



Daniel Rubin

Professor of Biomedical Data Science and of Radiology (Integrative Biomedical Imaging Informatics at Stanford), of Medicine (Biomedical Informatics Research) and, by courtesy, of Ophthalmology and of Computer Science

CLINICAL OFFICES

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ACADEMIC CONTACT INFORMATION

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Bio

BIO

Daniel L. Rubin, MD, MS is Professor of Biomedical Data Science, Radiology, Medicine (Biomedical Informatics), and Ophthalmology (courtesy) at Stanford University. He is Principal Investigator of two centers in the National Cancer Institute's Quantitative Imaging Network (QIN) and is Director of Biomedical Informatics for the Stanford Cancer Institute. He also leads the Research Informatics Center (RIC) of the School of Medicine (<https://med.stanford.edu/ric.html>). He previously chaired the Informatics Committee of the ECOG-ACRIN cooperative group, of the QIN Executive Committee, and of the RadLex Steering Committee of the Radiological Society of North America. His NIH-funded research program focuses on quantitative imaging and integrating imaging data with clinical and molecular data to discover imaging phenotypes that can predict the underlying biology, define disease subtypes, and personalize treatment. He is a Fellow of the American Institute for Medical and Biological Engineering (AIMBE), Fellow of the American College of Medical Informatics (ACMI), Fellow of the Society of Imaging Informatics in Medicine (SIIM), and recipient of the Distinguished Investigator Award from the Academy for Radiology & Biomedical Imaging Research. He has published over 240 scientific publications in biomedical imaging informatics and radiology.

CLINICAL FOCUS

- Artificial Intelligence and Machine Learning
- Biomedical informatics
- Imaging informatics
- Quantitative Imaging
- Diagnostic Radiology
- Radiology

ACADEMIC APPOINTMENTS

- Professor, Biomedical Data Science
- Professor, Radiology
- Professor, Medicine - Biomedical Informatics Research
- Professor (By courtesy), Ophthalmology

- Professor (By courtesy), Computer Science
- Member, Bio-X
- Member, Stanford Cancer Institute
- Member, Wu Tsai Neurosciences Institute

ADMINISTRATIVE APPOINTMENTS

- Director of Biomedical Informatics, Stanford Cancer Institute, (2016- present)
- Director, Scholarly Concentration in Informatics and Data Driven Medicine, Stanford School of Medicine, (2011- present)

HONORS AND AWARDS

- Distinguished Investigator Award, Academy for Radiology & Biomedical Imaging Research (2017)
- caBIG Connecting Collaborators Award, National Cancer Institute (2010)
- Certificate of Merit, Radiological Society of North America (2009)
- Cum Laude Award, Radiological Society of North America (2008)
- Cum Laude Award, Radiological Society of North America (2006)

PROFESSIONAL EDUCATION

- Internship: Stanford University Internal Medicine Residency (1986) CA
- Residency: Stanford University Radiology Residency (1991) CA
- Residency: Stanford University School of Medicine Registrar (1990) CA
- Medical Education: Stanford University School of Medicine Registrar (1985) CA
- Board Certification: Diagnostic Radiology, American Board of Radiology (1990)

LINKS

- My Lab Site: <http://rubin.web.stanford.edu/>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

My research interest is imaging informatics--ways computers can work with images to leverage their rich information content and to help physicians use images to guide personalized care. Just as biology has been revolutionized by online genetic data, now clinical medicine can be transformed by mining huge image repositories and electronically correlating image data with pathology and molecular data. Work in our lab thus lies at the intersection of biomedical informatics and imaging science, and we are working in several major areas. We are developing methods to extract information and meaning from images for data mining. We are also developing statistical natural language processing methods to extract and summarize information in radiology reports and published articles. We are building resources to integrate images with related clinical and molecular data to discover novel image biomarkers of disease. Finally, we are translating these methods into practice by creating decision support applications that relate radiology findings to diagnoses and that will improve diagnostic accuracy and clinical effectiveness.

