

2005 - 2011 Early Career - CTRA Program Awardees

YEAR	FIRST	LAST	PROJECT TITLE	INSTITUTION
2005	Aoy	Tomita-Mitchell	A Non-Invasive Fetal Diagnostic Test for Chromosomal Abnormalities	Univ of Louisville
2005	Cameron	McIntyre	Deep Brain Stimulation Interactive Visualization System	Cleveland Clinic Foundation
2005	Adam	Wax	fICL Optical Biopsy Instrument for Diagnosing Pancreaticobiliary Structures	Duke Univ
2005	Helen	Lu	Novel Tissue Triphasic Scaffold for the Biological Fixation of Tendon Grafts to Bone	Columbia Univ
2005	Vadim	Backman	Rectal Coherent Backscattering Spectroscopy to Screen for Colon Cancer	Northwestern Univ.
2005	Xuejen	Wen	A Tissue Engineered Multifilament Entubulation Bridging Device for the Treatment of Spinal Cord Injury	Clemson Univ
2005	Xinyan	Cui	Conducting Polymer/Hydrogel Skin Surface Electrode for High Resolution Multichannel EEG	Univ of Pittsburgh
2005	Shelly	Sakiyama-Elbert	Rationally Designed Delivery System for Nerve Injury	Washington Univ
2005	Andrew	Tsourkas	Protease Activated Nanoparticles for the Sensitive Detection of Cancer Markers by MR	Univ of Penn
2005	David	Putnam	Novel Biodegradable Materials for Treatment of Acute Neural Injury	Cornell Univ
2005	Thomas	Webster	Bionanotechnology for the Improvement of Orthopedic Implants	Purdue Univ
2005	Hani	Awad	Targeted Gene Delivery Using Engineered Structural Bone Scaffolds	Univ of Rochester
2005	Elisa	Konofagou	Development of an Elastocardiography Prototype System for Automated Detection of Heart Disease	Columbia Univ
2005	Stefan	Judex	Development of Low-magnitude and Safe Biophysical Signal Analogic to Bone	SUNY-Stony Brook
2005	Giulermo	Ameer	Biocompatibility Enhancement of ePTFE Vascular Grafts: A Tissue Engineering Approach	Northwestern Univ.
2005	Dennis	Barbour	Improvement of Noisy Signal Representation in Auditory Prostheses via Biologically Inspired Spectral Contrast Shaping	Washington Univ
2005	Karen	Haberstroh	In Vivo Efficacy of Nano-structured Bladder Tissue Replacement Constructs	Purdue Univ
2005	Jennifer	Elisseeff	Multifunctional Chondroitin Sulfate Adhesive for Corneal Tissue Repair	Johns Hopkins
2005	Tao	Lowe	Subconjunctivally Implantable Hydrogels for Sustained Drug Delivery to Treat Diabetic Retinopathy	Penn State
2005	Karl	Deisseroth	Novel Optics Based Methodology to Drive Neural Stem Cell Differentiation	Stanford Univ
2005	Justin	Williams	BioMEMS Drug Delivery for Treatment of Acute Neural Injury	Univ of WI-Madison
2005	Rebekah	Drezek	Optical Imaging for Early Ovarian Cancer Detection in High Risk Women	Rice Univ
2005	Stephen	McAleavey	Characterization and Development of Acoustic Radiation Force Imaging of the Prostate	Univ of Rochester
2006	Changhui	Yang	Applying Optofluidic Microscopy to Cell Imaging	California Institute of Technology
2006	Elizabeth	Hillman	Development of Depth Resolved Optical Imaging for Melanoma Margin Mapping and Invasion Depth Determination	Columbia Univ
2006	Krishnendu	Roy	Polymer based Delivery Systems for Genetic Vaccines Against B Cell Lymphoma	Univ of TX-Austin
2006	Xudong	Fan	Prototyping Lab-on-a-Chip Based on Lipid Core Optical Ring Resonators for Detection of Breast Cancer Biomarkers	Univ of Missouri
2006	Anant	Madabhushi	Automated Detection of Prostate Cancer from High Resolution MRI	Rutgers Univ
2006	John	Viator	Photoacoustic Detection of Circulating Melanoma Cells	Univ of Missouri
2006	Gang	Yao	Dynamic Pupillary Light Reflex for Autism Screening	Univ of Missouri
2006	Yingxiao	Wang	Development of Specific FRET Biosensors to Monitor Live-Cell MT11-MMP Activity and to Detect Cancer Cells	Univ of IL, Urbana-Champaign
2006	James	Tunnell	Spectral Diagnosis of Early Cutaneous Melanoma	Univ of TX-Austin
2006	Stavroula	Sofou	Liposomes containing 'Raft-Switches' for Targeted Therapy of Solid Tumors	Polytechnic Univ
