RSNA R&E Foundation Announces 2016 Grant Recipients

The RSNA Research & Education (R&E) Foundation funded 101 grants totaling \$4 million. The Foundation's Board of Trustees thanks the Vanguard companies, individuals and private practices whose generous contributions have made the following grants possible.



RESEARCH SCHOLAR GRANT

Jalal B. Andre, MD

University of Washington

RSNA Research Scholar Grant
Evaluating the Prevalence, Temporal Etiology,
and Cost of Patient Motion During Clinical
MR Examinations

Rivka Rachel Colen, MD

The University of Texas
MD Anderson Cancer Center

Agfa HealthCare/RSNA Research Scholar Grant

Radiome Sequencing of Glioblastoma: Decoding the Imaging Genomic Landscape and Heterogeneity

David Dreizin, MD

University of Maryland School of Medicine and R Adams Cowley Shock Trauma Center RSNA Research Scholar Grant Development and Validation of an MDCT-based Decision Support and Outcome Prediction Tool for Bleeding Pelvic Fractures Using Semi-automated Volumetric Hematoma Analysis and Probabilistic Modeling

Michael David Farwell, MD, MA

Hospital of the University of Pennsylvania RSNA Research Scholar Grant Development of a Reporter Gene for In Vivo PET Imaging of Chimeric Antigen Receptor (CAR) T Cells Directed at Solid Tumors

Gregory N. Gan, MD, PhD

University of New Mexico Cancer Center RSNA Research Scholar Grant Mechanism of Hedgehog Pathway-mediated Radiation-induced Tumor Repopulation

Manu Shri Goyal, MD, MSc

Washington University School of Medicine ASNR/RSNA Research Scholar Grant Integrating Brain Imaging and Metabolomics in Malnourished Children

Richard S. Ha, MD

Columbia University

RSNA Research Scholar Grant
The Effect of Ulipristal Acetate (UPA) on
Breast Cell Proliferation Measured by Kial

Breast Cell Proliferation Measured by Ki-67 and Breast MRI BPE and its Potential as a Chemoprevention Agent

Kathy Han, MD, MSc

Princess Margaret Cancer Center, University of Toronto RSNA Research Scholar Grant

The Potential for Metformin to Improve Tumor Oxygenation in Locally Advanced Cervix Cancer: A Phase II Randomized Trial

Kate Hanneman, MD

University of Toronto
GE Healthcare/RSNA
Research Scholar Grant

Exploring the Relationship Between Left Ventricular Outflow Tract Obstruction, Exercise-induced Troponin Release and

Myocardial Fibrosis in Hypertrophic Cardiomyopathy Using Molecular and Imaging Biomarkers

Jeremy Josef Heit, MD, PhD

Stanford University

Bracco Diagnostics Inc./RSNA Research Scholar Grant

Resting State Spontaneous Fluctuations of the BOLD Signal for Penumbra Assessment in Endovascular Stroke Candidates

Michael Iv. MD

Stanford University Medical Center
RSNA Research Scholar Grant
Using Ferumoxytol-enhanced MRI to Assess
Tumor-associated Macrophages
in Human Glioblastoma Multiforme

Austin Kirschner, MD, PhD

Vanderbilt University

RSNA Research Scholar Grant Mechanism of PIM1 Kinase-mediated Radiosensitization for Prostate Cancer Treatment

Pejman Jabehdar Maralani, MD, FRCPC

Sunnybrook Research Institute, University of Toronto

RSNA Research Scholar Grant

Quantitative Blood Oxygenation Level Dependent (qBOLD) MRI for Assessment of Tumor Hypoxia in Glioblastoma Multiforme: Validation with Intra-operative and Histological Correlation

Daniele Marin, MD

Duke University Medical Center
RSNA Research Scholar Grant
Decreased Variability for Robust Imagingbased Quantification of Tumor Heterogeneity

Rajni Natesan, MD, MBA

The University of Texas MD Anderson Cancer Center Carestream Health/RSNA Research Scholar Grant

Impact of the Updated 2015 American Cancer Society and 2016 United States Preventive Services Task Force Breast Cancer Screening Guidelines on Screening Mammography Utilization Rates and Screendetected Breast Cancer Across Demographic Groups in the Greater Houston Area

