



## 2021 STATEWIDE PROJECT AWARDS

MTRAC	KICKSTART	PRINCIPAL INVESTIGATOR	PROPOSAL	VERTICAL
	•	<b>Cagri Besirli, M.D., Ph.D.</b> U-M Ophthalmology and Visual Sciences	Novel PKM2 Activators for Photoreceptor Neuroprotection: Identifying a Clinical Candidate	Therapeutic
	•	<b>Kelsey Boersma</b> M.P.H., Mary Free Bed Rehabilitation Hospital	mobileM.A.T. General Movement Assessment Application	IT Diagnostic
•		<b>Lola Eniola-Adefeso, Ph.D.</b> U-M Chemical Engineering	<u>Bile Salt-Based Composite Microparticles as an Effective Treatment for Submental Fat Reduction</u>	Therapeutic
•		<b>Jianping Fu, Ph.D.</b> U-M Mechanical Engineering	EmbryoTOX: A Novel Human Embryo Toxicity Testing Platform	Research Tool
	•	<b>Sonali Kurup, Ph.D.</b> Ferris State University-Pharmaceutical Studies	Small Molecule EGFR/AURK Inhibitors for Non-small Cell Lung Cancer	Therapeutic
•		<b>Jun Hee Lee, Ph.D.</b> U-M Molecular & Integrative Physiology	Next Generation Spatial Transcriptomics	Research Tool
•		<b>Mats Ljungman, Ph.D.</b> U-M Radiation Oncology	Universal Cancer Targeting Using Precision CRISPR Technology	Therapeutic
	•	<b>Nishaki Mehta, M.D.</b> William Beaumont Hospital	PressRite	Medical Device
•		<b>Howard Petty, Ph.D.</b> U-M Ophthalmology	Prediction of Cancer Recurrences with Biomarkers	Diagnostic
•		<b>Benjamin Viglianti, M.D.</b> Ph.D., U-M Radiology	First In Human Testing of FNP-59, a Non-Invasive Imaging Agent to Diagnose Primary Aldosteronism	Diagnostic
•		<b>Arthur Weber, Ph.D.</b> MSU – Physiology	Variable Inductor Passive Contact Lens-Based IOP Sensor	Medical Device
	•	<b>William Weitzel, M.D.</b> U-M Internal Medicine, Nephrology	Vascular Ultrasound Diagnostic Tool	IT Diagnostic



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•		<b>Dawen Cai, B.S., Ph.D.</b> U-M – Cell & Developmental Biology	SELAC-SEQ-A Core Instrument for Selective Single-Cell Sequencing Towards Precision Cancer Therapies	Research Tool
•		<b>Marilia Cascalho M.D., Ph.D.</b> U-M – Transplant Surgery <b>Jeffrey Platt, M.D.</b> U-M Microbiology/ Immunology	C3d Immunotherapies to Treat Multiple Myeloma and Related Conditions	Therapeutic
•		<b>John Charpie, M.D., Ph.D.</b> U-M – Pediatric Cardiology	Ultrasound Detectable Endotracheal Tube	Medical Device
•		<b>Lola Eniola-Adefeso, Ph.D., M.S.E.</b> U-M – Chemical Engineering	Poly-Aspirin Particles for the Treatment of ALI-ARDS	Therapeutic
•		<b>John Farris, Ph.D.</b> Grand Valley State University – Biomedical Engineering <b>Eric VanMiddendorp, MSE</b> Spectrum Health – Biomedical Engineering	Water Management System	Medical Device
	•	<b>David Fox, M.D.</b> U-M – Rheumatology	Evidence for Targeting NIK Cell CD6 as a Breast Cancer Immunotherapy	Therapeutic
	•	<b>Shinichi Fukuhara, M.D.</b> U-M – Cardiac Surgery	Aortic Septotomy Device to Create Optimized Landing Zones During Endovascular Aortic Repair for Chronic Type B Aortic Dissection	Medical Device
•		<b>David Markovitz, M.D.</b> U-M – Internal Medicine/ Infectious Disease <b>Jane Manfredi, D.V.M., M.S., Ph.D. DACVS-LA, DACVSMR</b> Michigan State – Veterinary Medicine, Pathobiology and Diagnostic Investigation	A New Agent for the Treatment of Osteoarthritis	Therapeutic
•		<b>Ruthann Nichols, Ph.D.</b> U-M – Biological Chemistry	Developing a Novel Therapeutic to Treat Heart Failure; Targeting Contractile Performance	Therapeutic
	•	<b>Yannis M. Paulus, M.D., FACS</b> U-M – Ophthalmology and Visual Sciences	KaIEYEdoscope Home Monitoring for Macular Degeneration	Medical Device



