Stanford



Daniel Rubin

Professor of Biomedical Data Science and of Radiology (Integrative Biomedical Imaging Informatics at Stanford), Emeritus

Department of Biomedical Data Science

Bio

BIO

Daniel Rubin is Professor of Biomedical Data Science and Radiology at Stanford University, Emeritus and past Faculty Affiliate of the Stanford Institute for Human-Centered AI (HAI). He published over 400 peer-reviewed publications in biomedical imaging informatics, data science, and radiology, and is a Fellow of AIMBE, ACMI, and SIIM, and recipient of the Distinguished Investigator Award from the Academy for Radiology & Biomedical Imaging Research.

As Emeritus Professor, Dr. Rubin leads the Stanford AI in Performing Arts laboratory, which applies the methods of data science and artificial intelligence to address urgent challenges facing opera and the performing arts. Working in collaboration with the Opera Verace Foundation (https://operaverace.org), the lab pursues four research initiatives:

(1) conversational AI agents and AI-generated content — including social media posts and cinematic animations — to make opera discoverable and compelling for younger audiences;

(2) an AI-powered "opera docent" featuring a live avatar, built on large language models and high-fidelity voice synthesis, which guides new audiences through opera's works, performers, and history;

(3) STAGE (Standardized Theater and Arts Granular Evidence), a performing arts data warehouse developed in partnership with major opera institutions in North America and Europe, enabling cross-institutional research on audience behavior, demographics, and engagement at scale; and (

4) a virtual performance platform ("Virtual Opera Theater") encompassing multi-camera recording technology with AI-directed editing, audience-controlled viewing of opera performances recorded with multi-camera technology, AI-generated video director and "audience directed" video cuts, AI-generated promotional opera trailers, and virtual streaming of live and recorded productions — enabling global audiences to experience opera beyond the concert hall.

The laboratory collaborates with leading opera houses and organizations including the Metropolitan Opera, San Francisco Opera, Teatro Nuovo, Opera San José, the International Meistersinger Academy (Germany), Opera Fuoco (France), Gran Teatre del Liceu (Barcelona), Opera America, and Opera Europa and the Opera Verace Foundation.

Lab website: https://web.stanford.edu/~dlrubin/ai-performing-arts/

ACADEMIC APPOINTMENTS

- Professor Emeritus, Department of Biomedical Data Science
- Professor Emeritus, Radiology
- Member, Bio-X
- Member, Cardiovascular Institute
- Faculty Affiliate, Institute for Human-Centered Artificial Intelligence (HAI)
- Member, Stanford Cancer Institute
- Member, Wu Tsai Neurosciences Institute

ADMINISTRATIVE APPOINTMENTS

- Director of Biomedical Informatics, Stanford Cancer Institute, (2016-2024)
- Co-Director, Cancer Imaging and Early Detection Program, Stanford Cancer Institute, (2018-2024)
- Director, Scholarly Concentration in Informatics and Data Driven Medicine, Stanford School of Medicine, (2011-2024)

HONORS AND AWARDS

- Fellow (FSIIM), Society of Imaging Informatics in Medicine (2018)
- Distinguished Investigator Award, Academy for Radiology & Biomedical Imaging Research (2017)
- Fellow (FACMI), American College of Medical Informatics (ACMI) (2012)
- Honored Educator Award, Radiological Society of North America, Radiological Society of North America (RSNA) (2012, 2013)
- Cum Laude Award, Radiological Society of North America (2011)
- 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)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Diplomate, American Board of Radiology (1990 - present)
- Certified Physician and Surgeon, California Board of Medical Quality Assurance (1986 - present)

COMMUNITY AND INTERNATIONAL WORK

- Director, Opera Verace Foundation, North America and Europe

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

Teaching

COURSES

2023-24

- Precision Practice with Big Data: BIOMEDIN 205 (Aut)

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Biomedical Data Science (PhD Program)
- Biomedical Data Science (Masters Program)

Publications

PUBLICATIONS

- **PlexusNet: A Neural Network Architectural Concept for Medical Image Classification** *Computers in Biology and Medicine*
  Eminaga, O., Abbas, M., Shen, J., Laurie, M., Brooks, J. D., Liao, J., Rubin, D. L.
  2023: 106594
- **Learning domain-agnostic visual representation for computational pathology using medically-irrelevant style transfer augmentation** *IEEE Transactions on Medical Imaging*
  Yamashita, R., Long, J., Banda, S., Shen*, J., Rubin*, D. L., (*equal contribution)
  2021: 3945-3954
- **Weak supervision as an efficient approach for automated seizure detection in electroencephalography.** *Digital Medicine*
  Saab, K., Dunnmon, J., Ré, C., Rubin, D., Lee-Messer, C.
  2020; 3: 12
- **A Probabilistic Model to Support Radiologists' Classification Decisions in Mammography Practice** *MEDICAL DECISION MAKING*
  Zeng, J., Gimenez, F., Burnside, E. S., Rubin, D. L., Shachter, R.
  2019; 39 (3): 208–16
- **Geographic atrophy segmentation in SD-OCT images using synthesized fundus autofluorescence imaging.** *Computer methods and programs in biomedicine*
  Wu, M. n., Cai, X. n., Chen, Q. n., Ji, Z. n., Niu, S. n., Leng, T. n., Rubin, D. L., Park, H. n.
  2019; 182: 105101
- **Automatic inference of BI-RADS final assessment categories from narrative mammography report findings** *Journal of Biomedical Informatics*
  Banerjee, I., Bozkurt, S., Alkim, E., Sagreiya, H., Kurian, A. W., Rubin, D. L.
  2019
- **Deep learning enables automatic detection and segmentation of brain metastases on multisequence MRI.** *Journal of magnetic resonance imaging : JMRI*

Grøvik, E. n., Yi, D. n., Iv, M. n., Tong, E. n., Rubin, D. n., Zaharchuk, G. n.
2019

- **Automated Survival Prediction in Metastatic Cancer Patients Using High-Dimensional Electronic Medical Record Data.** *Journal of the National Cancer Institute*
  Gensheimer, M. F., Henry, A. S., Wood, D. J., Hastie, T. J., Aggarwal, S., Dudley, S. A., Pradhan, P., Banerjee, I., Cho, E., Ramchandran, K., Pollom, E., Koong, A. C., Rubin, et al
  2018

- **Association of Tumor [18F]FDG Activity and Diffusion Restriction with Clinical Outcomes of Rhabdomyosarcomas.** *Molecular imaging and biology : MIB : the official publication of the Academy of Molecular Imaging*
  Pourmehdi Lahiji, A., Jackson, T., Nejadnik, H., von Eyben, R., Rubin, D., Spunt, S. L., Quon, A., Daldrup-Link, H.
  2018