Matthew J. Nyflot, PhD

University of Washington
RSNA Research Scholar Grant
Quantitative Sulfur Colloid SPECT/CT
Radiomics to Guide Precision Radiotherapy

for Patients with Hepatocellular Carcinoma

Elizabeth J. Sutton, MD

Memorial Sloan Kettering Cancer Center Guerbet/RSNA Research Scholar Grant Percutaneous Breast MRI Biopsy as an Alternative to Surgery in Diagnosing a Complete Pathologic Response Post Neoadjuvant Chemotherapy

Leo L. Tsai, MD, PhD, MSc

Beth Israel Deaconess Medical Center
Agfa HealthCare/RSNA
Research Scholar Grant
Regional Variations in Tumor Metabolism
and Proliferation Reflecting a Non-uniform
Tumor Micro-environment: In Vivo
Assessment with Hyperpolarized 13C MRI

Shandong Wu, PhD, MSc

University of Pittsburgh
GE Healthcare/RSNA
Research Scholar Grant
Breast DCE-MRI Contrast Enhancement
Heterogeneity and Breast Cancer Ris

Hooman Yarmohammadi, MD

Memorial Sloan Kettering Cancer Center
RSNA Research Scholar Grant
Combined Blocking of Aerobic and Ana

Combined Blocking of Aerobic and Anaerobic Glycolytic Metabolism Pathways in Improving Treatment Response Following Transarterial Embolization of Hepatocellular Carcinoma

Takeshi Yokoo, MD, PhD

UT Southwestern Medical Center Siemens Healthineers/RSNA Research Scholar Grant Validation of Optimized Dixon-based MRI Techniques for Noninvasive Evaluation of Renal Steatosis

Stefan L. Zimmerman, MD

Johns Hopkins University School of Medicine RSNA Research Scholar Grant

Dual Energy Extracellular Volume Mapping for Optimized Detection of Focal Myocardial Fibrosis with Cardiac Computed Tomography

RESEARCH SEED GRANT

Anil Chauhan, MD

University of Pennsylvania

RSNA Research Seed Grant

Acoustic Radiation Forced Impulse Shear Wave Velocity of Abdominal Wall Musculature for Clinical Hernia Risk Prediction

Thank you to our donors

The Foundation wants to provide special acknowledgment for the distinguished individuals and the Visionaries in Practice (VIP) program donors who have established endowments and awards in their names or in the names of those honored.

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Derek Harwood-Nash, MD

Ralph Schlaeger Charitable

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Strategic Radiology

The Foundation is grateful for the major contributions from corporate donors through the Vanguard program.













HOLOGIC



PHILIPS













Derik L. Davis, MD

University of Maryland School of Medicine
Hitachi Medical Systems/RSNA
Research Seed Grant
Output this MPL of the Shoulder

Quantitative MRI of the Shoulder in Older Adults: A Pilot Study to Evaluate the Association of Intramuscular Fatty Infiltration, Functional Outcome and Re-tear Rate Following Surgical Repair of Rotator Cuff Tears

Priyanka Jha, MBBS

University of California, San Francisco RSNA Research Seed Grant

Noninvasive In Vivo Hyperpolarized [1-13C] Pyruvate Magnetic Resonance Imaging to Detect Alterations in Placental Metabolism in Gestational Hypertensive Disorders in a Small Animal Model

Avinash Ramesh Kambadakone, MD

Massachusetts General Hospital
Toshiba America Medical Systems/RSNA
Research Seed Grant
Multi-parametric DECT Assessment of
Therapeutic Response to Neo-adjuvant
Chemo Radiation in Pancreatic Cancer
Patients to Determine Surgical

Alexander Lerner, MD

Resectability

University of Southern California
Philips/RSNA Research Seed Grant
Utility of Contrast Enhanced Ultrasound and
4DCT for Preoperative Detection and
Localization of Parathyroid Adenomas

Sara Lewis, MD

Mount Sinai Medical Center RSNA Research Seed Grant

MRI-based Surrogate Imaging Markers of Transcriptome Subclasses and Signatures in Hepatocellular Carcinoma

Timur Mitin, MD, PhD

Oregon Health & Science University
Toshiba America Medical Systems/RSNA
Research Seed Grant

Novel Imaging of Lymph Nodes in Patients with Rectal Cancer Using Ferumoxytolenhanced MRI