**2020 STATEWIDE PROJECT AWARDS, cont.**

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	•	<b>Howard Petty, Ph.D.</b> U-M – Ophthalmology	Prediction of Cancer Recurrences Using Biomarkers	Diagnostic
	•	<b>Karthik Ramani, M.D.</b> U-M – Nephrology	Investigator-Initiated Study to Determine the Effect of a Novel Method to Reduce Catheter Associated Urinary Tract Infections Using Nitric Oxide Donor Based Anti-Microbial Balloon Inflation Fluid for Urinary Catheters	Medical Device
	•	<b>Marlene Seltzer, M.D.</b> Beaumont – Obstetrics & Gynecology	Labor Assist Device	Medical Device
		<b>John Farris, Ph.D.</b> Grand Valley State University – Engineering		
•		<b>Lonnie Shea, Ph.D.</b> U-M Biomedical Engineering	An Implantable Engineered Metastatic Niche for Early Detection of Cancer Recurrence	Diagnostic
•		<b>David Sherman, Ph.D.</b> U-M – Medicinal Chemistry, Microbiology/Immunology	Cryptophycins as Next Generation Warheads in Antibody Drug Conjugates	Therapeutic
•		<b>Hom-Lay Wang, DDS</b> U-M – Dentistry	Bone Inductive Membrane for Alveolar Ridge Augmentation	Medical Device



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•		<b>Michael Burns, M.D., Ph.D.</b> U-M – Anesthesiology	Automated Medical Billing Tools	Health IT
	•	<b>John Charpie M.D., Ph.D.</b> U-M – Pediatric Cardiology	Ultrasound Detectable Endotracheal Tube	Medical Device
	•	<b>Lola Eniola-Adefeso, Ph.D., M.S.E.</b> U-M – Chemical Engineering	Development of Degradable Microparticles for Treatment of ALI/ARDS	Therapeutic
	•	<b>Lola Eniola-Adefeso, Ph.D., M.S.E.</b> U-M – Chemical Engineering	Development of Bile Salt-Based Composite Microparticles for Treatment of Obesity	Therapeutic
	•	<b>David Fox, M.D.</b> U-M – Rheumatology	Attenuation of Checkpoint Inhibitor Autoimmune Toxicity by Anti-CD6	Therapeutic
	•	<b>Salim Hayek, M.D.</b> U-M – Cardiology	Using a SuPAR Biomarker to Guide the Management of Multi-Vessel Coronary Artery Disease	Diagnostic
	•	<b>Scott Hummel, M.D., M.S.</b> U-M – Cardiology	An Innovation to Improve Cardiovascular Care and Risk Reduction	Health IT
•		<b>Hitinder Gurm, M.D.</b> U-M – Interventional Cardiology	Harmonic Balloon Angioplasty – Plaque-Buster – Improved Treatment for Coronary and Peripheral Artery Calcification	Medical Device
		<b>Albert Shih, M.S., Ph.D.</b> U-M – Mechanical Engineering		
•		<b>Xuefei Huang, M.A., Ph.D.</b> Michigan State – Chemistry/ Biomedical Engineering	A Novel Vaccine Strategy to Target Breast Cancer Based on Proprietary Mutant Bacteriophage QBeta-MUC1 Conjugate Designed to Maximize Immunogenicity While Minimizing Non-Specific Effects	Therapeutic



**2019 STATEWIDE PROJECT AWARDS, cont.**

MTRAC	KICKSTART	PRINCIPAL INVESTIGATOR	PROPOSAL	VERTICAL
•		<p><b>Qiao Li, Ph.D.</b> U-M – Surgery</p> <p><b>Max Wicha, M.D.</b> U-M – Oncology</p> <p><b>James Moon, Ph.D.</b> U-M – Pharmacy</p> <p><b>Alfred Chang, M.D.</b> U-M – Surgery</p> <p><b>Anna Schwendeman, Ph.D.</b> U-M – Pharmacy</p>	Application of Cancer Stem Cell (CSC) Peptides-Vaccine With Novel Delivery Technology Against CSCs	Therapeutic
•		<p><b>Karen Liby, Ph.D.</b> Michigan State – Pharmacology</p> <p><b>Edmund Ellsworth, Ph.D.</b> Michigan State – Pharmacology</p>	Novel Rexinoids (Retinoid X Receptor Agonists) for Oncology	Therapeutic
	•	<p><b>Karen Liby, Ph.D.</b> Michigan State – Pharmacology</p>	Novel Nrf2 Inhibitors	Therapeutic
	•	<p><b>Mats Ljungman, Ph.D.</b> U-M – Radiation Oncology</p>	Using CRISPR Technology to Target Chromosome Rearrangement Junctions in Cancer	Therapeutic
•		<p><b>David Markovitz, M.D.</b> U-M – Internal Medicine/ Infectious Disease</p>	Mutation Independent Targeting of EGFR in Lung Cancer	Therapeutic
	•	<p><b>Erik Martinez-Hackert, Ph.D.</b> Michigan State University – Biochemistry</p>	Novel Treatment for Preventing Muscle Atrophy and Fatty Infiltration After Rotator Cuff Injury	Therapeutic
•		<p><b>Mark Newman, M.S., Ph.D.</b> U-M – School of Information</p> <p><b>John Hollingsworth, M.D.</b> U-M – Urology</p> <p><b>Michael Englesbe, M.D.</b> U-M – Surgery</p>	Surgical Asset Tracker – Smart Asset Removal	Health IT
•		<p><b>Mukesh Nyati, Ph.D.</b> U-M – Radiation Oncology</p>	Development of DGD1202 for EGFR-TKE Resistant Lung Cancers	Therapeutic