- **Magnetic resonance imaging and molecular features associated with tumor-infiltrating lymphocytes in breast cancer.** *Breast cancer research : BCR*
  Wu, J., Li, X., Teng, X., Rubin, D. L., Napel, S., Daniel, B. L., Li, R.
  2018; 20 (1): 101

- **Automated dendritic spine detection using convolutional neural networks on maximum intensity projected microscopic volumes.** *Journal of neuroscience methods*
  Xiao, X., Djurisic, M., Hoogi, A., Sapp, R. W., Shatz, C. J., Rubin, D. L.
  2018

- **Distributed deep learning networks among institutions for medical imaging** *JOURNAL OF THE AMERICAN MEDICAL INFORMATICS ASSOCIATION*
  Chang, K., Balachandar, N., Lam, C., Yi, D., Brown, J., Beers, A., Rosen, B., Rubin, D. L., Kalpathy-Cramer, J.
  2018; 25 (8): 945–54

- **Probabilistic Prognostic Estimates of Survival in Metastatic Cancer Patients (PPES-Met) Utilizing Free-Text Clinical Narratives.** *Scientific reports*
  Banerjee, I., Gensheimer, M. F., Wood, D. J., Henry, S., Aggarwal, S., Chang, D. T., Rubin, D. L.
  2018; 8 (1): 10037

- **The LOINC RSNA radiology playbook - a unified terminology for radiology procedures** *JOURNAL OF THE AMERICAN MEDICAL INFORMATICS ASSOCIATION*
  Vreeman, D. J., Abhyankar, S., Wang, K. C., Carr, C., Collins, B., Rubin, D. L., Langlotz, C. P.
  2018; 25 (7): 885–92

- **Longitudinal Data in Ophthalmic Imaging: Curation and Annotation**
  Hallak, J., Yi, D., Noorozi, V., Lam, C., Mojab, N., Baker, J., Rubin, D., Azar, D. T., Rosenblatt, M.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2018

- **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

- **Expanding a radiology lexicon using contextual patterns in radiology reports.** *Journal of the American Medical Informatics Association : JAMIA*
  Percha, B. n., Zhang, Y. n., Bozkurt, S. n., Rubin, D. n., Altman, R. B., Langlotz, C. P.
  2018

- **Relevance Feedback for Enhancing Content Based Image Retrieval and Automatic Prediction of Semantic Image Features: Application to Bone Tumor Radiographs.** *Journal of biomedical informatics*
  Banerjee, I. n., Kurtz, C. n., Edward Devorah, A. n., Do, B. n., Rubin, D. L., Beaulieu, C. F.
  2018

- **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. n., Leung, A. n., Echegaray, S. n., Gentles, A. n., Shrager, J. B., Jensen, K. C., Berry, G. J., Plevritis, S. K., Rubin, D. L., Napel, S. n., Gevaert, O. n.
  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. n., Malladi, S. n., Lee, D. n., Depeursinge, A. n., Telli, M. n., Lipson, J. n., Golden, D. n., Rubin, D. L.
  2018; 5 (1): 011008

- **Intratumoral Spatial Heterogeneity at Perfusion MR Imaging Predicts Recurrence-free Survival in Locally Advanced Breast Cancer Treated with Neoadjuvant Chemotherapy.** *Radiology*
  Wu, J. n., Cao, G. n., Sun, X. n., Lee, J. n., Rubin, D. L., Napel, S. n., Kurian, A. W., Daniel, B. L., Li, R. n.
  2018: 172462

- **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

- **GLIOBLASTOMA TUMOR SEGMENTATION USING DEEP CONVOLUTIONAL NEURAL NETWORKS**
  Liu, T., Achrol, A., Rubin, D., Chang, S.
  OXFORD UNIV PRESS INC.2017: 147

- **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

- **Piecewise convexity of artificial neural networks** *NEURAL NETWORKS*
  Rister, B., Rubin, D. L.
  2017; 94: 34–45

- **Volumetric Image Registration From Invariant Keypoints** *IEEE TRANSACTIONS ON IMAGE PROCESSING*

Rister, B., Horowitz, M. A., Rubin, D. L.
2017; 26 (10): 4900–4910

- **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
- **Mammographic Density: Is There a Public Health Significance Linked to Published Relative Risk Data? Response** *RADIOLOGY*
  Sieh, W., Lipson, J. A., Whittemore, A. S., Rubin, D. L.
  2017; 284 (3): 919
- **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
- **Deep Learning for Brain MRI Segmentation: State of the Art and Future Directions.** *Journal of digital imaging*
  Akkus, Z., Galimzianova, A., Hoogi, A., Rubin, D. L., Erickson, B. J.
  2017
- **Opening the Black Box: Visualization of Deep Neural Network for Detection of Disease in Retinal Fundus Photographs**
  Huang, L. C., Yu, C., Kleinman, R. A., Shields, R. A., Smith, R. G., Lam, C., Yi, D., Rubin, D.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2017
- **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
- **Dynamic Strategy for Personalized Medicine: An Application to Metastatic Breast Cancer.** *Journal of biomedical informatics*
  Chen, X., Shachter, R., Kurian, A., Rubin, D.
  2017

- **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

- **Heterogeneous Enhancement Patterns of Tumor-adjacent Parenchyma at MR Imaging Are Associated with Dysregulated Signaling Pathways and Poor Survival in Breast Cancer.** *Radiology*
  Wu, J. n., Li, B. n., Sun, X. n., Cao, G. n., Rubin, D. L., Napel, S. n., Ikeda, D. M., Kurian, A. W., Li, R. n.
  2017: 162823

- **Perioperative Retinal Artery Occlusion: Risk Factors in Cardiac Surgery from the United States National Inpatient Sample 1998-2013.** *Ophthalmology*
  Calway, T. n., Rubin, D. S., Moss, H. E., Joslin, C. E., Beckmann, K. n., Roth, S. n.
  2017; 124 (2): 189–96

- **Ischemic Optic Neuropathy in Cardiac Surgery: Incidence and Risk Factors in the United States from the National Inpatient Sample 1998 to 2013.** *Anesthesiology*
  Rubin, D. S., Matsumoto, M. M., Moss, H. E., Joslin, C. E., Tung, A. n., Roth, S. n.
  2017