CLINICAL TRIALS

- Genetic & Pathological Studies of BRCA1/BRCA2: Associated Tumors & Blood Samples, Recruiting
- A Study of GDC-0853 in Patients With Resistant B-Cell Lymphoma or Chronic Lymphocytic Leukemia., Not Recruiting
- A Study of the Bruton's Tyrosine Kinase Inhibitor, PCI-32765 (Ibrutinib), in Combination With Rituximab, Cyclophosphamide, Doxorubicin, Vincristine, and Prednisone in Patients With Newly Diagnosed Non-Germinal Center B-Cell Subtype of Diffuse Large B-Cell Lymphoma, Not Recruiting
- A Study to Evaluate Safety, Tolerability, and Pharmacokinetics of Escalating Doses of AGS67E Given as Monotherapy in Subjects With Refractory or Relapsed Lymphoid Malignancies, Not Recruiting
- Correlation of PET-CT Studies With Serum Protein Analysis, Not Recruiting

- Ibrutinib With Rituximab in Adults With Waldenström's Macroglobulinemia, Not Recruiting
- Perfusion CT as a Predictor of Treatment Response in Patients With Rectal Cancer, Not Recruiting

PROJECTS

- Querying RDF/OWL Database of Nuclear Medicine Images - Gachon University of Medicine and Science
- Quantitative image analysis with image patches - Tel Aviv University
- The ePAD project - University of São Paulo
- Learning image texture models of cancer driver genes - Ecole Polytechnique Fédérale de Lausanne (EPFL)
- Automatic abstraction of imaging observations with their characteristics from mammography reports - Akdeniz University
- Predicting tumor growth subtypes seen at the pathological level from tumor texture - University of Applied Sciences Western Switzerland (HES-SO)
- Natural language processing of radiology reports - University of Haifa, Haifa
- Using ontologies linked with geometric models to reason about penetrating injuries - Université de Rennes

Teaching

COURSES

2019-20

- Computational Methods for Biomedical Image Analysis and Interpretation: BIOMEDIN 260, CS 235, RAD 260 (Spr)
- Precision Practice with Big Data: BIOMEDIN 205 (Aut)

2018-19

- Computational Methods for Biomedical Image Analysis and Interpretation: BIOMEDIN 260, RAD 260 (Spr)
- Precision Practice with Big Data: BIOMEDIN 205 (Aut)

2017-18

- Computational Methods for Biomedical Image Analysis and Interpretation: BIOMEDIN 260, RAD 260 (Spr)
- Precision Practice with Big Data: BIOMEDIN 205 (Aut)

2016-17

- Computational Methods for Biomedical Image Analysis and Interpretation: BIOMEDIN 260, RAD 260 (Spr)
- Precision Practice with Big Data: BIOMEDIN 205 (Aut)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Gabriel Maher, Jiaming Zeng

Postdoctoral Faculty Sponsor

Jared Dunnmon, Liangqiong Qu, Rikiya Yamashita

Doctoral Dissertation Advisor (AC)

Nandita Bhaskhar, Blaine Rister, Khaled Saab, Xuerong Xiao, Darwin Yi

Master's Program Advisor

Julien Hedou, Areli Valencia, Will Yan

Doctoral (Program)

Matthew Aguirre, Alex Derry, Benjamin Huynh, Jessica Torres

Postdoctoral Research Mentor

Yan-Ran (Joyce) Wang, Rikiya Yamashita

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Biomedical Informatics (Phd Program)