**2019 STATEWIDE PROJECT AWARDS, cont.**

MTRAC	KICKSTART	PRINCIPAL INVESTIGATOR	PROPOSAL	VERTICAL
	•	<b>Yannis Paulus, M.D. FACS</b> U-M – Ophthalmology, U-M – Biomedical Engineering	Novel Laser and Ultrasound to Treat Pigmentation	Medical Device
	•	<b>Xueding Wang, Ph.D.</b> U-M – Radiology, U-M – Biomedical Engineering		
	•	<b>William Roberts, M.D.</b> U-M – Urology	Suction Cone	Medical Device
•		<b>Luis Savastano, M.D., Ph.D.</b> U-M – Neurosurgery	Vortex Catheter Technology: Production Engineering	Medical Device
		<b>Albert Shih, M.S., Ph.D.</b> U-M – Mechanical Engineering		
•		<b>Ariella Shikanov, Ph.D.</b> U-M – Biomedical Engineering	Restoration of Ovarian Endocrine Function in Adolescent Girls With Premature Ovarian Insufficiency	Therapeutic
•		<b>Eric VanMiddendorp, M.S.E.</b> Spectrum Health Innovations	Patient Auto Slider	Medical Device
	•	<b>Eric VanMiddendorp, M.S.E.</b> Spectrum Health Innovations	Dynamic Tension Shoulder Brace	Medical Device
•		<b>Thomas Wang, M.D., Ph.D.</b> U-M – Internal Medicine/ Gastroenterology	Microsystems Confocal Endomicroscope for Instantaneous Histology	Medical Device
	•	<b>Arthur Weber, Ph.D.</b> Michigan State – Physiology	Variable Inductor-Based Passive IOP Sensor	Medical Device



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•		<b>Edward Castillo, Ph.D.</b> Beaumont – Radiation Oncology	Detecting Pulmonary Embolism from Non-Contrast Computed Tomography	Diagnostic
	•	<b>Kemp Cease, M.D., M.B.A.</b> U-M Department of Internal Medicine	A Nanoparticle Vaccine for S. Aureus	Therapeutic
•		<b>Alexis Donneys, M.D., M.S.</b> U-M – Plastic Surgery	Smart Software for the Microscopic Video Surveillance System	Research Tool
	•	<b>Aloke Dutta, Ph.D.</b> Wayne State University – Department of Pharmaceutical Sciences, Eugene Applebaum College of Pharmacy and Health Sciences	Novel Neuroprotective Agents Against Parkinson's Disease	Therapeutic
	•	<b>James Douglas Engel, Ph.D.</b> U-M Department of Cell and Developmental Biology	Refining Small Molecule Inhibitors of LSD1 to Treat Sickle Cell Disease (SCD) and Beta-thalassaemia	Therapeutic
	•	<b>Thomas Gardner, M.D., M.S.</b> U-M – Ophthalmology and Visual Sciences	Oculomics: Data-driven Drug Development	Health IT
	•	<b>Kurshid Ghani, M.B., B.Ch.</b> U-M – Urology	UroSuction Scope: Ureterscope that Reduces Pressure Build-up During Kidney Stone Removal	Medical Device
	•	<b>Hitinder S. Gurm, M.D.</b> U-M – Internal Medicine	Harmonic Balloon Angioplasty – Plaque-Buster	Medical Device
•		<b>Mike Holinstat, Ph.D.</b> U-M – Pharmacology	Analogues of ML355 for Inhibition of 12-LOX In Vivo Resulting in Prevention of Heparin-Induced Thrombocytopenia and Thrombosis	Therapeutic
	•	<b>Joseph Holoshitz, M.D.</b> U-M – Rheumatology	Preclinical Studies of a Small Bone Damage-Preventive Lead HL840	Therapeutic