- **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.
  edited by 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. n., Siebert, S. M., Kamaya, A. n., 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
- **Computational Challenges and Collaborative Projects in the NCI Quantitative Imaging Network** *TOMOGRAPHY*
  Farahani, K., Kalpathy-Cramer, J., Chenevert, T. L., Rubin, D. L., Sunderland, J. J., Nordstrom, R. J., Buatti, J., Hylton, N.
  2016; 2 (4): 242–49
- **Radiomics of Lung Nodules: A Multi-Institutional Study of Robustness and Agreement of Quantitative Imaging Features.** *Tomography : a journal for imaging research*
  Kalpathy-Cramer, J., Mamomov, A., Zhao, B., Lu, L., Cherezov, D., Napel, S., Echegaray, S., Rubin, D., McNitt-Gray, M., Lo, P., Sieren, J. C., Uthoff, J., Dilger, et al
  2016; 2 (4): 430-437
- **Common Data Elements in Radiology.** *Radiology*
  Rubin, D. L., Kahn, C. E.
  2016: 161553-?
- **Improved Patch-Based Automated Liver Lesion Classification by Separate Analysis of the Interior and Boundary Regions** *IEEE JOURNAL OF BIOMEDICAL AND HEALTH INFORMATICS*
  Diamant, I., Hoogi, A., Beaulieu, C. F., Safdari, M., Klang, E., Amitai, M., Greenspan, H., Rubin, D. L.
  2016; 20 (6): 1585-1594
- **Early-Stage Non-Small Cell Lung Cancer: Quantitative Imaging Characteristics of (18)F Fluorodeoxyglucose PET/CT Allow Prediction of Distant Metastasis.** *Radiology*
  Wu, J., Aguilera, T., Shultz, D., Gudur, M., Rubin, D. L., Loo, B. W., Diehn, M., Li, R.
  2016; 281 (1): 270-278
- **Intratumor Partitioning of Serial Computed Tomography and FDG Positron Emission Tomography Images Identifies High-Risk Tumor Subregions and Predicts Patterns of Failure in Non-Small Cell Lung Cancer After Radiation Therapy** *58th Annual Meeting of the American-Society-for-Radiation-Oncology (ASTRO)*
  Wu, J., Gensheimer, M. F., Dong, X., Rubin, D. L., Napel, S., Diehn, M., Loo, B. W., Li, R.
  ELSEVIER SCIENCE INC.2016: S100–S100
- **Accuracy, repeatability and reproducibility of a novel approach to quantify individual drusen in spectral-domain optical coherence tomography images**
  De Sisternes, L., Jonna, G., Greven, M., Leng, T., Rubin, D.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2016
- **Automated quantitative analysis of SD-OCT scans to predict visual outcome after epiretinal membrane (ERM) removal surgery**
  Au, T. J., De Sisternes, L., Leng, T., Rubin, D.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2016
- **Fully automated prediction of geographic atrophy growth using quantitative SD-OCT imaging biomarkers**
  Leng, T., Niu, S., De Sisternes, L., Rubin, D.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2016
- **Robust Intratumor Partitioning to Identify High-Risk Subregions in Lung Cancer: A Pilot Study.** *International journal of radiation oncology, biology, physics*
  Wu, J., Gensheimer, M. F., Dong, X., Rubin, D. L., Napel, S., Diehn, M., Loo, B. W., Li, R.

2016; 95 (5): 1504-1512

- **Using automatically extracted information from mammography reports for decision-support.** *Journal of biomedical informatics*
  Bozkurt, S., Gimenez, F., Burnside, E. S., Gulkesen, K. H., Rubin, D. L.
  2016; 62: 224-231

- **Fully Automated Prediction of Geographic Atrophy Growth Using Quantitative Spectral-Domain Optical Coherence Tomography Biomarkers.** *Ophthalmology*
  Niu, S., de Sisternes, L., Chen, Q., Rubin, D. L., Leng, T.
  2016; 123 (8): 1737-1750

- **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

- **Toward rapid learning in cancer treatment selection: An analytical engine for practice-based clinical data.** *Journal of biomedical informatics*
  Finlayson, S. G., Levy, M., Reddy, S., Rubin, D. L.
  2016; 60: 104-113

- **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

- **Predicting non-small cell lung cancer prognosis by fully automated microscopic pathology image features.** *Nature communications*
  Yu, K., Zhang, C., Berry, G. J., Altman, R. B., Ré, C., Rubin, D. L., Snyder, M.
  2016; 7: 12474-?

- **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

- **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-?

- **Automated segmentation of optic disc in SD-OCT images and cup-to-disc ratios quantification by patch searching-based neural canal opening detection** *OPTICS EXPRESS*
  Wu, M., Leng, T., de Sisternes, L., Rubin, D. L., Chen, Q.
  2015; 23 (24): 31216-31229

- **Multicenter imaging outcomes study of The Cancer Genome Atlas glioblastoma patient cohort: imaging predictors of overall and progression-free survival.** *Neuro-oncology*
  Wangaryattawanich, P., Hatami, M., Wang, J., Thomas, G., Flanders, A., Kirby, J., Wintermark, M., Huang, E. S., Bakhtiari, A. S., Luedi, M. M., Hashmi, S. S., Rubin, D. L., Chen, et al
  2015; 17 (11): 1525-1537

- **Magnetic resonance image features identify glioblastoma phenotypic subtypes with distinct molecular pathway activities.** *Science translational medicine*
  Itakura, H., Achrol, A. S., Mitchell, L. A., Loya, J. J., Liu, T., Westbroek, E. M., Feroze, A. H., Rodriguez, S., Echegaray, S., Azad, T. D., Yeom, K. W., Napel, S., Rubin, et al
  2015; 7 (303): 303ra138-?

- **Magnetic resonance image features identify glioblastoma phenotypic subtypes with distinct molecular pathway activities.** *Science translational medicine*
  Itakura, H., Achrol, A. S., Mitchell, L. A., Loya, J. J., Liu, T., Westbroek, E. M., Feroze, A. H., Rodriguez, S., Echegaray, S., Azad, T. D., Yeom, K. W., Napel, S., Rubin, et al
  2015; 7 (303): 303ra138-?