Nima Nabavizadeh, MD

Oregon Health & Science University
RSNA Research Seed Grant
Circulating Tumor DNA in Plasma of Patients
Undergoing Trimodality Therapy for
Esophageal Cancer: A Potential Tool for
Neoadjuvant Treatment Response
Assessment

Thanh Binh Nguyen, MD

The Ottawa Hospital, University of Ottawa Bayer HealthCare/RSNA

Research Seed Grant

Preoperative Identification of Isocitrate Dehydrogenase Mutation in Gliomas using MR Spectroscopy, Diffusion-weighted and Perfusion-weighted Imaging

O. Kenechi Nwawka, MD

Hospital for Special Surgery, New York
RSNA Research Seed Grant
Use of Elastography to Quantify Change in
Upper Extremity Muscle Spasticity Following
Botox Injection in Children with Spastic
Cerebral Palsy

Prashant Raghavan, MD

University of Maryland
RSNA Research Seed Grant
Neural Network Disruption in Perinatal
Hypoxic Ischemic Injury as a Predictor of
Neurodevelopmental Outcome

Ty Kanyn Subhawong, MD

University of Miami

Toshiba America Medical Systems/RSNA Research Seed Grant

Semi-automated qMRI to Assess Desmoid Tumor Volumetric and Stromal Changes Induced by Systemic Therapy

Mubin Isaac Sved. MD

Dayton Interventional Radiology
Cook Medical Cesare Gianturco/RSNA
Research Seed Grant
Gastric Artery Embolization Trial for
LEssening Appetite Nonsurgically Part 2
(GET LEAN II)

Aradhana Mukherjea Venkatesan, MD

The University of Texas
MD Anderson Cancer Center
Toshiba America Medical
Systems/RSNA Research Seed Grant
Functional and Metabolic Imaging Biomarkers
of Radiation Response in High Risk HPV+
Tumors

Etay Ziv, MD, PhD

Memorial Sloan Kettering Cancer Center
RSNA Research Seed Grant
Signaling Pathways Predictive of Response
to Radioembolization of Colorectal Liver
Metastases

RESEARCH RESIDENT/FELLOW GRANT

Allen Ardestani, MD, PhD

Cedars-Sinai Medical Center
RSNA Research Resident Grant
Near-infrared Spectroscopy of the Resting
Brain for Predicting Neurologic Outcomes in
the Comatose Patient

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Divva S. Bolar, MD, PhD

Massachusetts General Hospital

Bracco Diagnostics Inc./RSNA Research Resident Grant

Using Novel MRI Techniques to Identify Hemodynamic and Metabolic Parameters Predictive of Cognitive Outcome after Carotid Endarterectomy

Paco E. Bravo, MD

Brigham and Women's Hospital RSNA Research Fellow Grant Somatostatin Receptor-targeted Imaging in Patients with Suspected Cardiac Sarcoidosis

Baocheng Chu, MD, PhD

University of Washington

RSNA Research Fellow Grant

A High-resolution 3D Isotropic MR Sequence for Combined MRA and Vessel Wall Assessment of Intracranial Vascular Diseases

Neal Corson, MD, PhD

University of California, San Diego RSNA Research Resident Grant MRI-derived Cellularity Index as a Potential Noninvasive Imaging Biomarker for Renal Cell Carcinoma

Pippa Cosper, MD, PhD

Washington University in St. Louis RSNA Research Resident Grant Identifying Human and Viral Transcriptional Profiles in Cervical Tumors During Chemoradiation that Can Predict for Treatment Response

Jamal J. Derakhshan, MD, PhD

University of Pennsylvania Siemens Healthineers/RSNA Research Fellow Grant

Feasibility Assessment and Technical Development of Noninvasive Globe Temperature Measurement and Mapping Using DWI-thermometry MRI

Rahul S. Desikan, MD, PhD

and Cerebellum

University of California, San Francisco Ralph Schlaeger Charitable Foundation Research Fellow Grant An Automated Atlas of the Human Brainstem

Rebecca A. Dumont Walter, MD

University of California, San Francisco RSNA Research Fellow Grant Exploiting Bacterial Iron Metabolism for Spinal Infection Imaging with Positron Emission Tomography