Publications

PUBLICATIONS

- **Automatic inference of BI-RADS final assessment categories from narrative mammography report findings** *Journal of Biomedical Informatics*
Banerjee, I., Bozkurt, S., Alkim, E., Sagreya, H., Kurian, A. W., Rubin, D. L.
2019
- **Proposing New RadLex Terms by Analyzing Free-Text Mammography Reports.** *Journal of digital imaging*
Bulu, H., Sippo, D. A., Lee, J. M., Burnside, E. S., Rubin, D. L.
2018
- **Automatic information extraction from unstructured mammography reports using distributed semantics** *JOURNAL OF BIOMEDICAL INFORMATICS*
Gupta, A., Banerjee, I., Rubin, D. L.
2018; 78: 78–86
- **Intratumoral Spatial Heterogeneity at Perfusion MR Imaging Predicts Recurrence-free Survival in Locally Advanced Breast Cancer Treated with Neoadjuvant Chemotherapy.** *Radiology*
Wu, J., Cao, G., Sun, X., Lee, J., Rubin, D. L., Napel, S., Kurian, A. W., Daniel, B. L., Li, R.
2018: 172462
- **Beyond Retinal Layers: A Deep Voting Model for Automated Geographic Atrophy Segmentation in SD-OCT Images** *TRANSLATIONAL VISION SCIENCE & TECHNOLOGY*
Ji, Z., Chen, Q., Niu, S., Leng, T., Rubin, D. L.
2018; 7 (1): 1
- **Locally adaptive magnetic resonance intensity models for unsupervised segmentation of multiple sclerosis lesions** *JOURNAL OF MEDICAL IMAGING*
Galimzianova, A., Lesjak, Z., Rubin, D. L., Likar, B., Pernus, F., Spiclin, Z.
2018; 5 (1): 011007
- **Retinal Lesion Detection With Deep Learning Using Image Patches** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*
Lam, C., Yu, C., Huang, L., Rubin, D.
2018; 59 (1): 590–96
- **Non-Small Cell Lung Cancer Radiogenomics Map Identifies Relationships between Molecular and Imaging Phenotypes with Prognostic Implications.** *Radiology*
Zhou, M., Leung, A., Echegaray, S., Gentles, A., Shrager, J. B., Jensen, K. C., Berry, G. J., Plevritis, S. K., Rubin, D. L., Napel, S., Gevaert, O.
2018; 286 (1): 307–15
- **Radiology report annotation using intelligent word embeddings: Applied to multi-institutional chest CT cohort** *JOURNAL OF BIOMEDICAL INFORMATICS*
Banerjee, I., Chen, M. C., Lungren, M. P., Rubin, D. L.
2018; 77: 11–20
- **Assessing treatment response in triple-negative breast cancer from quantitative image analysis in perfusion magnetic resonance imaging.** *Journal of medical imaging (Bellingham, Wash.)*
Banerjee, I., Malladi, S., Lee, D., Depeursinge, A., Telli, M., Lipson, J., Golden, D., Rubin, D. L.
2018; 5 (1): 011008
- **Association of Omics Features with Histopathology Patterns in Lung Adenocarcinoma** *CELL SYSTEMS*
Yu, K., Berry, G. J., Rubin, D. L., Re, C., Altman, R. B., Snyder, M.
2017; 5 (6): 620–+

- **A curated mammography data set for use in computer-aided detection and diagnosis research** *SCIENTIFIC DATA*
Lee, R., Gimenez, F., Hoogi, A., Miyake, K., Gorovoy, M., Rubin, D. L.
2017; 4: 170177
- **Automated detection of foveal center in SD-OCT images using the saliency of retinal thickness maps** *MEDICAL PHYSICS*
Niu, S., Chen, Q., de Sisternes, L., Leng, T., Rubin, D. L.
2017; 44 (12): 6390–6403