- **Restricted Summed-Area Projection for Geographic Atrophy Visualization in SD-OCT Images** *TRANSLATIONAL VISION SCIENCE & TECHNOLOGY*
  Chen, Q., Niu, S., Shen, H., Leng, T., de Sisternes, L., Rubin, D. L.
  2015; 4 (5)

- **Comparing image search behaviour in the ARRS GoldMiner search engine and a clinical PACS/RIS** *JOURNAL OF BIOMEDICAL INFORMATICS*
  De-Arteaga, M., Eggel, I., Do, B., Rubin, D., Kahn, C. E., Mueller, H.
  2015; 56: 57-64

- **3D Riesz-wavelet based Covariance descriptors for texture classification of lung nodule tissue in CT.** *Conference proceedings : ... Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual Conference*
  Cirujeda, P., Muller, H., Rubin, D., Aguilera, T. A., Loo, B. W., Diehn, M., Binefa, X., Depeursinge, A.
  2015; 2015: 7909-7912

- **Radiogenomics of clear cell renal cell carcinoma: preliminary findings of The Cancer Genome Atlas-Renal Cell Carcinoma (TCGA-RCC) Imaging Research Group** *ABDOMINAL IMAGING*
  Shinagare, A. B., Vikram, R., Jaffe, C., Akin, O., Kirby, J., Huang, E., Freymann, J., Sainani, N. I., Sadow, C. A., Bathala, T. K., Rubin, D. L., Oto, A., Heller, et al
  2015; 40 (6): 1684-1692

- **Addition of MR imaging features and genetic biomarkers strengthens glioblastoma survival prediction in TCGA patients.** *Journal of neuroradiology. Journal de neuroradiologie*
  Nicolasjilwan, M., Hu, Y., Yan, C., Meerzaman, D., Holder, C. A., Gutman, D., Jain, R., Colen, R., Rubin, D. L., Zinn, P. O., Hwang, S. N., Raghavan, P., Hammoud, et al
  2015; 42 (4): 212-221

- **Visual Prognosis of Eyes Recovering From Macular Hole Surgery Through Automated Quantitative Analysis of Spectral-Domain Optical Coherence Tomography (SD-OCT) Scans.** *Investigative ophthalmology & visual science*
  de Sisternes, L., Hu, J., Rubin, D. L., Leng, T.
  2015; 56 (8): 4631-4643

- **Application of Improved Homogeneity Similarity-Based Denoising in Optical Coherence Tomography Retinal Images** *JOURNAL OF DIGITAL IMAGING*

Chen, Q., de Sisternes, L., Leng, T., Rubin, D. L.
2015; 28 (3): 346-361

- **Topographic OCT Segmentation of Inner and Outer Retina in Progressive Hydroxychloroquine Retinopathy**
  Marmor, M. F., de Sisternes, L., Hu, J., Rubin, D. L.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2015
- **Automated classification of usual interstitial pneumonia using regional volumetric texture analysis in high-resolution computed tomography.** *Investigative radiology*
  Depeursinge, A., Chin, A. S., Leung, A. N., Terrone, D., Bristow, M., Rosen, G., Rubin, D. L.
  2015; 50 (4): 261-267
- **Automatic abstraction of imaging observations with their characteristics from mammography reports.** *Journal of the American Medical Informatics Association*
  Bozkurt, S., Lipson, J. A., Senol, U., Rubin, D. L., Bulu, H.
  2015; 22 (e1): e81-92
- **Predicting adenocarcinoma recurrence using computational texture models of nodule components in lung CT** *MEDICAL PHYSICS*
  Depeursinge, A., Yanagawa, M., Leung, A. N., Rubin, D. L.
  2015; 42 (4): 2054-2063
- **Predicting adenocarcinoma recurrence using computational texture models of nodule components in lung CT** *MEDICAL PHYSICS*
  Depeursinge, A., Yanagawa, M., Leung, A. N., Rubin, D. L.
  2015; 42 (4): 2054-2063
- **Ontology-based Image Navigation: Exploring 3.0-T MR Neurography of the Brachial Plexus Using AIM and RadLex** *RADIOGRAPHICS*
  Wang, K. C., Salunkhe, A. R., Morrison, J. J., Lee, P. P., Mejino, J. L., Detwiler, L. T., Brinkley, J. F., Siegel, E. L., Rubin, D. L., Carrino, J. A.
  2015; 35 (1): 142-151
- **Automated Grading of Gliomas using Deep Learning in Digital Pathology Images: A modular approach with ensemble of convolutional neural networks.** *AMIA ... Annual Symposium proceedings / AMIA Symposium. AMIA Symposium*
  Ertosun, M. G., Rubin, D. L.
  2015; 2015: 1899-1908
- **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
- **A hierarchical knowledge-based approach for retrieving similar medical images described with semantic annotations** *JOURNAL OF BIOMEDICAL INFORMATICS*
  Kurtz, C., Beaulieu, C. F., Napel, S., Rubin, D. L.
  2014; 49: 227-244
- **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
- **A Robust Classifier to Distinguish Noise from fMRI Independent Components** *PLOS ONE*
  Sochat, V., Supekar, K., Bustillo, J., Calhoun, V., Turner, J. A., Rubin, D. L.
  2014; 9 (4)
- **Classification of hepatic lesions using the matching metric** *COMPUTER VISION AND IMAGE UNDERSTANDING*
  Adcock, A., Rubin, D., Carlsson, G.
  2014; 121: 36-42
- **Automated measurement of longitudinal IS/OS junction abnormalities on SD-OCT in postoperative macular holes**
  Leng, T., de Sisternes, L., Rubin, D.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2014
- **Automated Segmentation and Quantification of Retinal Layers in Patients with Hydroxychloroquine Toxicity**
  de Sisternes, L., Marmor, M. F., Leng, T., Rubin, D.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2014
- **Automated Tracking of Quantitative Assessments of Tumor Burden in Clinical Trials** *TRANSLATIONAL ONCOLOGY*
  Rubin, D. L., Willrett, D., O'Connor, M. J., Hage, C., Kurtz, C., Moreira, D. A.
  2014; 7 (1): 23-35
- **Errors in Quantitative Image Analysis due to Platform-Dependent Image Scaling.** *Translational oncology*
  Chenevert, T. L., Malyarenko, D. I., Newitt, D., Li, X., Jayatilake, M., Tudorica, A., Fedorov, A., Kikinis, R., Liu, T. T., Muzi, M., Oborski, M. J., Laymon, C. M., Li, et al
  2014; 7 (1): 65-71
- **Neuroanatomical domain of the foundational model of anatomy ontology** *JOURNAL OF BIOMEDICAL SEMANTICS*
  Nichols, B. N., Mejino, J. L., Detwiler, L. T., Nilsen, T. T., Martone, M. E., Turner, J. A., Rubin, D. L., Brinkley, J. F.
  2014; 5
- **A novel method to assess incompleteness of mammography reports.** *AMIA ... Annual Symposium proceedings / AMIA Symposium. AMIA Symposium*
  Gimenez, F. J., Wu, Y., Burnside, E. S., Rubin, D. L.
  2014; 2014: 1758-1767
- **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
- **A picture is worth a thousand words: needs assessment for multimedia radiology reports in a large tertiary care medical center.** *Academic radiology*
  Nayak, L., Beaulieu, C. F., Rubin, D. L., Lipson, J. A.
  2013; 20 (12): 1577-1583
- **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