Laura Burns Eisenmenger, MD University of Utah

RSNA Research Resident Grant Development of an MRI-compatible Vessel Wall Inflammation Animal Model

Christine Elissa Eyler, MD, PhD

Dana Farber Cancer Institute Varian Medical Systems/RSNA Research Resident Grant Integrated Epigenomic Analysis to Identify

Determinants of Radiation Response in Mouse Lung Tumors Treated with Imageguided Conformal Radiotherapy

Erin Gillespie, MD

University of California, San Diego RSNA Research Resident Grant Develop and Test a Novel Interactive Contouring Atlas for Radiation Oncology

George Daniel Grass, MD, PhD

University of South Florida/H. Lee Moffitt Cancer Center & Research Institute RSNA Research Resident Grant Targeting Metabolic Complexes in Small Cell Lung Cancer to Augment Radiosensitivity

Aaron Joseph Grossberg, MD, PhD

The University of Texas MD Anderson Cancer Center RSNA Research Resident Grant The Role of Orexin Signaling in Brain Radiation-induced Fatigue

Pedram Heidari, MD

Massachusetts General Hospital RSNA Research Resident Grant Redifferentiation of Neuroendocrine Carcinomas for Improved Efficacy of Molecularly Targeted Radiotherapy

Wen Jiang, MD, PhD

The University of Texas MD Anderson Cancer Center

RSNA Research Resident Grant Combining Radiation with Phosphatidylserine Blockade Promotes Immunogenic Phagocytosis and Generates Long-lasting Anti-tumor Immunity

Sarah N. Khan, MD

University of California, Los Angeles Philips/RSNA Research Resident Grant Tumor MicroRNA Expression Profiles as Biomarkers for Predicting Hepatocellular Carcinoma Tumor Response to Y90 Radioembolization

Benjamin H. Lok, MD

Memorial Sloan Kettering Cancer Center Philips/RSNA Research Resident Grant Utilizing a Novel [18F]PARPi PET Radiotracer to Predict the Efficacy of PARP Inhibitor Radiosensitization in Small Cell Lung Cancer

Jonathon Kirk Maffie, MD, PhD

Columbia University

Prince Research Resident Grant Anatomical Covariance of Fetal Brain Regions as a Tool to Identify Early Developmental Pathology of Intrinsic Brain Networks

Hugh C.J. McGregor, MD

University of California, San Francisco RSNA Research Fellow Grant In Vivo Endothelial Cell Gene Expression Analysis of Venous Outflow Stenoses in Hemodialysis Arteriovenous Fistulas Utilizing a Novel Endovascular Sampling Technique

Amanda M. Murphy, MD, PhD University of Toronto

RSNA Research Fellow Grant VIPER-DCI: Vascular-Perfusion Imaging for Prediction and Early Recognition of DCI and Relationship to Clinical Outcome

Michael F. Regner, MD

University of Colorado Hitachi Medical Systems/RSNA Research Resident Grant Insular Inhibitory Neuromodulation to Reduce Cigarette Craving and Alter Brain fMRI Connectivity and Activity Patterns in

Pavel Rodriguez, MD

The University of Texas Health Science Center at San Antonio

RSNA Presidents Circle Research Resident Grant Pilot Phase II Clinical Trial: Efficacy of Methylene Blue in Mild Cognitive Impairment

Ashley Sekhon, MD

The Ohio State University

FUJIFILM Medical Systems/RSNA Research Resident Grant

Feasibility of Creating a Cosmetic Image Analysis Objective (CIAO) Scoring Tool for Evaluation of Cosmetic Results From Breast Conserving Therapy

Mark Anthony Sellmyer, MD, PhD

University of Pennsylvania Philips/RSNA Research Resident Grant

Multifunctional PET Radiotracers for Quantitative Reporter Gene and Bacterial **Imaging**

Sina Tavakoli, MD

University of Washington RSNA Research Fellow Grant MR Spectroscopy of Carotid Artery: An NMR Metabolomics Approach to Characterize Bioenergetic Divergence of Macrophages in

Vulnerable Atherosclerotic Plagues Michael C. Veronesi, MD. PhD

The University of Chicago Silver Anniversary Campaign Pacesetters Research Fellow Grant

Validation of PET/CT Radiolabeled Nanoparticle Imaging for Intranasal Drug Delivery to the Brain