- **Quantitative Image Feature Engine (QIFE): an Open-Source, Modular Engine for 3D Quantitative Feature Extraction from Volumetric Medical Images.** *Journal of digital imaging*
Echegaray, S., Bakr, S., Rubin, D. L., Napel, S.
2017
- **Age at Menarche and Late Adolescent Adiposity Associated with Mammographic Density on Processed Digital Mammograms in 24,840 Women** *CANCER EPIDEMIOLOGY BIOMARKERS & PREVENTION*
Alexeeff, S. E., Odo, N. U., Lipson, J. A., Achacosol, N., Rothstein, J. H., Yaffe, M. J., Liang, R. Y., Acton, L., McGuire, V., Whittemore, A. S., Rubin, D. L., Sieh, W., Habel, et al
2017; 26 (9): 1450–58
- **Use of Radiology Procedure Codes in Health Care: The Need for Standardization and Structure** *RADIOGRAPHICS*
Wang, K. C., Patel, J. B., Vyas, B., Toland, M., Collins, B., Vreeman, D. J., Abhyankar, S., Siegel, E. L., Rubin, D. L., Langlotz, C. P.
2017; 37 (4): 1099–1110
- **Prediction of EGFR and KRAS mutation in non-small cell lung cancer using quantitative 18F FDG-PET/CT metrics.** *Oncotarget*
Minamimoto, R., Jamali, M., Gevaert, O., Echegaray, S., Khuong, A., Hoang, C. D., Shrager, J. B., Plevritis, S. K., Rubin, D. L., Leung, A. N., Napel, S., Quon, A.
2017
- **Transfer learning on fused multiparametric MR images for classifying histopathological subtypes of rhabdomyosarcoma.** *Computerized medical imaging and graphics*
Banerjee, I., Crawley, A., Bhethanabotla, M., Daldrup-Link, H. E., Rubin, D. L.
2017
- **Software for Distributed Computation on Medical Databases: A Demonstration Project** *JOURNAL OF STATISTICAL SOFTWARE*
Narasimhan, B., Rubin, D. L., Gross, S. M., Bendersky, M., Lavori, P. W.
2017; 77 (13): 1-22
- **Adaptive local window for level set segmentation of CT and MRI liver lesions.** *Medical image analysis*
Hoogi, A., Beaulieu, C. F., Cunha, G. M., Heba, E., Sirlin, C. B., Napel, S., Rubin, D. L.
2017; 37: 46-55
- **Revealing cancer subtypes with higher-order correlations applied to imaging and omics data** *BMC MEDICAL GENOMICS*
Graim, K., Liu, T. T., Achrol, A. S., Paull, E. O., Newton, Y., Chang, S. D., Harsh, G. R., Cordero, S. P., Rubin, D. L., Stuart, J. M.
2017; 10
- **Automated intraretinal segmentation of SD-OCT images in normal and age-related macular degeneration eyes** *BIOMEDICAL OPTICS EXPRESS*
de Sisternes, L., Jonna, G., Moss, J., Marmor, M. F., Leng, T., Rubin, D. L.
2017; 8 (3): 1926-1949
- **Adaptive Estimation of Active Contour Parameters Using Convolutional Neural Networks and Texture Analysis** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
Hoogi, A., Subramaniam, A., Veerapaneni, R., Rubin, D. L.
2017; 36 (3): 781-791
- **Breast Cancer Risk and Mammographic Density Assessed with Semiautomated and Fully Automated Methods and BI-RADS.** *Radiology*
Jeffers, A. M., Sieh, W., Lipson, J. A., Rothstein, J. H., McGuire, V., Whittemore, A. S., Rubin, D. L.
2017; 282 (2): 348-355
- **Individual Drusen Segmentation and Repeatability and Reproducibility of Their Automated Quantification in Optical Coherence Tomography Images.** *Translational vision science & technology*
de Sisternes, L., Jonna, G., Greven, M. A., Chen, Q., Leng, T., Rubin, D. L.