- **Imaging Informatics: Essential Tools for the Delivery of Imaging Services** *ACADEMIC RADIOLOGY*
  Mendelson, D. S., Rubin, D. L.
  2013; 20 (10): 1195-1212

- **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

- **Quantitative Imaging Biomarker Ontology (QIBO) for Knowledge Representation of Biomedical Imaging Biomarkers** *JOURNAL OF DIGITAL IMAGING*
  Buckler, A. J., Ouellette, M., Danagoulian, J., Wernsing, G., Liu, T. T., Savig, E., Suzek, B. E., Rubin, D. L., Paik, D.
  2013; 26 (4): 630-641

- **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

- **Comprehensivemolecular characterization of clear cell renal cell carcinoma** *NATURE*
  Creighton, C. J., Morgan, M., Gunaratne, P. H., Wheeler, D. A., Gibbs, R. A., Robertson, A. G., Chu, A., Beroukhim, R., Cibulskis, K., Signoretti, S., Vandin, F., Wu, H., Raphael, et al
  2013; 499 (7456): 43-?

- **MR Imaging Predictors of Molecular Profile and Survival: Multi-institutional Study of the TCGA Glioblastoma Data Set** *RADIOLOGY*
  Gutman, D. A., Cooper, L. A., Hwang, S. N., Holder, C. A., Gao, J., Aurora, T. D., Dunn, W. D., Scarpace, L., Mikkelsen, T., Jain, R., Wintermark, M., Jilwan, M., Raghavan, et al
  2013; 267 (2): 560-569

- **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

- **ACR-AAPM-SIIM Practice Guideline for Determinants of Image Quality in Digital Mammography** *JOURNAL OF DIGITAL IMAGING*
  Kanal, K. M., Krupinski, E., Berns, E. A., Geiser, W. R., Karellas, A., Mainiero, M. B., Martin, M. C., Patel, S. B., Rubin, D. L., Shepard, J. D., Siegel, E. L., Wolfman, J. A., Mian, et al
  2013; 26 (1): 10-25

- **Image patch-based method for automated classification and detection of focal liver lesions on CT** *Conference on Medical Imaging - Computer-Aided Diagnosis*
  Safdari, M., Pasari, R., Rubin, D., Greenspan, H.
  SPIE-INT SOC OPTICAL ENGINEERING.2013

- **Qualitative and quantitative image-based biomarkers of therapeutic response in triple-negative breast cancer.** *AMIA Summits on Translational Science proceedings AMIA Summit on Translational Science*
  Golden, D. I., Lipson, J. A., Telli, M. L., Ford, J. M., Rubin, D. L.
  2013; 2013: 62-?

- **Informatics methods to enable sharing of quantitative imaging research data** *MAGNETIC RESONANCE IMAGING*
  Levy, M. A., Freymann, J. B., Kirby, J. S., Fedorov, A., Fennessy, F. M., Eschrich, S. A., Berglund, A. E., Fenstermacher, D. A., Tan, Y., Guo, X., Casavant, T. L., Brown, B. J., Braun, et al
  2012; 30 (9): 1249-1256

- **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-?
- **Radiogenomic analysis indicates MR images are potentially predictive of EGFR mutation status in glioblastoma multiforme**
  Gevaert, O., Mitchell, L., Xu, J., Yu, C., Rubin, D., Zaharchuk, G., Napel, S., Plevritis, S.
  AMER ASSOC CANCER RESEARCH.2012
- **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
- **Integration of Imaging Signs into RadLex** *JOURNAL OF DIGITAL IMAGING*
  Shore, M. W., Rubin, D. L., Kahn, C. E.
  2012; 25 (1): 50-55
- **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
- **Using the Semantic Web and Web Apps to Connect Radiologists and Oncologists** *21st IEEE International Workshop on Enabling Technologies - Infrastructure for Collaborative Enterprises (WETICE)*
  Serique, K. A., Snyder, A., Willrett, D., Rubin, D. L., Moreira, D. A.
  IEEE.2012: 480–485
- **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*
  Liu, Y. I., Kamaya, A., Desser, T. S., Rubin, D. L.
  2011; 196 (5): W598-W605

- **A practical method for transforming free-text eligibility criteria into computable criteria** *JOURNAL OF BIOMEDICAL INFORMATICS*
  Tu, S. W., Peleg, M., Carini, S., Bobak, M., Ross, J., Rubin, D., Sim, I.
  2011; 44 (2): 239-250

- **Content-Based Image Retrieval in Radiology: Current Status and Future Directions** *JOURNAL OF DIGITAL IMAGING*
  Akgul, C. B., Rubin, D. L., Napel, S., Beaulieu, C. F., Greenspan, H., Acar, B.
  2011; 24 (2): 208-222

- **Evaluation of Negation and Uncertainty Detection and its Impact on Precision and Recall in Search** *JOURNAL OF DIGITAL IMAGING*
  Wu, A. S., Do, B. H., Kim, J., Rubin, D. L.
  2011; 24 (2): 234-242

- **Ontology-Assisted Analysis of Web Queries to Determine the Knowledge Radiologists Seek** *JOURNAL OF DIGITAL IMAGING*
  Rubin, D. L., Flanders, A., Kim, W., Siddiqui, K. M., Kahn, C. E.
  2011; 24 (1): 160-164

- **The Biomedical Resource Ontology (BRO) to enable resource discovery in clinical and translational research** *JOURNAL OF BIOMEDICAL INFORMATICS*
  Tenenbaum, J. D., Whetzel, P. L., Anderson, K., Borromeo, C. D., Dinov, I. D., Gabriel, D., Kirschner, B., Mirel, B., Morris, T., Noy, N., Nyulas, C., Rubenson, D., Saxman, et al
  2011; 44 (1): 137-145

- **Informatics in Radiology An Information Model of the DICOM Standard** *RADIOGRAPHICS*
  Kahn, C. E., Langlotz, C. P., Channin, D. S., Rubin, D. L.
  2011; 31 (1): 295-U356

- **Informatics in Radiology RADTF: A Semantic Search-enabled, Natural Language Processor-generated Radiology Teaching File** *RADIOGRAPHICS*
  Do, B. H., Wu, A., Biswal, S., Kamaya, A., Rubin, D. L.
  2010; 30 (7): 2039-2048

- **Automated Retrieval of CT Images of Liver Lesions on the Basis of Image Similarity: Method and Preliminary Results** *RADIOLOGY*
  Napel, S. A., Beaulieu, C. F., Rodriguez, C., Cui, J., Xu, J., Gupta, A., Korenblum, D., Greenspan, H., Ma, Y., Rubin, D. L.
  2010; 256 (1): 243-252