Daniel Richard Wahl, MD, PhD

University of Michigan RSNA Research Resident Grant Inhibiting Isocitrate Dehydrogenase 1-mediated Reductive Biosynthesis to Augment Glioblastoma Therapy

Eric Wehrenberg-Klee, MD

Massachusetts General Hospital RSNA Research Fellow Grant HER3 PET Imaging for HER2+ Breast Cancer Adaptive Therapy Guidance

Kaveh Zakeri, MD, MAS

University of California, San Diego RSNA Research Resident Grant Restriction Spectrum Imaging as a Novel Biomarker of Treatment Response in Cervical

RESEARCH MEDICAL STUDENT GRANT

Thomas Battey, BS University of Maryland

RSNA Research Medical Student Grant

Prediction of Post-traumatic Abdominal Compartment Syndrome Using Computed Tomography and Semi-automated Segmentation of Intra-abdominal Fluid

Mark Alexander Forsberg, BS

Thomas Jefferson University Canon U.S.A./RSNA Research Medical Student Grant Evaluation of Fluoroscopic Image Quality Using Quantitative Metrics Derived From Clinical Images

Mansur Ghani. BS

Yale University

Early Survival Prediction After Radioembolization for HCC: A 3D Quantitative MRI Assessment of Tumor Response

Christopher Thomas Hensley, PhD

UT Southwestern Medical Center RSNA Research Medical Student Grant Understanding the Cellular Origins of Tumor Tracer Data in Non-small Cell Lung Cancer Tumors

RSNA Research Medical Student Grant Effect of Glucose Metabolism on Sensitivity

Manoj Jagani, BS

Mayo Clinic, Minnesota

RNA Sequencing Analysis and Quantification of Intracranial Gadolinium Deposition in a Rat

Brian Gabriel Jiang, BS

Duke University

RSNA Research Medical Student Grant Optimization of a Frequency-based Fusion Technique for Improving the Image Quality on Low Energy Virtual Monochromatic Images From Dual Energy CT

Aasheesh Kanwar, BS

The University of Texas MD Anderson Cancer Center

Predictive and Prognostic Quantitative Imaging Biomarkers From CT Texture Analysis

Mike Kwon, MSBME

RSNA Research Medical Student Grant Lacunar Viewpoint of Renal Masses: A Quantitative Technique

Howard Jinsoo Lee, BA

Enrolled at Duke University Medical School Research conducted at University of

Correlation of Functional Imaging Heterogeneity in Lung Cancer Radiation

Treatment to Clinical Outcomes of Toxicity and Efficacy with SPECT/CT Ventilation/ Perfusion Scans and FDG PET/CT Scans

RSNA Research Medical Student Grant Quantitative Assessment of In Vivo Tau Pathology in Preclinical Alzheimer Disease and Early Dementia

University of California, Davis for Locally Advanced Non-small Cell Lung Cancer: Toward Personalized Radiotherapy

Michael Nguyentat, BA

University of California, Irvine RSNA Research Medical Student Grant Risk Assessment of Prostate Lesions by Utilizing Multiparametric MRI PIRADSv2 and MRI/Transrectal Ultrasound (TRUS) Fusion Biopsy

Jean-Pierre Obeid, BS

Multiparametric Evaluation of Preoperative MRI in Early Stage Breast Cancer: Prognostic Impact of Peri-tumoral Fat

Jeremy Paluch, BS

University of Southern California RSNA Research Medical Student Grant Utility of Shear Wave Elastography to Assess Liver Fibrosis in Liver Transplant Patients

Neil Panjwani, BSE

University of California, San Diego RSNA Research Medical Student Grant Develop and Test a Novel Interactive

Sherveen Nick Parivash, MS

Research conducted at Stanford University

RSNA Research Medical Student Grant Histological Evaluation of Radiologic Diagnosis in HCC Patients After Y90 Radioembolization

Charles Puza, BA

RSNA Research Medical Student Grant Investigation of Mechanisms of Thermal Ablation Zone Enlargement When Combined with Transarterial Embolization for Treatment of Liver Tumors