2017; 6 (1): 12-?

- **Building and Querying RDF/OWL Database of Semantically Annotated Nuclear Medicine Images** *JOURNAL OF DIGITAL IMAGING*
Hwang, K. H., Lee, H., Koh, G., Willrett, D., Rubin, D. L.
2017; 30 (1): 4-10
- **Predictive radiogenomics modeling of EGFR mutation status in lung cancer** *SCIENTIFIC REPORTS*
Gevaert, O., Echegaray, S., Khuong, A., Hoang, C. D., Shrager, J. B., Jensen, K. C., Berry, G. J., Guo, H. H., Lau, C., Plevritis, S. K., Rubin, D. L., Napel, S., Leung, et al
2017; 7
- **Robust noise region-based active contour model via local similarity factor for image segmentation** *PATTERN RECOGNITION*
Niu, S., Chen, Q., de Sisternes, L., Ji, Z., Zhou, Z., Rubin, D. L.
2017; 61: 104-119
- **Computerized Prediction of Radiological Observations Based on Quantitative Feature Analysis: Initial Experience in Liver Lesions** *Journal of Digital Imaging*
Banerjee, I.
2017: 506-18
- **Web-Based Tools for Exploring the Potential of Quantitative Imaging Biomarkers in Radiology Intensity and Texture Analysis on the ePAD Platform** *BIOMEDICAL TEXTURE ANALYSIS: FUNDAMENTALS, TOOLS AND CHALLENGES*
Schaer, R., Cid, Y., Alkim, E., John, S., Rubin, D. L., Depeursinge, A., Depeursinge, A., AlKadi, O. S., Mitchell
2017: 379-410
- **Differential Data Augmentation Techniques for Medical Imaging Classification Tasks.** *AMIA ... Annual Symposium proceedings. AMIA Symposium*
Hussain, Z., Gimenez, F., Yi, D., Rubin, D.
2017; 2017: 979-84
- **Intelligent Word Embeddings of Free-Text Radiology Reports.** *AMIA ... Annual Symposium proceedings. AMIA Symposium*
Banerjee, I., Madhavan, S., Goldman, R. E., Rubin, D. L.
2017; 2017: 411-20
- **Mining Electronic Health Records to Extract Patient-Centered Outcomes Following Prostate Cancer Treatment.** *AMIA ... Annual Symposium proceedings. AMIA Symposium*
Hernandez-Boussard, T., Kourdis, P. D., Seto, T., Ferrari, M., Blayney, D. W., Rubin, D., Brooks, J. D.
2017; 2017: 876-82
- **Toward Automated Pre-Biopsy Thyroid Cancer Risk Estimation in Ultrasound.** *AMIA ... Annual Symposium proceedings. AMIA Symposium*
Galimzianova, A., Siebert, S. M., Kamaya, A., Desser, T. S., Rubin, D. L.
2017; 2017: 734-41
- **A Convolutional Neural Network for Automatic Characterization of Plaque Composition in Carotid Ultrasound** *IEEE JOURNAL OF BIOMEDICAL AND HEALTH INFORMATICS*
Lekadir, K., Galimzianova, A., Betriu, A., del Mar Vila, M., Igual, L., Rubin, D. L., Fernandez, E., Radeva, P., Napel, S.
2017; 21 (1): 48-55
- **A 3-D Riesz-Covariance Texture Model for Prediction of Nodule Recurrence in Lung CT** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
Cirujeda, P., Cid, Y. D., Muller, H., Rubin, D., Aguilera, T. A., Loo, B. W., Diehn, M., Binefa, X., Depeursinge, A.
2016; 35 (12): 2620-2630
- **Case-control study of mammographic density and breast cancer risk using processed digital mammograms** *BREAST CANCER RESEARCH*
Habel, L. A., Lipson, J. A., Achacoso, N., Rothstein, J. H., Yaffe, M. J., Liang, R. Y., Acton, L., McGuire, V., Whittemore, A. S., Rubin, D. L., Sieh, W.
2016; 18
- **Automated classification of brain tumor type in whole-slide digital pathology images using local representative tiles** *MEDICAL IMAGE ANALYSIS*
Barker, J., Hoogi, A., Depeursinge, A., Rubin, D. L.
2016; 30: 60-71
- **Analysis of Inner and Outer Retinal Thickness in Patients Using Hydroxychloroquine Prior to Development of Retinopathy** *JAMA OPHTHALMOLOGY*
de Sisternes, L., Hu, J., Rubin, D. L., Marmor, M. F.