- **Learning a Bayesian Classifier for Thyroid Nodule Evaluation** *110th Annual Meeting of the American-Roentgen-Ray-Society*
  Liu, Y., Kamaya, A., Desser, T., Rubin, D.
  AMER ROENTGEN RAY SOC.2010

- **A Systemic Search for Patterns for Thyroid Nodule Evaluation Using a Bayesian Classifier** *110th Annual Meeting of the American-Roentgen-Ray-Society*
  Liu, Y., Kamaya, A., Desser, T., Rubin, D.
  AMER ROENTGEN RAY SOC.2010

- **The caBIG (TM) Annotation and Image Markup Project** *JOURNAL OF DIGITAL IMAGING*
  Channin, D. S., Mongkolwat, P., Kleper, V., Sepukar, K., Rubin, D. L.
  2010; 23 (2): 217-225

- **Imaging informatics: toward capturing and processing semantic information in radiology images.** *Yearbook of medical informatics*
  Rubin, D. L., Napel, S.
  2010: 34-42
- **The Annotation and Image Mark-up Project** *RADIOLOGY*
  Channin, D. S., Mongkolwat, P., Kleper, V., Rubin, D. L.
  2009; 253 (3): 590-592
- **BioPortal: ontologies and integrated data resources at the click of a mouse** *NUCLEIC ACIDS RESEARCH*
  Noy, N. F., Shah, N. H., Whetzel, P. L., Dai, B., Dorf, M., Griffith, N., Jonquet, C., Rubin, D. L., Storey, M., Chute, C. G., Musen, M. A.
  2009; 37: W170-W173
- **Informatics Methods to Enable Patient-centered Radiology** *ACADEMIC RADIOLOGY*
  Rubin, D. L.
  2009; 16 (5): 524-534
- **A Controlled Vocabulary to Represent Sonographic Features of the Thyroid and its Application in a Bayesian Network to Predict Thyroid Nodule Malignancy** *109th Annual Meeting of the American-Roentgen-Ray-Society*
  Liu, Y., Kamaya, A., Desser, T., Rubin, D.
  AMER ROENTGEN RAY SOC.2009
- **Computational neuroanatomy: ontology-based representation of neural components and connectivity** *1st Summit on Translational Bioinformatics*
  Rubin, D. L., Talos, I., Halle, M., Musen, M. A., Kikinis, R.
  BIOMED CENTRAL LTD.2009
- **A Controlled Vocabulary to Represent Sonographic Features of the Thyroid and its application in a Bayesian Network to Predict Thyroid Nodule Malignancy.** *Summit on translational bioinformatics*
  Liu, Y. I., Kamaya, A., Desser, T. S., Rubin, D. L.
  2009; 2009: 68-72
- **Annotation and Image Markup: Accessing and Interoperating with the Semantic Content in Medical Imaging** *IEEE INTELLIGENT SYSTEMS*
  Rubin, D. L., Supekar, K., Mongkolwat, P., Kleper, V., Channin, D. S.
  2009; 24 (1): 57-65
- **A semantic image annotation model to enable integrative translational research.** *Summit on translational bioinformatics*
  Rubin, D. L., Mongkolwat, P., Channin, D. S.
  2009; 2009: 106-110
- **Computing Human Image Annotation** *Annual International Conference of the IEEE-Engineering-in-Medicine-and-Biology-Society*
  Channin, D. S., Mongkolwat, P., Kleper, V., Rubin, D. L.
  IEEE.2009: 7065–7068
- **Semantic reasoning with image annotations for tumor assessment.** *AMIA ... Annual Symposium proceedings / AMIA Symposium. AMIA Symposium*
  Levy, M. A., O'Connor, M. J., Rubin, D. L.
  2009; 2009: 359-363
- **Comparison of concept recognizers for building the Open Biomedical Annotator** *2nd Summit on Translational Bioinformatics*
  Shah, N. H., Bhatia, N., Jonquet, C., Rubin, D., Chiang, A. P., Musen, M. A.
  BIOMED CENTRAL LTD.2009
- **Creating and Curating a Terminology for Radiology: Ontology Modeling and Analysis** *JOURNAL OF DIGITAL IMAGING*
  Rubin, D. L.
  2008; 21 (4): 355-362
- **Network analysis of intrinsic functional brain connectivity in Alzheimer's disease** *PLOS COMPUTATIONAL BIOLOGY*
  Supekar, K., Menon, V., Rubin, D., Musen, M., Greicius, M. D.
  2008; 4 (6)

- **A prototype symbolic model of canonical functional neuroanatomy of the motor system** *JOURNAL OF BIOMEDICAL INFORMATICS*
  Talos, I., Rubin, D. L., Halle, M., Musen, M., Kikinis, R.
  2008; 41 (2): 251-263
- **A data warehouse for integrating radiologic and pathologic data.** *Journal of the American College of Radiology*
  Rubin, D. L., Desser, T. S.
  2008; 5 (3): 210-217
- **Tool support to enable evaluation of the clinical response to treatment.** *AMIA ... Annual Symposium proceedings / AMIA Symposium. AMIA Symposium*
  Levy, M. A., Rubin, D. L.
  2008: 399-403
- **iPad: Semantic annotation and markup of radiological images.** *AMIA ... Annual Symposium proceedings / AMIA Symposium. AMIA Symposium*
  Rubin, D. L., Rodriguez, C., Shah, P., Beaulieu, C.
  2008: 626-630
- **A Bayesian classifier for differentiating benign versus malignant thyroid nodules using sonographic features.** *AMIA ... Annual Symposium proceedings / AMIA Symposium. AMIA Symposium*
  Liu, Y. I., Kamaya, A., Desser, T. S., Rubin, D. L.
  2008: 419-423
- **Biomedical ontologies: a functional perspective** *BRIEFINGS IN BIOINFORMATICS*
  Rubin, D. L., Shah, N. H., Noy, N. F.
  2008; 9 (1): 75-90
- **BioPortal: ontologies and data resources with the click of a mouse.** *AMIA ... Annual Symposium proceedings / AMIA Symposium. AMIA Symposium*
  Musen, M. A., Shah, N. H., Noy, N. F., Dai, B. Y., Dorf, M., Griffith, N., Buntrok, J., Jonquet, C., Montegut, M. J., Rubin, D. L.
  2008: 1223-1224
- **Protege: A tool for managing and using terminology in radiology applications** *JOURNAL OF DIGITAL IMAGING*
  Rubin, D. L., Noy, N. F., Musen, M. A.
  2007; 20: 34-46
- **Annotation and query of tissue microarray data using the NCI Thesaurus** *BMC BIOINFORMATICS*
  Shah, N. H., Rubin, D. L., Espinosa, I., Montgomery, K., Musen, M. A.
  2007; 8
- **Knowledge Zone: A Public Repository of Peer-Reviewed Biomedical Ontologies** *12th World Congress on Health (Medical) Informatics*
  Supekar, K., Rubin, D., Noy, N., Musen, M.
  I O S PRESS.2007: 812–816
- **LesionViewer: a tool for tracking cancer lesions over time.** *AMIA ... Annual Symposium proceedings / AMIA Symposium. AMIA Symposium*
  Levy, M. A., Garg, A., Tam, A., Garten, Y., Rubin, D. L.
  2007: 443-447
- **An ontology for PACS integration** *JOURNAL OF DIGITAL IMAGING*
  Kahn, C. E., Channin, D. S., Rubin, D. L.
  2006; 19 (4): 316-327
- **Using ontologies linked with geometric models to reason about penetrating injuries** *ARTIFICIAL INTELLIGENCE IN MEDICINE*
  Rubin, D. L., Dameron, O., Bashir, Y., Grossman, D., Dev, P., Musen, M. A.
  2006; 37 (3): 167-176
- **National Center for Biomedical Ontology: Advancing biomedicine through structured organization of scientific knowledge** *OMICS-A JOURNAL OF INTEGRATIVE BIOLOGY*
  Rubin, D. L., Lewis, S. E., Mungall, C. J., Misra, S., Westerfield, M., Ashburner, M., Sim, I., Chute, C. G., Solbrig, H., Storey, M., Smith, B., Day-Richter, J., Noy, et al
  2006; 10 (2): 185-198

