publications, <http://www.siimweb.org/publications>

Journal of Digital Imaging, <http://www.siimweb.org/jdi>

Online Abstracts/Full Text for SIIM Members
SIIM/SCAR University Primer Series, <http://www.siimweb.org/primers>

- Security Issues in the Digital Medical Enterprise, Second Edition
- Archiving Issues in the Digital Medical Enterprise
- Quality Assurance: Meeting the Challenge in the Digital Medical Enterprise
- Electronic Reporting in the Digital Medical Enterprise
- Decision Support in the Digital Medical Enterprise SCAR News

SIIM/SCAR Position and White Papers, <http://www.siimweb.org/whitepapers>

- Irreversible Compression of Medical Images
- Addressing the Coming Radiology Crisis: SCAR TRIP™ Initiative
- Transforming Medical Imaging: The First SCAR TRIP™ Conference

SIIM News, <http://www.siimweb.org/siimnews>
SIIM/SCAR Expert Hotline, <http://www.siimweb.org/expert hotline>

SCAR University, <http://www.siimweb.org/university>

From the Department of Radiology, University of Florida, Gainesville, FL 21610, USA.

Correspondence to: Janice Honeyman-Buck, Ph.D., Department of Radiology, University of Florida, Gainesville, FL 21610, USA; tel: +1-352-2650291; fax: +1-866-6344821; e-mail: honeyman@ufl.edu

Copyright © 2006 by SCAR (Society for Computer Applications in Radiology)

Online publication 6 October 2006

doi: 10.1007/s10278-006-0929-5

SIIM/SCAR PACS Consultant List, <http://www.siimweb.org/resources>

THE FOLLOWING BOOKS ARE RECOMMENDED BY A NUMBER OF SIIM MEMBERS

The Deming Management Method, by M. Walton (published by Perigee, Boston; 1986)

The Design of Everyday Things, by D. Nonnan (published by Currency Doubleday, New York; 1988)

Don't Make Me Think: A Common Sense Approach to Web Usability, by S. Krug (published by New Riders, Berkeley; 2000)

Effective Project Management, by R. Wysocki (published by Wiley, New York; 2000)

To Err is Human: Building a Safer Health System, by Committee on Quality of Health Care in America, Institute of Medicine (published by National Academy Press, Washington, DC; 2000)

Financial Management in Radiology, by S. Sferrella, M. Allen, M. Reitter (published by American Health Radiology Administrators, Sudbury, MA; 2004)

High Availability, by F. Piedad (published by Prentice Hall, Upper Saddle River, NJ; 2001)

IT Production Services, by H. Kern, R. Schiesser, and M. Muniz (published by Prentice Hall, Upper Saddle River, NJ; 2004)

IT Systems Management, by R. Schiesser (published by Prentice Hall, Upper Saddle River, NJ; 2002)

Managerial Breakthrough, by J. Juran (published by McGraw-Hill, New York; 1995)

PACS: A Guide to the Digital Revolution, Second Edition, by K. Dreyer, D. Hirschom, A. Mehta, and J. Thrall (published by Springer, New York; 2005)

PACS and Imaging Informatics: Basic Principles and Applications, by H. K. Huang (published by John Wiley & Sons, Incorporated, Hoboken, N; 2004)

PACS Fundamentals, by Herman Oosterwijk (published by OTech, Inc., Aubrey, TX; 2004).

DICOM Basics Third Addition, by Herman Oosterwijk (published by OTech, Inc., Aubrey, TX; 2005)

PERL for System Administration, by D. Blank-Edelman (published by O'Reilly, Cambridge, MA; 2000)

The Practice of System and Network Administration, by T. Limoncelli (published by Pearson Education, Upper Saddle River, NJ; 2001)

Quality is Free, by P. Crosby (published by McGraw-Hill, New York; 1979)

The Six Sigma Book for Healthcare: Improving Outcomes and Reducing Errors, by R. Barry (published by Health Administration Press, Chicago, IL; 2002)

UNIX Systems Administrator Handbook, by E. Nemeth (published by Pearson Education, Upper Saddle River, NJ; 2000)

Usability Engineering, by J. Nielsen (published by Morgan Kauffman, Stanford, CA; 1993)

Who Moved My Cheese?, by S. Johnson (published by Penguin, New York; 2000)

Windows 2000 Administration, by G. Spalding (published by McGraw-Hill, New York; 2002)

Writing Effective Policies and Procedures, by N. Campbell (published by Amacom, New York; 1998)

JOURNAL ARTICLES CAN PROVIDE UP-TO-DATE INFORMATION IN THE FIELD

You may go to any University Library or search online for related articles using pubmed at <http://www.nlm.nih.gov>. If you do not have access to these journals at your location, you may wish to access them for a slight fee through pubmed or the individual journals. Nearly all journals now offer a pay-per-view or a daily fee for downloading full text articles to nonsubscribers. I have included a few to get you started.