2016; 134 (5): 511-519

- **Computational Identification of Tumor Anatomic Location Associated with Survival in 2 Large Cohorts of Human Primary Glioblastomas** *AMERICAN JOURNAL OF NEURORADIOLOGY*
Liu, T. T., Achrol, A. S., MITCHELL, L. A., Du, W. A., Loya, J. J., Rodriguez, S. A., Feroze, A., Westbroek, E. M., Yeom, K. W., Stuart, J. M., Chang, S. D., Harsh, G. R., Rubin, et al
2016; 37 (4): 621-628
- **A combinatorial radiographic phenotype may stratify patient survival and be associated with invasion and proliferation characteristics in glioblastoma** *JOURNAL OF NEUROSURGERY*
Rao, A., Rao, G., Gutman, D. A., Flanders, A. E., Hwang, S. N., Rubin, D. L., Colen, R. R., Zinn, P. O., Jain, R., Wintermark, M., Kirby, J. S., Jaffe, C. C., Freymann, et al
2016; 124 (4): 1008-1017
- **Automated geographic atrophy segmentation for SD-OCT images using region-based C-V model via local similarity factor** *BIOMEDICAL OPTICS EXPRESS*
Niu, S., de Sisternes, L., Chen, Q., Leng, T., Rubin, D. L.
2016; 7 (2): 581-600
- **A method for normalizing pathology images to improve feature extraction for quantitative pathology.** *Medical physics*
Tam, A., Barker, J., Rubin, D.
2016; 43 (1): 528-?
- **A Rapid Segmentation-Insensitive 'Digital Biopsy' Method for Radiomic Feature Extraction; Method and Pilot Study Using CT Images of Non-Small Cell Lung Cancer** *Tomography*
Echegaray, S., Nair, V., Kadoch, M., Leung, A., Rubin, D., Gevaert, O., Napel Sandy, et al
2016; 2 (4): 283-94
- **Magnetic resonance perfusion image features uncover an angiogenic subgroup of glioblastoma patients with poor survival and better response to antiangiogenic treatment.** *Neuro-Oncology*
Liu, T. T., Achrol, A. S., Mitchell, L. A., Rodriguez, S. A., Feroze, A., Iv, M., Kim, C., Chaudhary, N., Gevaert, O., Stuart, J. M., Harsh, G. R., Chang, S. D., Rubin, et al
2016
- **The National Cancer Informatics Program (NCIP) Annotation and Image Markup (AIM) Foundation Model** *JOURNAL OF DIGITAL IMAGING*
Mongkolwat, P., Kleper, V., Talbot, S., Rubin, D.
2014; 27 (6): 692-701
- **A FALSE COLOR FUSION STRATEGY FOR DRUSEN AND GEOGRAPHIC ATROPHY VISUALIZATION IN OPTICAL COHERENCE TOMOGRAPHY IMAGES** *RETINA-THE JOURNAL OF RETINAL AND VITREOUS DISEASES*
Chen, Q., Leng, T., Niu, S., Shi, J., de Sisternes, L., Rubin, D. L.
2014; 34 (12): 2346-2358
- **Quantitative SD-OCT imaging biomarkers as indicators of age-related macular degeneration progression.** *Investigative ophthalmology & visual science*
de Sisternes, L., Simon, N., Tibshirani, R., Leng, T., Rubin, D. L.
2014; 55 (11): 7093-7103
- **Automated retinal layers segmentation in SD-OCT images using dual-gradient and spatial correlation smoothness constraint** *COMPUTERS IN BIOLOGY AND MEDICINE*
Niu, S., Chen, Q., de Sisternes, L., Rubin, D. L., Zhang, W., Liu, Q.
2014; 54: 116-128
- **On combining image-based and ontological semantic dissimilarities for medical image retrieval applications.** *Medical image analysis*
Kurtz, C., Depeursinge, A., Napel, S., Beaulieu, C. F., Rubin, D. L.
2014; 18 (7): 1082-1100
- **Predicting Visual Semantic Descriptive Terms From Radiological Image Data: Preliminary Results With Liver Lesions in CT.** *IEEE transactions on medical imaging*
Depeursinge, A., Kurtz, C., Beaulieu, C., Napel, S., Rubin, D.
2014; 33 (8): 1669-1676