**2018 STATEWIDE PROJECT AWARDS, cont.**

MTRAC	KICKSTART	PRINCIPAL INVESTIGATOR	PROPOSAL	VERTICAL
		<p><b>Loay Kabbani, Ph.D.</b> Henry Ford Health System – Vascular Surgery Fellowship, Department of Vascular Surgery</p>	Photoacoustic Imaging for Guidance of Endovenous Laser Ablation Procedures	Medical Device
	•	<p><b>Mohammad Mehrmoammadi, Ph.D.</b> Wayne State University – Biomedical/Electrical and Computer Engineering</p>		
		<p><b>Nicole Kennedy, M.D.</b> Henry Ford Health System – Department of Vascular Surgery</p>		
•		<p><b>Jennifer Kaiser, R.N.</b> Spectrum Health – Nursing</p>	Female External Urinary Collection Device (uCol)	Medical Device
	•	<p><b>Karen Libey, Ph.D.</b> Michigan State University – Department of Pharmacology and Toxicology</p>	New Rexinoids for Lung Cancer	Therapeutic
	•	<p><b>Jennifer Meddings, M.D.</b> U-M – Department of Internal Medicine</p>	Female Foley Facilitator (F3) Study	Medical Device
	•	<p><b>Yoshihisa Morita, M.D.</b> Henry Ford Health System – Anesthesiology</p>	Newly Designed Transesophageal Echocardiography Probe Cover to Improve Image Quality	Medical Device
	•	<p><b>Mohammadreza Nasiriavanaki, Ph.D.</b> Wayne State University – Department of Biomedical Engineering &amp; School of Medicine</p>	SMART-OCT to Assist the Diagnosis of Melanoma	Diagnostic
•		<p><b>Dan Orringer, M.D.</b> U-M – Neurosurgery</p>	Automated Brain Tumor Diagnosis Using Convolutional Neural Networks	Diagnostic
•		<p><b>Howard Petty, Ph.D.</b> U-M – Ophthalmology</p>	Improving Ocular Cancer Therapy with Semiconducting Nanoparticles	Therapeutic
•		<p><b>Jeff Sakamoto, Ph.D.</b> U-M – Mechanical Engineering</p>	Customer Validation and Regulatory Pathway of Nerve Guidance Scaffold Technology	Medical Device





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	•	<b>Kamal Sarabandi, M.S., Ph.D.</b> University of Michigan – Electrical Engineering	Wireless Hip Stability Test Device	Medical Device
	•	<b>Erik Shapiro, Ph.D.</b> Michigan State – Radiology	Affinity Magnetic Particles for Imaging Cells by Magnetic Resonance Imaging	Diagnostic
•		<b>Susan Shore, Ph.D.</b> U-M – Otolaryngology	Reversing Synchronized Circuitry to Treat Tinnitus in Humans	Medical Device
•		<b>Kathleen Sienko, Ph.D.</b> U-M – Mechanical Engineering	SubQ Assist: Commercialization of a Task-Shifting Device for the Insertion of Subcutaneous Contraceptive Implants	Medical Device
	•	<b>Matthew Sims, M.D., Ph.D.</b> Beaumont – Infectious Disease Research	Validation of a Biomarker Panel to Predict the Risk of Developing Recurrent MRSA Skin Infections	Diagnostic
	•	<b>Jason Spence, Ph.D.</b> <b>Lonnie Shea, Ph.D.</b> U-M Department of Internal Medicine  U-M Department of Biomedical Engineering	Human Lung Organoid: Pre-Clinical Drug Screening Platform	Research Tool
	•	<b>Benjamin Viglianti, M.D., Ph.D.</b> U-M – Radiology	Development of a Fluorinated NP-59 Analogue for Adrenal Imaging	Diagnostic
	•	<b>Christopher Waters, Ph.D.</b> Michigan State University – Department of Microbiology and Molecular Genetics	Eradicating Biofilms in Diabetic Chronic Wounds	Therapeutic
•		<b>Yoke Khin Yap, Ph.D.</b> Michigan Tech – Physics	Synthesis and Characterization of High-Brightness Red Fluorophores	Research Tool
•		<b>David Zopf, M.D.</b> U-M – Otolaryngology	FerroForm: Magnetic, 3D Printed Ear Splint to Treat Congenital Ear Deformity	Medical Device



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	•	<b>Sean Ahlquist, M.Arch.</b> U-M – Assistant Professor of Architecture, A. Alfred Taubman College of Architecture and Urban Planning	Kinesthetic Environment for Sensory Regulation, Engaged Learning, and Social Interaction	Medical Device
	•	<b>John Anagli, Ph.D.</b> Henry Ford Health System – Research Department	Selective Calpain Inhibitor-based Treatment for Traumatic Brain Injury	Therapeutic
•		<b>Jimo Borjigin, Ph.D.</b> U-M – Physiology	Electrocardiomatrix (ECM): A New Method for Detection of Cardiac Arrhythmias	Health IT
•		<b>Benjamin Buller, Ph.D.</b> Henry Ford Health System – Neurology	Commercialization of a Wide-Ranging Exosome Platform for Treatment of Stroke	Therapeutic
•		<b>Mark Burns, M.S., Ph.D.</b> <b>Chandu Vermuri, M.D., FACS</b> U-M – Mechanical Engineering U-M – Vascular Surgery U-M – Emergency Medicine U-M – Michigan Center for Integrative Research in Critical Care	Microfluidic Device for the Measurement of Viscosity, Coagulation, and Red Blood Cell Deformability in Blood	Diagnostic
	•	<b>Karim Essani, Ph.D.</b> Western Michigan University – Professor, Department of Biological Sciences	Oncolytic Tanapox Virus Recombinants for the Potential Immuno-virotherapy of Human Triple Negative Breast Cancer	Therapeutic
•		<b>Xudong Fan, Ph.D.</b> U-M – Biomedical Engineering U-M – Emergency Medicine U-M – Michigan Center for Integrative Research in Critical Care	Micro Gas Chromatography and Breathomics for Acute Point-of-Care Diagnostics in Acute Lung Injury	Diagnostic
		<b>Craig Friedrich, Ph.D.</b> Michigan Technological University – Engineering	Antibacterial Orthopaedic Implant Commercialization	Medical Device
		<b>Erin Baker, Ph.D.</b> Beaumont – Orthopaedic Surgery		
	•	<b>James Geiger, M.D.</b> U-M – Professor, Department of Surgery, Pediatric Surgery Section	Nutritional Dashboard: An Innovative Approach to Family-Focused Education	Health IT