- **Coverage of emergency after-hours ultrasound cases: Survey of practices at US teaching hospitals** *ACADEMIC RADIOLOGY*
  Desser, T. S., Rubin, D. L., Schraedley-Desmond, P.
  2006; 13 (2): 249-253

- **Ontology-based representation of simulation models of physiology.** *AMIA ... Annual Symposium proceedings / AMIA Symposium. AMIA Symposium*
  Rubin, D. L., Grossman, D., Neal, M., Cook, D. L., Bassingthwaighte, J. B., Musen, M. A.
  2006: 664-668

- **Ontology-based annotation and query of tissue microarray data.** *AMIA ... Annual Symposium proceedings / AMIA Symposium. AMIA Symposium*
  Shah, N. H., Rubin, D. L., Supekar, K. S., Musen, M. A.
  2006: 709-713

- **A statistical approach to scanning the biomedical literature for pharmacogenetics knowledge** *JOURNAL OF THE AMERICAN MEDICAL INFORMATICS ASSOCIATION*
  Rubin, D. L., Thorn, C. F., Klein, T. E., Altman, R. B.
  2005; 12 (2): 121-129

- **Challenges in converting frame-based ontology into OWL: the Foundational Model of Anatomy case-study.** *AMIA ... Annual Symposium proceedings / AMIA Symposium. AMIA Symposium*
  Dameron, O., Rubin, D. L., Musen, M. A.
  2005: 181-185

- **Use of description logic classification to reason about consequences of penetrating injuries.** *AMIA ... Annual Symposium proceedings / AMIA Symposium. AMIA Symposium*
  Rubin, D. L., Dameron, O., Musen, M. A.
  2005: 649-653

- **Using an Ontology of Human Anatomy to Inform Reasoning with Geometric Models** *13th Conference on Medicine Meets Virtual Reality*
  Rubin, D. L., Bashir, Y., Grossman, D., Dev, P., Musen, M. A.
  I O S PRESS.2005: 429–435

- **A resource to acquire and summarize pharmacogenetics knowledge in the literature** *11th World Congress on Medical Informatics*
  Rubin, D. L., Carrillo, M., Woon, M., Conroy, J., Klein, T. E., Altman, R. B.
  I O S PRESS.2004: 793–797

- **Linking ontologies with three-dimensional models of anatomy to predict the effects of penetrating injuries.** *Conference proceedings : ... Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Conference*
  Rubin, D. L., Bashir, Y., Grossman, D., Dev, P., Musen, M. A.
  2004; 5: 3128-3131

- **Using a Bayesian network to predict the probability and type of breast cancer represented by microcalcifications on mammography** *11th World Congress on Medical Informatics*
  Burnside, E. S., Rubin, D. L., Shachter, R. D.
  I O S PRESS.2004: 13–17

- **Linking ontologies with three-dimensional models of anatomy to predict the effects of penetrating injuries** *26th Annual International Conference of the IEEE-Engineering-in-Medicine-and-Biology-Society*
  Rubin, D. L., Bashir, Y., Grossman, D., Dev, P., Musen, M. A.
  IEEE.2004: 3128–31

- **Linking ontologies with three-dimensional models of anatomy to predict the effects of penetrating injuries.** *Conference proceedings : ... Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Conference*
  Rubin, D. L., Bashir, Y., Grossman, D., Dev, P., Musen, M. A.
  2004; 5: 3128-3131

- **Indexing pharmacogenetic knowledge on the World Wide Web** *PHARMACOGENETICS*
  Altman, R. B., Flockhart, D. A., Sherry, S. T., Oliver, D. E., Rubin, D. L., Klein, T. E.

2003; 13 (1): 3-5

- **PharmGKB: The Pharmacogenetics Knowledge Base** *NUCLEIC ACIDS RESEARCH*
  Hewett, M., Oliver, D. E., Rubin, D. L., Easton, K. L., Stuart, J. M., Altman, R. B., Klein, T. E.
  2002; 30 (1): 163-165

- **Automating data acquisition into ontologies from pharmacogenetics relational data sources using declarative object definitions and XML.** *Pacific Symposium on Biocomputing. Pacific Symposium on Biocomputing*
  Rubin, D. L., Hewett, M., Oliver, D. E., Klein, T. E., Altman, R. B.
  2002: 88-99

- **Representing genetic sequence data for pharmacogenomics: an evolutionary approach using ontological and relational models.** *Bioinformatics*
  Rubin, D. L., Shafa, F., Oliver, D. E., Hewett, M., Altman, R. B.
  2002; 18: S207-15

- **Ontology development for a pharmacogenetics knowledge base.** *Pacific Symposium on Biocomputing. Pacific Symposium on Biocomputing*
  Oliver, D. E., Rubin, D. L., Stuart, J. M., Hewett, M., Klein, T. E., Altman, R. B.
  2002: 65-76