- **Imaging genomic mapping of an invasive MRI phenotype predicts patient outcome and metabolic dysfunction: a TCGA glioma phenotype research group project** *BMC MEDICAL GENOMICS*
Colen, R. R., Vangel, M., Wang, J., Gutman, D. A., Hwang, S. N., Wintermark, M., Jain, R., Jilwan-Nicolas, M., Chen, J. Y., Raghavan, P., Holder, C. A., Rubin, D., Huang, et al
2014; 7
- **An improved optical coherence tomography-derived fundus projection image for drusen visualization.** *Retina (Philadelphia, Pa.)*
Chen, Q., Leng, T., Zheng, L. L., Kutzscher, L., de Sisternes, L., Rubin, D. L.
2014; 34 (5): 996-1005
- **Automated drusen segmentation and quantification in SD-OCT images.** *Medical image analysis*
Chen, Q., Leng, T., Zheng, L., Kutzscher, L., Ma, J., de Sisternes, L., Rubin, D. L.
2013; 17 (8): 1058-1072
- **Semi-automatic geographic atrophy segmentation for SD-OCT images** *BIOMEDICAL OPTICS EXPRESS*
Chen, Q., de Sisternes, L., Leng, T., Zheng, L., Kutzscher, L., Rubin, D. L.
2013; 4 (12): 2729-2750
- **Dynamic contrast-enhanced MRI-based biomarkers of therapeutic response in triple-negative breast cancer.** *Journal of the American Medical Informatics Association*
Golden, D. I., Lipson, J. A., Telli, M. L., Ford, J. M., Rubin, D. L.
2013; 20 (6): 1059-1066
- **Modeling Perceptual Similarity Measures in CT Images of Focal Liver Lesions** *JOURNAL OF DIGITAL IMAGING*
Faruque, J., Rubin, D. L., Beaulieu, C. F., Napel, S.
2013; 26 (4): 714-720
- **Snake model-based lymphoma segmentation for sequential CT images** *COMPUTER METHODS AND PROGRAMS IN BIOMEDICINE*
Chen, Q., Quan, F., Xu, J., Rubin, D. L.
2013; 111 (2): 366-375
- **Quantitative evaluation of drusen on photographs.** *Ophthalmology*
Rubin, D. L., de Sisternes, L., Kutzscher, L., Chen, Q., Leng, T., Zheng, L. L.
2013; 120 (3): 644-644 e2
- **Informatics in Radiology Improving Clinical Work Flow through an AIM Database: A Sample Web-based Lesion Tracking Application** *RADIOGRAPHICS*
Abajian, A. C., Levy, M., Rubin, D. L.
2012; 32 (5): 1543-1552
- **Automatic classification of mammography reports by BI-RADS breast tissue composition class** *JOURNAL OF THE AMERICAN MEDICAL INFORMATICS ASSOCIATION*
Percha, B., Nassif, H., Lipson, J., Burnside, E., Rubin, D.
2012; 19 (5): 913-916
- **The Role of Informatics in Health Care Reform** *ACADEMIC RADIOLOGY*
Liu, Y. I., Rubin, D. L.
2012; 19 (9): 1094-1099
- **Quantifying the margin sharpness of lesions on radiological images for content-based image retrieval** *MEDICAL PHYSICS*
Xu, J., Nadel, S., Greenspan, H., Beaulieu, C. F., Agrawal, N., Rubin, D.
2012; 39 (9): 5405-5418
- **Prognostic PET F-18-FDG Uptake Imaging Features Are Associated with Major Oncogenomic Alterations in Patients with Resected Non-Small Cell Lung Cancer** *CANCER RESEARCH*
Nair, V. S., Gevaert, O., Davidzon, G., Napel, S., Graves, E. E., Hoang, C. D., Shrager, J. B., Quon, A., Rubin, D. L., Plevritis, S. K.
2012; 72 (15): 3725-3734
- **Non-Small Cell Lung Cancer: Identifying Prognostic Imaging Biomarkers by Leveraging Public Gene Expression Microarray Data-Methods and Preliminary Results** *RADIOLOGY*
Gevaert, O., Xu, J., Hoang, C. D., Leung, A. N., Xu, Y., Quon, A., Rubin, D. L., Napel, S., Plevritis, S. K.

2012; 264 (2): 387-396

- **Informatics in Radiology An Open-Source and Open-Access Cancer Biomedical Informatics Grid Annotation and Image Markup Template Builder** *RADIOGRAPHICS*
Mongkolwat, P., Channin, D. S., Kleper, V., Rubin, D. L.
2012; 32 (4): 1223-?
- **A Comprehensive Descriptor of Shape: Method and Application to Content-Based Retrieval of Similar Appearing Lesions in Medical Images** *JOURNAL OF DIGITAL IMAGING*
Xu, J., Faruque, J., Beaulieu, C. F., Rubin, D., Napel, S.
2012; 25 (1): 121-128
- **Automatic annotation of radiological observations in liver CT images.** *AMIA ... Annual Symposium proceedings / AMIA Symposium. AMIA Symposium*
Gimenez, F., Xu, J., Liu, Y., Liu, T., Beaulieu, C., Rubin, D., Napel, S.
2012; 2012: 257-263
- **Automated temporal tracking and segmentation of lymphoma on serial CT examinations** *MEDICAL PHYSICS*
Xu, J., Greenspan, H., Napel, S., Rubin, D. L.
2011; 38 (11): 5879-5886
- **Informatics in Radiology Measuring and Improving Quality in Radiology: Meeting the Challenge with Informatics** *RADIOGRAPHICS*
Rubin, D. L.
2011; 31 (6): 1511-1527
- **Managing Biomedical Image Metadata for Search and Retrieval of Similar Images** *JOURNAL OF DIGITAL IMAGING*
Korenblum, D., Rubin, D., Napel, S., Rodriguez, C., Beaulieu, C.
2011; 24 (4): 739-748
- **Current and Future Trends in Imaging Informatics for Oncology** *CANCER JOURNAL*
Levy, M. A., Rubin, D. L.
2011; 17 (4): 203-210
- **A Bayesian Network for Differentiating Benign From Malignant Thyroid Nodules Using Sonographic and Demographic Features** *AMERICAN JOURNAL OF ROENTGENOLOGY*
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