**2017 STATEWIDE PROJECT AWARDS, cont.**

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	•	<b>James Geiger, M.D.</b> U-M – Professor, Department of Surgery, Pediatric Surgery Section	Home Ventilator – Continuous CO2 Monitoring	Medical Device
	•	<b>Michael Holinstat, Ph.D.</b> U-M – Associate Professor of Pharmacology and Internal Medicine, Department of Pharmacology	Analogs of ML355 for Inhibition of 12-LOX In Vivo Resulting in Prevention of Heparin-Induced Thrombocytopenia and Thrombosis	Therapeutic
	•	<b>Michael Lanham, M.D.</b> U-M – Obstetrics & Gynecology	OnTrack-Development and Evaluation of Software Medication Management Service for Infertility Patients	Health IT
	•	<b>Scott Larsen, Ph.D.</b> U-M – Pharmacy	Development of a Highly Potent Inhibitor of the Rho/MRTF/SRF Pathway as A Novel Oral Therapeutic for Scleroderma	Therapeutic
	•	<b>Rick Neubig, M.D., Ph.D.</b> Michigan State University – Pharmacology		
	•	<b>David Markovitz, M.D.</b> U-M – Internal Medicine	A Molecularly-Modified Lectin for the Treatment of Cancer	Therapeutic
	•	<b>Sophia Merajver, M.D., Ph.D.</b> <b>Matthew Soellner, Ph.D.</b> U-M – Internal Medicine	Dual c-Src/p38 Inhibitor for Triple Negative Breast Cancer	Therapeutic
	•	<b>James Moon Ph.D.</b> <b>Anna Schwendeman, Ph.D.</b> U-M – Pharmacy	A Novel Nano-Vaccine Technology for Cancer Immunotherapy	Therapeutic
	•	<b>Ruthann Nichols, Ph.D.</b> U-M – Department of Biological Sciences	Novel Agent to Improve Cardiac Performance	Therapeutic
	•	<b>Mukesh Nyati, Ph.D.</b> U-M – Associate Professor, Department of Radiation Oncology	EGFR Dimer Disruptor for TKI Resistant Cancers	Therapeutic
	•	<b>Cyrus Piraka, M.D.</b> Henry Ford Health System – Section Chief, Advanced Therapeutic Endoscopy	Novel Device for Polyp Removal in the GI Tract	Medical Device
	•	<b>Gus Rosania, Ph.D.</b> U-M – Pharmacy	Drug Repurposing for Gouty Arthritis	Therapeutic



**2017 STATEWIDE PROJECT AWARDS, cont.**

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	•	<b>Lonnie Shea, Ph.D.</b> U-M – William and Valerie Hall Department Chair & Professor, Department of Biomedical Engineering	An Implanted Biomaterial Scaffold for Early Detection of Metastasis	Diagnostic
•		<b>Muneesh Tewari, M.D., Ph.D.</b> <b>Nils Walter, Ph.D.</b> U-M – Hematology/Oncology U-M – LSA/Chemistry	A High-Specificity, Direct Single Molecule Counting Technology to Enable Cell- Free DNA-Based Liquid Biopsy for Oncology	Diagnostic
	•	<b>Ebenezer Tubman, Ph.D.</b> Michigan Tech – Biological Sciences	Immunization with Phage- Virus-like Particles Displaying Zika Virus B-cell Epitopes to Assess Zika Virus Protection in Mice	Therapeutic
	•	<b>Eric VanMiddendorp, M.S.E.</b> Spectrum Health Innovations – Biomedical Engineering	Patient Auto-Slider	Medical Device
•		<b>James Varani, Ph.D.</b> U-M – Pathology	Novel, Non-Irritating Retinoids for the Treatment of Acne	Therapeutic