2006	Steven	Nicoll	Novel Dermal Fibroblast-Cellulose Composites for Mandibular Condyle Cartilage Regeneration	Univ of Penn
2006	Xiaojing	Zhang	In Vivo Molecular Imaging of Oral Epithelial Cancer Using MEMS Silicon Confocal Microscope	Univ of TX-Austin
2006	Kirill	Larin	Development of Objective, Noninvasive Technique to Assess Viability of Human Pre-implantation Stage Embryos	Univ of Houston
2006	Ali	Khademhosseini	Microscale Bottom-up Cardiac Tissue Engineering	Harvard Univ/MIT
2006	Shiladitya	Sengupta	Multivalent Hybrid-nanocells for Spatiotemporal Ablation of Neovascularization and Solid Tumors	Harvard Univ/MIT
2006	Jason	Zara	Microfabricated Optical Coherence Tomography Imaging Probes	George Washington Univ
2006	Erin	Lavik	Sustained Delivery of Timolol Maleate for Management of Elevated IOP of Glaucoma	Yale Univ
2006	Tarek	Fahmy	Multimodal Nanoparticles for Targeting Autoimmune T Cells in Systemic Lupus Erythematosus: A Strategy for Non-Invasive Diagnosis and Treatment	Yale Univ
2006	Sam	Sia	BioMEMS Device for Counting of CD4+ Lymphocytes	Columbia Univ
2006	Maurice	Smith	Error Feedback Control Dysfunction as a Measure of the Progression of Huntington's Disease	Harvard Univ/MIT
2006	Ronald	Xu	Development of an Integrated Dynamic Breast Imaging System for the Early Detection of Breast Cancer	Ohio State Univ
2006	Palaniappan	Sethu	Leukocyte Isolation using a Microfluidic System for Clinical Analysis of Patient Samples to Study Disease Processes	Univ of Louisville
2006	Mia	Markay	Evidence Based Computer-Aided Detection of Breast Cancer	Univ of TX-Austin
2007	Jessica	Ramella-Roman	Retinal Oximeter using Novel Multi-aperture Camera for Assessment of Early Signs of Diabetic Retinopathy	Catholic Univ
2007	Jeffrey	Zahn	Microfluidic Dialysis Platforms for Monitoring Cardiopulmonary Bypass Systemic Inflammation	Rutgers Univ
2007	Chun	Wang	Translational Development of Novel Biodegradable Polymer Platform for Genetic Vaccine Delivery	Univ of Minnesota
2007	Chang	Lu	Fluidic Electroporation Devices for Large Quantity Genetic Modification of Cells	Purdue Univ
2007	Daniel	Kamei	Engineering Intracellular Trafficking Pathways of Transferrin-Drug Conjugates for Treatment of Malignant Gliomas	UCLA
2007	Pedro	Irazoqui	A Hermetic Biocompatible Ceramic Package for Neural Prostheses	Purdue Univ
2007	Ho-Wook	Jun	Biomimetic Nano Matrix for Drug Eluting Stent Application	Univ of Alabama-Birm
2007	Yunzhi	Yang	Optimizing Bone Regeneration with Load-Bearing and Osteoinductive Functionality Graded biomimetic Scaffolds	Univ of Tenn-Memphis
2007	Xiaojun	Yu	Novel Structured Nanofibrous Scaffolds for Bone Healing	Stevens Institute of Tech
2007	Owen	McCarty	Contrast Enhanced Ultrasound Imaging of Atherosclerosis using Glycoprotein Ib-microbubbles	Oregon Health and Science
2007	Edward	Boydén	Direct Optical Neural Silencing: A New Strategy for Treating Brain Disorders	MIT
2007	Jesse	Yen	Ultrasound Transducers for Near-Field 3-D Imaging	USC
2007	Julie	Hasenwinkel	Novel 2-Solution Based Bone Cements for Vertebroplasty and Kyphoplasty	Syracuse Univ
2007	Ayman	El-Baz	Novel Image analysis Framework for Early Diagnosis of Lung Cancer	Univ of Louisville
2007	Utkan	Demirci	Electrical Sensors for Rare Cell Populations in Whole Blood	Harvard Univ/MIT
2007	Gabriel	Silva	Clinical Management of Age related macular degeneration using a control release nanoengineered drug delivery system	UCSD
2008	Cory	Berkland	Drug Nanoparticle Powders in Pulmonary Medicine	Univ of Kansas
2008	Wei	Shen	Targeted Nanocarriers of Retinoic Acid for Cancer Treatment	Univ of Minnesota
2008	David	Merryman	Radiofrequency Ablation to Treat Mitral Valve Disease	Univ of Alabama-Birm
2008	Glenn	Walker	A MEMS-based Adjustable Stiffness Catheter	NC State Univ
2008	Ellis	Meng	Implantable MEMS Drug Delivery Device for Sustained Administration of Neurotrophic Factors to Treat Retinitis Pigmentosa	USC