"AAPM/RSNA tutorial on equipment selection: PACS equipment overview: general guidelines for purchasing and acceptance testing of PACS equipment," by E. Samei, J. A. Seibert, K. Andriole, et al., *Radiographics*, vol. 23; 2004 (313-334).

"Changes in technologist productivity with implementation of an enterprise-wide PACS," by B. Reiner, E. Siegel, and M. Scanlon, *Journal of Digital Imaging*, vol. 15:1; March 2002 (22-26).

"The new RAD administrator," by G. Wiley, *Decisions in Imaging Economics*, vol. 18:8; August, 2005 (15-18, 54).

"Defining the role of a PACS technologist," by A. Cabrera, *Journal of Digital Imaging*, vol. 15 Suppl 1; June 2002 (120-123).

“Defining the PACS profession: an initial survey of skills, training, and capabilities for PACS administrators,” by P. Nagy, G. Bowers, B. Reiner, and E. Siegel, *Journal of Digital Imaging*, vol. 18:4; December 2005 (252–259).

“Developing PACS policies and procedures,” 2001, by B. Gaytos, *Journal of Digital Imaging*, vol. 14: 2; June 2005.

“How many people does it take to operate a picture archiving and communication system?,” by R. Honea, *Journal of Digital Imaging*, vol. 0114 Suppl 1; June 2001 (40–43).

“How to effectively use consultants,” by W.N. Bridgewater, N. Johnson, and G. Garofolo, *Journal of Digital Imaging*, vol. 13 Suppl 1; May 2000 (6–9).

“Impact of digital information technologies on radiologic technologist productivity,” *Journal of Digital Imaging*, Special Issue, vol. 15:3; September 2002.

“Internal IT support crucial to success in filmless department,” by Y. Y. Shieh and G. H. Roberson, *Diagnostic Imaging*; April 2000 (61–62).

“Management of the picture archiving and communications system archive at Texas Children’s Hospital,” by M. E. Blado, *Journal of Digital Imaging*, vol. 14 Suppl II; June 2001 (84–88).

“PACS adoption,” by J. Honeyman-Buck, *Seminars in Roentgenology*, July 2003 (256–269).

“Physician acceptance of new medical information systems: the field of dreams,” by N. W. Treister, *Journal of Digital Imaging*; May 1998 (20–24).

“Radiologists’ productivity in the interpretation of CT scans: a comparison of PACS with conventional film,” by B. Reiner, E. Siegel, F. Hooper, S. Pomerantz, A. Dahlke, and D. Rallis, *American Journal of Roentgenology*, vol. 176; 2001 (861–864).

“Reinventing radiology in the digital age. Part I. The all-digital department,” by James H. Thrall, *Radiology* vol. 236; 2005 (382–385).

“Reinventing radiology in the digital age. Part II. New directions and new stakeholder value,” by James H. Thrall, *Radiology* vol. 237; 2005 (15–18).

“Reinventing radiology in the digital age. Part III. Facilities, work processes, and job responsibilities,” by James H. Thrall, *Radiology* vol. 237; 2005 (790–793).

“The goal of medical imaging,” by B. Sanders, *Radiology Management*, vol. 24: 2, March/April 2002 (12–14).

“The importance of a PACS manager for large-scale PACS installations,” by L. C. Beird, *Journal of Digital Imaging*, vol. 12 Suppl 1; May 1999; (37).

“User acceptability—a critical success factor for picture archiving and communication system implementation,” by D. Crivianu-Gaita, P. Babyn, D. Gilday, B. O’Brien, and E. Charkot, *Journal of Digital Imaging*, vol. 13 Suppl 1; May 2000 (13–16).

FINALLY, ONLINE RESOURCES ARE AVAILABLE FOR EVERYONE

ADVANCE for imaging administrators, <http://www.advanceforioa.com>

AHRA “Continuing Education Online,” <http://www.ahraonline.org/confed/education/topics.asp>

American Association of Physicists in Medicine (AAPM), Task Group 18: “Assessment of Display Performance for Medical Imaging Systems,” <http://deckard.mc.duke.edu/~samei/tg18>

American College of Radiology (ACR) “Standards for Radiologic Practice,” <http://www.acr.org>

AuntMinnie (Active PACS bulletin board), <http://www.auntminnie.com>

ClubPACS (An Online Community), <http://clubpacs.mcw.edu>

Conflict Research Consortium University of Colorado, <http://www.conflict.colorado.edu>

Contract Pricing Reference Guides, <http://www.acq.osd.mil/dpap/contractpricing/vol5toc.htm>

Defense Procurement and Acquisition Policy DCM4JBOS, <http://dcm4che.sf.net>

Decisions in Imaging Economics, <http://www.imagingeconomics.com>

Diagnostic Imaging, <http://www.dimag.com>

DICOM Information and Standard, <http://www.dclunie.com/dicom-status/status.html>; <http://medical.nema.org>; <http://dcm4che.sf.net>