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•		<b>Cagri Besirli, M.D., Ph.D.</b> Ophthalmology	CryoAnesthesia – Rapid anesthesia for intraocular injections	Medical Device
	•	<b>Michele Carney, M.D.</b> Emergency Medicine	Positioning Device for Seated Neonatal Lumbar Puncture Procedure	Medical Device
	•	<b>Marilia Cascalho, M.D.</b> Surgery	C3D Cellular and Acellular Vaccines for the Prevention and Treatment of Cancer	Therapeutic
	•	<b>Jeffrey Platt, M.D.</b> Microbiology & Immunology		
	•	<b>Edward Castillo, M.A., Ph.D.</b> Beaumont Health, Radiation Oncology	A Novel Method for Detecting Pulmonary Embolism from Non-Contrast 4DCT	Diagnostic
•		<b>Bill Chey, M.D.</b> <b>James Ashton-Miller, M.S.M.E.</b> Internal Medicine – Gastroenterology	Digital Manometry: A disposable, point-of-service diagnostic device for patients with fecal incontinence	Medical Device
	•	<b>Gabriel Corfas, Ph.D.</b> U-M – Otolaryngology	Development of Small Molecule Positive Modulators of Ligand-Induced Ret Signaling as Treatment for Small Fiber Peripheral Neuropathy	Therapeutic
•		<b>Tim Cornell, M.D.</b> Pediatrics – Intensive Care Michigan Center for Integrative Research in Critical Care	Development of a Near-Real Time Microfluidic Assay Device Reader for Identification of Targetable Cytokines in High-Risk Septic Patients	Diagnostic
•		<b>Rodney Daniels, M.D.</b> Pediatrics – Critical Care Emergency Medicine Michigan Center for Integrative Research in Critical Care	Redox POC Platform for Evaluation and Treatment of Sepsis, Septic Shock, and Multiple Organ Dysfunction	Diagnostic
	•	<b>Bogdan Epureanu, M.S., Ph.D.</b> Mechanical Engineering Emergency Medicine Michigan Center for Integrative Research in Critical Care	Therapeutic Vibration Device	Medical Device



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	•	<b>Kate Fitzgerald, M.D.</b> Psychiatry	Automated brain read-outs for diagnosing anxiety and depression in preschoolers	Health IT
•		<b>Jim Geiger, M.D.</b> <b>Saja Al-Duhaili, Ph.D.</b> Surgery – Pediatrics	BUDDY Button – Low-Profile Gastrostomy Device	Medical Device
	•	<b>Michael Holinstat, Ph.D.</b> U-M – Pharmacology	Analogues of OxyProtect (12-HETrE) for inhibition of platelet function and thrombosis	Therapeutic
	•	<b>Wenjun Ju, M.S., Ph.D.</b> Nephrology <b>Raymond Trievel, Ph.D.</b> Biochemistry	New drug development for chronic kidney disease	Therapeutic
•		<b>Helen Kales, M.D.</b> Psychiatry	WeCareAdvisor: A Novel Web-Based Tool to Assess and Manage Behavioral Symptoms of Dementia	Health IT
•		<b>Tyson Kim, M.D., Ph.D.</b> Ophthalmology	Smartphone-based Retinal Imaging for Screening of Eye Disease	Health IT
	•	<b>Michael Lanham, M.D.</b> Obstetrics & Gynecology	OnTrack	Health IT
•		<b>Dan Lawrence, Ph.D.</b> Internal Medicine – Cardiology	Develop a Preclinical Data Package for a Small Molecule Inhibitor of PAI-1	Therapeutic
	•	<b>Yongqing Li, M.D., Ph.D.</b> Surgery	Targeting Peptidylarginine Deiminase: A Novel Approach to Treatment of Septic Shock	Therapeutic
•		<b>David Markovitz, M.D.</b> Internal Medicine – Infectious Disease	Treatment of influenza with a New Broad-Spectrum Antiviral Agent	Therapeutic
	•	<b>Sofia Merajver, M.D., Ph.D.</b> Public Health	Targeting RhoC to prevent metastasis	Therapeutic



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	•	<p><b>Kayvan Najarian, Ph.D.</b></p> <p><b>Kenn Oldham, Ph.D.</b> Emergency Medicine Mechanical Engineering Computational Medicine &amp; Bioinformatics Michigan Center for Integrative Research in Critical Care</p>	Dynamic Arterial Morphology Analysis for Prediction of Intradialytic Hypotension	Diagnostic
	•	<p><b>Zaneta Nikolovska-Coleska, Ph.D.</b> Pathology</p>	Development of MCL-1 inhibitors as a targeted therapy to circumvent drug resistance in human multiple myeloma	Therapeutic
	•	<p><b>Brent Nowak, Ph.D.</b> Grand Valley State University – applied Medical Device Institute (aDMI)</p> <p><b>John Farris, Ph.D.</b> Grand Valley State University – Biomedical Engineering</p> <p><b>Brent Mulder, Ph.D.</b> Spectrum Health Innovations</p>	uCol – A Novel Female Urinary Collection Device For Reducing CAUTIs	Medical Device
	•	<p><b>Dipankar Ray, Ph.D.</b></p> <p><b>Mukesh Nyati, Ph.D.</b></p> <p><b>Christopher Whitehead, Ph.D.</b> Radiation Oncology</p>	Therapeutic Targeting of mutant KRAS	Therapeutic
	•	<p><b>Bruce Richardson, M.D., Ph.D.</b> Internal Medicine – Rheumatology</p>	Anti-KIR Antibodies in the Treatment of Lupus	Therapeutic
	•	<p><b>Jeff Sakamoto, Ph.D.</b> U-M – Mechanical Engineering</p>	Scaleable Manufacturing of Nerve Guidance Scaffold Technology	Medical Device
	•	<p><b>Joshua Stein, M.D., M.S.</b> Ophthalmology &amp; Visual Sciences</p>	Monitoring Patients with Glaucoma Using a Novel Personalized Forecasting Tool	Health IT