Omid Shearkhani, HBSc

University of Toronto

Volume Changes of Metastatic Brain Tumors in Serial MR Imaging of the Brain

Jacob Scott Thurston, BS

Medical College of Wisconsin FUJIFILM Medical Systems/RSNA Research Medical Student Grant Cost-effective Analysis of Percutaneous Femoral Artery Access in Endovascular

Chidubem Godwin Ugwueze, MS

RSNA Research Medical Student Grant Cost-effective Analysis of Percutaneous Femoral Artery Access in Endovascular Aortic Repair

Janis Yee, BA

University of Southern California

Jason Yoon, BA

Washington University in St. Louis RSNA Research Medical Student Grant Next-generation Radioimmunotherapy: Characterizing Fully Human Monoclonal Anti-CD20 Antibodies Labeled with Zirconium-89

Andrew Zureick, AB

Enrolled at University of Michigan Medical School, Research conducted at Massachusetts General Hospital

RSNA Research Medical Student Grant Quantitative MRI Analysis of Radiotherapyinduced Structural, Functional and Developmental Changes in the Brain: Potential Predictors of Adverse Neurocognitive Effects in Pediatric Brain Tumor Survivors

EDUCATION SCHOLAR GRANT

Andres R. Ayoob, MD

University of Kentucky

Philips/RSNA Education Scholar Grant Development of a Web-based Curriculum to Prepare Diagnostic Radiology Residents During their Post-graduate Year 1 by Promoting Learning via Retrieval Practice and Spaced Repetition

Indranil Mallick, MD, DNB Tata Medical Center, Kolkata, India

GE Healthcare/RSNA Education Scholar Grant AVARO - Applied Virtual Anatomy for Radiation Oncology: Teaching Radiological Anatomy for Target Delineation and Image Guidance Using Interactive Online Tools for Large Audiences

Andrew B. Rosenkrantz, MD

NYU Langone Medical Center

AUR/RSNA Education Scholar Grant Design of an Interactive, Case-Based Online Tutorial for Prostate MRI Interpretation Using PI-RADS

Lonie R. Salkowski, MD

University of Wisconsin - Madison, School of Medicine and Public Health **RSNA Education Scholar Grant** Investigation of a Radiology-based Three-dimensional Simulation to Explore Attributes of Novice and Expert Learners in their Process of Correlating and Sensemaking of Medical Images with the Human

Kofoworola O. Soyebi, MBChB

University of Lagos, Idi-Araba, Lagos, Nigeria Derek Harwood-Nash Education Scholar Grant Capacity Building in Nigeria for Sickle Cell Disorder Related Stroke Prevention

Marc H. Willis, DO

Baylor College of Medicine GE Healthcare/RSNA Education Scholar Grant

Technology Enhanced Learning: Medical Student Education Simulation Utilizing Clinical Decision Support (Teaching Medical Students to Select the 'Right Test' at the 'Right Time' for the 'Right Reason')

Jie Zhang, PhD

University of Kentucky RSNA Education Scholar Grant Curriculum Development for Hands-on Physics Education of Residents in Diagnostic Radiology

RSNA Research Medical Student Grant

Xiaojing Huang, PhD

Washinaton University in St. Louis to Chemoradiation in Cervical Cancer Cells

RSNA Research Medical Student Grant

RSNA Research Medical Student Grant Radiomic Assessment of Oropharyngeal Cancers Treated with Radiation Therapy:

University of Southern California

Washinaton

RSNA Research Medical Student Grant

Shruti Mishra, BS Washington University in St. Louis

Angel Morán, BS

RSNA Research Medical Student Grant Combined PET/CT-based Radiomics Modeling

University of Miami Philips/RSNA Research Medical Student Grant

with Chronic Liver Disease

Contouring Atlas for Radiation Oncology

Enrolled at Duke University Medical School

RSNA Research Medical Student Grant Characterizing the Radiologic Abnormalities Observed in Chronic Fatigue Syndrome and Assessing the Potential Use of Advanced MRI in Clinical Diagnosis

Benjamin Vincent Park, PhD

University of Illinois at Chicago

Duke University

RSNA Research Medical Student Grant Developing and Evaluating the Accuracy of a Jacobian Operator-based Vector Displacement Field Technique to Detect

Aortic Repair

Medical College of Wisconsin

RSNA Research Medical Student Grant Time Intensity Curve Analysis of Contrast Enhanced Ultrasound in Renal Masses