- **Integrating genotype and phenotype information: an overview of the PharmGKB project. Pharmacogenetics Research Network and Knowledge Base.** *pharmacogenomics journal*
  Klein, T. E., Chang, J. T., Cho, M. K., Easton, K. L., FERGERSON, R., Hewett, M., Lin, Z., Liu, Y., Liu, S., Oliver, D. E., Rubin, D. L., SHAFA, F., Stuart, et al
  2001; 1 (3): 167-170

- **A Bayesian network for mammography** *Annual Symposium of the American-Medical-Informatics-Association*
  Burnside, E., Rubin, D., Shachter, R.
  HANLEY & BELFUS INC.2000: 106–110

- **Blood pool and liver enhancement in CT with liposomal iodixanol: Comparison with iohexol** *ACADEMIC RADIOLOGY*
  Desser, T. S., Rubin, D. L., Muller, H., McIntire, G. L., Bacon, E. R., Toner, J. L.
  1999; 6 (3): 176-183

- **INFLUENCE OF VISCOSITY ON WIN-39996 AS A CONTRAST AGENT FOR GASTROINTESTINAL MAGNETIC-RESONANCE-IMAGING** *INVESTIGATIVE RADIOLOGY*
  Rubin, D. L., Muller, H. H., Young, S. W., Hunke, W. A., GORMAN, W. G., Lee, K. C.
  1995; 30 (4): 226-231

- **NANOPARTICULATE CONTRAST-MEDIA - BLOOD-POOL AND LIVER-SPLEEN IMAGING** *1993 Meeting of Contrast Media Research (CMR 93)*
  Rubin, D. L., Desser, T. S., Qing, F., Muller, H. H., Young, S. W., McIntire, G. L., Bacon, E., Cooper, E., Toner, J.
  LIPPINCOTT WILLIAMS & WILKINS.1994: S280–S283

- **QUANTITATION OF SATURATION EFFECTS VERSUS DOSE IN 3-DIMENSIONAL TIME-OF-FLIGHT MAGNETIC-RESONANCE ANGIOGRAPHY WITH BLOOD-POOL CONTRAST AGENTS** *1993 Meeting of Contrast Media Research (CMR 93)*
  Desser, T. S., Rubin, D. L., Fan, Q., Muller, H. H., Young, S. W., Kellar, K. E., WELLONS, J. A., Ladd, D. L., Toner, J. L., Snow, R. A.
  LIPPINCOTT WILLIAMS & WILKINS.1994: S65–S68

- **DYNAMICS OF TUMOR IMAGING WITH GD-DTPA POLYETHYLENE-GLYCOL POLYMERS - DEPENDENCE ON MOLECULAR-WEIGHT** *JOURNAL OF MAGNETIC RESONANCE IMAGING*
  Desser, T. S., Rubin, D. L., Muller, H. H., Qing, F., KHODOR, S., Zanazzi, G., Young, S. W., Ladd, D. L., WELLONS, J. A., Kellar, K. E., Toner, J. L., Snow, R. A.
  1994; 4 (3): 467-472

- **OPTIMIZATION OF AN ORAL MAGNETIC PARTICLE FORMULATION AS A GASTROINTESTINAL CONTRAST AGENT FOR MAGNETIC-RESONANCE-IMAGING** *INVESTIGATIVE RADIOLOGY*
  Rubin, D. L., Muller, H. H., Young, S. W., Hunke, W. A., GORMAN, W. G.
  1994; 29 (1): 81-86

- **LIQUID ORAL MAGNETIC PARTICLES AS A GASTROINTESTINAL CONTRAST AGENT FOR MR IMAGING - EFFICACY INVIVO** *JMRI-JOURNAL OF MAGNETIC RESONANCE IMAGING*
  Rubin, D. L., Muller, H. H., Sidhu, M. K., Young, S. W., Hunke, W. A., GORMAN, W. G.

1993; 3 (1): 113-118

- **FORMULATION OF RADIOGRAPHICALLY DETECTABLE GASTROINTESTINAL CONTRAST AGENTS FOR MAGNETIC-RESONANCE-IMAGING - EFFECTS OF A BARIUM-SULFATE ADDITIVE ON MR CONTRAST AGENT EFFECTIVENESS** *MAGNETIC RESONANCE IN MEDICINE*
  Rubin, D. L., Muller, H. H., Young, S. W.
  1992; 23 (1): 154-165

- **INTRALUMINAL CONTRAST ENHANCEMENT AND MR VISUALIZATION OF THE BOWEL WALL - EFFICACY OF PFOB** *JMRI-JOURNAL OF MAGNETIC RESONANCE IMAGING*
  Rubin, D. L., Muller, H. H., NINOMURCIA, M., Sidhu, M., CHRISTY, V., Young, S. W.
  1991; 1 (3): 371-380

- **METHODS FOR THE SYSTEMATIC INVESTIGATION OF GASTROINTESTINAL CONTRAST-MEDIA FOR MRI - EVALUATION OF INTESTINAL DISTRIBUTION BY RADIOGRAPHIC MONITORING** *MAGNETIC RESONANCE IMAGING*
  Rubin, D. L., Muller, H. H., Young, S. W.
  1991; 9 (3): 285-293

- **MAGNETIC-SUSCEPTIBILITY EFFECTS AND THEIR APPLICATION IN THE DEVELOPMENT OF NEW FERROMAGNETIC CATHETERS FOR MAGNETIC-RESONANCE-IMAGING** *INVESTIGATIVE RADIOLOGY*
  Rubin, D. L., RATNER, A. V., Young, S. W.
  1990; 25 (12): 1325-1332

- **DETECTION OF HEPATIC MALIGNANCIES USING MN-DPDP (MANGANESE DIPYRIDOXAL DIPHOSPHATE) HEPATOBILIARY MRI CONTRAST AGENT** *MAGNETIC RESONANCE IMAGING*
  Young, S. W., Bradley, B., Muller, H. H., Rubin, D. L.
  1990; 8 (3): 267-276

- **INFECTIOUS ROTAVIRUS ENTERS CELLS BY DIRECT CELL-MEMBRANE PENETRATION, NOT BY ENDOCYTOSIS** *JOURNAL OF VIROLOGY*
  KALJOT, K. T., Shaw, R. D., Rubin, D. H., Greenberg, H. B.
  1988; 62 (4): 1136-1144

- **PULMONARY-FUNCTION IN ADVANCED PULMONARY-HYPERTENSION** *THORAX*
  Burke, C. M., Glanville, A. R., MORRIS, A. J., Rubin, D., Harvey, J. A., Theodore, J., Robin, E. D.
  1987; 42 (2): 131-135