**2016 STATEWIDE PROJECT AWARDS, cont.**

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	•	<p><b>Shuichi Takayama, Ph.D.</b> Biomedical Engineering, Macromolecular Science &amp; Engineering</p> <p><b>Jason Knight, M.D.</b> Rheumatology</p>	Bioengineered NETs Diagnostic for Lupus Flares	Diagnostic
	•	<p><b>Ashootosh Tripathi, Ph.D.</b> Life Sciences Institute</p>	Ribosome Engineering for Improved Production of Novel Antibiotics against Uropathogenic E. coli	Therapeutic
	•	<p><b>James Varani, Ph.D.</b> Pathology</p>	New Leads for Promyelocytic Leukemia	Therapeutic
	•	<p><b>J Scott VanEpps M.D., Ph.D.</b> Emergency Medicine Michigan Center for Integrative Research in Critical Care</p>	Chiroplasmonic Nanorod-PCR (NR-PCR) for rapid bacterial identification and antibiotic resistance testing in sepsis	Diagnostic
	•	<p><b>Chao-Yie Yang, Ph.D.</b> U-M – Hematology, Oncology</p>	Development of in vivo chemical inhibitors to target the ST2/IL-33 axis for treating graft-versus-host disease	Therapeutic
	•	<p><b>Suzanna Zick, N.D., M.P.H.</b> Public Health</p>	Development and Feasibility of an Acupressure Application Tailored by Breast Cancer	Health IT





## 2015 STATEWIDE PROJECT AWARDS

MTRAC	KICKSTART	PRINCIPAL INVESTIGATOR	PROPOSAL	VERTICAL
		<b>Ashwin Belle, Ph.D.</b> <b>Rodney Daniels, M.D.</b> <b>Kayvan Najarian, Ph.D.</b> Emergency Medicine Pediatrics Computational Medicine & Bioinformatics Michigan Center for Integrative Research in Critical Care	Advanced Hemodynamic Assessment and Monitoring Using Computer-Aided Analysis of ECG Signals	Diagnostic
		<b>Cagri Besirli, M.D., Ph.D.</b> Ophthalmology	Cryoanesthesia	Medical Device
		<b>Tiffany Braley, M.D., M.S.</b> Neurology	Dimethyl fumarate: a novel therapeutic agent for obstructive sleep apnea	Therapeutic
		<b>Mark Burns, M.S., Ph.D.</b> Chemical Engineering Emergency Medicine Michigan Center for Integrative Research in Critical Care	Droplet-based Microfluidic Rheometer for Real-time Viscosity Monitoring of Blood Coagulation	Diagnostic
		<b>Brian Byrd, M.D.</b> Internal Medicine	A Novel Biomarker of Mineralocorticoid Receptor Activation	Diagnostic
		<b>Rodney Daniels, M.D.</b> Pediatrics Emergency Medicine Michigan Center for Integrative Research in Critical Care	Point-of-Care (POC) Platform for Small Volume Analysis of Blood and Body Fluid Redux in Illness and Injury	Diagnostic
		<b>Alexis Donneys, M.D., M.S.</b> Plastic Surgery	Microscopic Video Surveillance Systems	Research Tool
		<b>Xudong Fan, Ph.D.</b> Biomedical Engineering Emergency Medicine Michigan Center for Integrative Research in Critical Care	Micro Gas Chromatography and Breathomics for Acute Point-of-Care Diagnostics	Diagnostic
		<b>Jianping Fu, M.S., Ph.D.</b> Mechanical Engineering Emergency Medicine Michigan Center for Integrative Research in Critical Care	Development of A Microscale Whole Blood Coagulation Assay Platform	Diagnostic