2008	Rafael	Davalos	Irreversible Electroporation Devices to Treat Cancer	Virginia Tech
2008	Andre	Gobin	Chitosan Coated Gold Nanoparticles for Imaging and Therapeutic Uses	Univ of Louisville
2008	Karl	Griswold	Genetically Engineered Lysozyme for Treatment of Pulmonary Infections	Dartmouth College
2008	Dean	Ho	Nanodiamond-based Patch Device for Pericardial Drug Delivery	Northwestern Univ.
2008	Ning	Zhang	An Injectable Hydrogel-Based Delivery System for the Treatment of Stroke	Clemson Univ
2008	Joseph	Freeman	Novel Composite Nanostructured Scaffolds for Cartilage Regeneration	Virginia Tech
2008	Jason	Burdick	Injectable and Biodegradable Elastomers to Alter Early Infarct Expansion	Univ of Penn
2008	Zheng	Ouyang	Compact Mass Spectrometry Device for On-Site Clinical Diagnoses	Purdue Univ
2009	Dacheng	Ren	Controlling Chronic Infections by Inhibiting Bacterial Cell-Cell Signaling	Syracuse Univ
2009	Hu	Yang	A Novel Highly Adaptable and Multifunctional Dendrimer Hydrogel Platform for Antiglaucoma Drug Delivery	Virginia Commonwealth Univ
2009	Karen	Christman	A Minimally Invasive Regenerative Matrix Therapy for Myocardial Infarction	UCSD
2009	Anuradha	Godavary	A Novel Hand-Held Optical Imager Towards Diagnostic	Florida Intl. Univ
2009	Chen-zhong	Li	A new approach for vision correction using tunable lens	Univ of Missouri
2009	Marom	Bikson	High Density transcranial Electrical Stimulation	City College of NY
2009	Andrew	Dunn	Intraoperative Imaging of Blood Flow Using Laser Speckle Contrast Imaging	Univ of TX-Austin
2010	Liisa	Kuhn	Nano-calcium phosphate/cisplatin for improving the outcome of head and neck cancer patients while maintaining quality of life	Univ of Connecticut
2010	Steven	Little	Treatments for Periodontitis that Restore Immunological Homeostasis	Univ of Pittsburgh
2010	Treena	Arinze	A Novel, Composite Matrix for Bone Repair Applications	New Jersey Instit of Tech
2010	Jeffrey	Karp	A novel dialysis needle with guiding technology	Harvard Univ/MIT
2010	Ji-xin	Cheng	A Micelle Approach to Early Nerve Repair after Spinal Cord Injury	Purdue Univ
2010	Shuliang	Jiao	Multi-modal photoacoustic ophthalmoscope for in vivo retinal imaging	USC
2010	Yang	Liu	Multi-dimensional Elastic Light Scattering Spectroscopic Microscopy to Determine the Malignant Potential of Pancreatic Cysts	Univ of Pittsburgh
2010	Dino	Di Carlo	Filterless inertial concentrator for rare cell enrichment from large volumes of blood	UCLA
2010	Cheul	Cho	Extracorporeal Bioartificial Liver Assist Device with Human Stem Cell-Derived Hepatocytes for the Treatment of Liver Failure	New Jersey Instit of Tech
2010	Krishna	Nayak	Myocardial Perfusion Imaging without Contrast Agents	USC
2010	Newell	Washburn	Cytokine-Neutralizing Gels for Improving Burn Healing	Carnegie Mellon Univ
2011	Christopher	Rylander	Fiberoptic Microneedle Device for Malignant Glioma (MG) Therapy	Virginia Tech
2011	Arash	Kheradvar	Development of a Novel Self-expandable Bioprosthetic Heart Valve for Percutaneous Delivery and Implantation	UC-Irvine
2011	Balaji	Sitharaman	Pre-clinical Evaluation of Carbon Nanostructure-Based High-Performance Contrast Agent for Magnetic Resonance Imaging	SUNY-Stony Brook

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2011	Prabhas	Moghe	NanoLipoBlockers: Designing A New Class of Atherosclerotic Plaque-Passivating Coronary Devices	Rutgers Univ
2011	Nitish	Thakor	LOW COST RETINAL IMAGER FOR EARLY DETECTION OF DIABETIC RETINOPATHY	Johns Hopkins
2011	Scott	Nyberg	Spheroid Reservoir Bioartificial Liver using Primary Human Hepatocytes from FAH-Deficient Pigs	Mayo Clinic College of Medicine
2011	Tejal	Desai	NANOSTRUCTURED THIN FILM DEVICES FOR INTRAOCULAR DRUG DELIVERY	UCSF
2011	Shramik	Sengupta	Electrical System for Accelerated Blood Cultures	Univ of Missouri-Columbia
2011	Katherine	Kuchenbecker	Vibrotactile and Auditory Feedback for Robotic Minimally Invasive Surgery	Univ of Penn
2011	Jenna	Rickus	Biosilicification of Pancreatic Islets to Treat Diabetes	Purdue Univ
2011	Marian	McCord	Hemofiltration Device for Hyperphosphatemia Treatment	NC State Univ
2011	Jennifer	Laurence	Targeted delivery of platinum to treat head and neck cancer using an inline metal-binding tag	Kansas Univ
2011	James	McGrath	Silicon Nanomembranes for Wearable Hemodialysis Systems	Univ of Rochester
2011	Michael	Detamore	Microsphere-Based Gradient Plugs for Osteochondral Regeneration	Kansas Univ
#####	Andreas	Hielscher	Optical Tomographic Imaging of Peripheral Arterial Disease in Diabetic Patients	Columbia Univ