DICOM Validation Toolkit (DVTK), <http://www.dvtoolkit.org>

Ed Jones Train-the-Trainer, <http://www.edjones-train-the-trainer.com>

HL 7Browser, <http://www.hl7.org/Library/standards.cfm>

HL 7 Information and Standard IHE Documents, <http://www.ihe.net>; http://www.himss.org/ASP/topics_ihe.asp

National Electrical Manufacturers Association (NEMA), Medical Imaging Informatics Section,

Joint Security and Privacy Initiative "Documents,"
<http://www.nema.org/prod/med/security>

OpenRad, <http://www.openrad.com>

Radiology Management, <http://www.ahraonline.org/Resources/Publications.asp>

SANS (System Admin, Audit, Network, Security) Institute "Reading Room" Security, http://www.himss.org/ASP/topics_ihe.asp; <http://www.nema.org/prod/med/security>; <http://web.mit.edu/security>

Storage Network Industry Association (SNIA)
 "Technical Tutorials," <http://www.snia.org/education/tutorials>

System Administrators Guild (SAGE), <http://sageweb.sage.org>

Yahoo PACS Mailing List, <http://pacs-admin-suscribe@yahoogroups.com>

Yahoo OsiriX Mailing List, <http://groups.yahoo.com/group/osirix>

SIIM CERTIFICATION COMMITTEE

Imaging Informatics Administration Certification Committee

Chair

J. Anthony Seibert, PhD
 Professor, Imaging Research Center
 UC Davis Medical Center
 4860 Y St, Ste 3100
 Sacramento, CA 95817
 Phone: 916-734-0493
 Fax: 916-734-6548
 Email: jaseibert@ucdavis.edu
 Term: 2008

Member

D. Scott Griffin, BSRT(R)
 PACS Administrator, Department of Imaging Services
 Southeast Alabama Medical Center
 1108 Ross Clark Circle
 Dothan, AL 36301
 Phone: 334-699-4430
 Fax: 334-678-2883
 Email: dsgriffin@samc.org
 Term: 2008

Member

Shaun A. Hill, RT (R)
 PACS Administrator, Department of Radiology
 High Point Regional Hospital

601 North Elm Street
 High Point, NC 27262

Phone: 336-878-6037

Fax: 336-878-6194

Email: skill@hprhs.com

Term: 2008

Member

Janice Honeyman-Buck, PhD
 Associate Professor, Department of Radiology
 University of Florida
 P.O. Box 100374
 Gainesville, FL 32610-0374
 Phone: 352-265-0291
 Fax: 866-634-4821
 Email: honeyman@ufl.edu
 Term: 2008

Member

Steven C. Horii, MD
 Professor, Department of Radiology
 University of Penn Health System
 3400 Spruce Street
 Philadelphia, PA 19104
 Phone: 215-349-5183
 Fax: 215-349-5627
 Email: Steve.Horii@uphs.upenn.edu
 Term: 2008

Member

Richard L. Morin, PhD
 Professor, Department of Diagnostic Radiology
 Mayo Clinic-Jacksonville
 4500 San Pablo Road
 Jacksonville, FL 32224
 Phone: 904-953-8752
 Fax: 904-953-2894
 Email: morin.richard@mayo.edu
 Term: 2008

Member

Paul G. Nagy, PhD
 Assistant Professor, Department of Radiology
 University of Maryland School of Medicine
 22 South Greene Street
 Baltimore, MD 21201
 Phone: 410-328-6301
 Fax: 410-328-0641
 Email: pnagy@umm.edu
 Term: 2008

Member

Keith L. Skaer
 Imaging Manager, Clinical Engineering
 BJC Health System
 3165 McKelvey Road, Ste 110

St Louis, MO 63044
Phone: 314-996-8920
Fax: 314-996-8928
Email: kls7124@bjc.org
Term: 2008

Member

Charles W. Socia, RT (R)(CT)(QM)
VP of Operations
Arkansas Medical Imaging
9601 Lile Drive, Ste 1100
Little Rock, AR 72205
Phone: 501-223-3392
Fax: 501-223-4970
Email: csocia@arkansasmedicalimaging.com
Term: 2008

Member

David Wild

Director of Systems Integration, Radiology
Department
Albert Einstein Healthcare Network
11 Almond Court
Lafayette Hill, PA 19444-2500
Phone: 215-456-7117
Fax: 215-456-6227
Email: wildd@einstein.edu
Term: 2008

Member

Byrn Williamson, Jr., MD
612 9th Avenue SW
Rochester, MN 55902
Phone: 507-288-1339 (H)
Fax: 507-284-8996
Email: williamson.byrn@mayo.edu
Term: 2008