**2015 STATEWIDE PROJECT AWARDS, cont.**

MTRAC	KICKSTART	PRINCIPAL INVESTIGATOR	PROPOSAL	VERTICAL
		<b>James Geiger, M.D.</b>	Low-Profile Gastrostomy Device	Medical Device
	•	<b>Saja Al-Dujaili, Ph.D.</b> M-PED Surgery		
	•	<b>Todd Herron, Ph.D.</b> <b>Jose Jalife, M.D.</b> Internal Medicine – Cardiology	Human Heart in a Dish: Novel In Vitro Cardiotoxicity Testing Platform	Research Tool
	•	<b>John Hollingsworth, M.D.</b> Urology	Stent Tracker	Health IT
	•	<b>Michael Hortsch, Ph.D.</b> Cell and Developmental Biology	SecondLook™ – A Template for Interactive E-Learning Tools	Health IT
	•	<b>Mark Ilgen, Ph.D.</b> <b>Xudong Fan, Ph.D.</b> Psychiatry Biomedical Engineering	Wearable Alcohol Monitoring Device	Medical Device
	•	<b>Thiran Jayasundera, M.D.</b> Ophthalmology & Visual Services	EyeAnalyze: Automated Identification and Quantification of Changes in Retinal Diseases	Health IT
	•	<b>Alon Kahana, M.D., Ph.D.</b> Ophthalmology and Visual Sciences	Lacrimal Stent With Opening to Improve Draining Efficacy and Reduce Infection	Medical Device
	•	<b>Lisa Larkin, Ph.D.</b> Molecular and Integrative Physiology	Acellularization of Tissue Engineered Tendon Constructs for Rotator Cuff Repair	Medical Device
	•	<b>Michelle Macy, M.D.</b> Emergency Medicine	The Carseat Compass	Health IT
	•	<b>David Markovitz, M.D.</b> Internal Medicine	H84T BanLec	Therapeutic
	•	<b>Melvin McInnis, M.D.</b> Psychiatry	A Clinical Intervention Trial of Bipolar Disorder: Predicting Individual Outcomes for Rapid Intervention (PRIORI)	Health IT
	•	<b>Kayvan Najarian, Ph.D.</b> <b>Brahmajee Nallamothe, M.D.</b> Emergency Medicine Internal Medicine – Cardiology Computational Medicine & Bioinformatics Michigan Center for Integrative Research in Critical Care	Computer-Aided System for Automated Analysis of Coronary Angiograms	Health IT



## 2015 STATEWIDE PROJECT AWARDS, cont.

MTRAC	KICKSTART	PRINCIPAL INVESTIGATOR	PROPOSAL	VERTICAL
•		<b>Mukesh Nyati, Ph.D.</b> <b>Theodore Lawrence, M.D.</b> Radiation Oncology	Targeting erlotinib resistant EGFR for degradation in lung and colorectal cancers.	Therapeutic
	•	<b>Marc Peters-Golden, M.D.</b> Internal Medicine	Inhaled SOCS-containing liposomes for treatment of inflammatory lung diseases	Therapeutic
•		<b>David Raffel, Ph.D.</b>	<sup>18</sup> F-Hydroxyphenethylguanidine for PET Quantification of Cardiac Sympathetic Nerve Density in Patients with Ischemic Cardiomyopathy Undergoing ICD Implantation	Therapeutic
	•	<b>Jonathan Rubin, M.D., Ph.D.</b> Radiology Michigan Center for Integrative Research in Critical Care	Real-Time Ultrasound Measurement of Local Lung Ventilation	Diagnostic
•		<b>Michael Sabel, M.D.</b> Surgery	Development and Implementation of Clinical Companion Mobile Technologies in Health Care	Health IT
	•	<b>Robert U. Simpson, Ph.D.</b> UM – Pharmacology	+	+
	•	<b>Peter Higgins, M.D., Ph.D.</b> UM – Gastroenterology	CARD-024 for Intestinal Fibrosis	Therapeutic
	•	<b>Jess Thoene, M.D.</b> UM – Pediatrics	Demonstration of Delivery of Human Cystinosis Into Animal Cornea Via Microvesicles	Therapeutic
	•	<b>James Varani, Ph.D.</b> Pathology	New Leads for Promyelocytic Leukemia	Therapeutic
	•	<b>Nils Walter, Ph.D.</b> <b>Muneesh Tewari, M.D., Ph.D.</b> Chemistry Internal Medicine	A New Technology for Single Molecule Counting of Nucleic Acid Biomarkers	Diagnostic
•		<b>Christopher Whitehead, Ph.D.</b> <b>Judy Leopold, Ph.D.</b> Radiology	EGFR and PI3K inhibitors: Design and Discovery of Dual Lipid and Receptor Kinase Inhibitors	Therapeutic



**2015 STATEWIDE PROJECT AWARDS, cont.**

MTRAC	KICKSTART	PRINCIPAL INVESTIGATOR	PROPOSAL	VERTICAL
•		<b>Matt Young, Ph.D.</b> <b>Nicholas Donato, M.D., Ph.D.</b> Internal Medicine – Nuclear Medicine	Targeting deubiquitinases with small molecule inhibitors: A novel approach in cancer pathway and oncotarget inactivation	Therapeutic

## 2014 STATEWIDE PROJECT AWARDS

MTRAC	KICKSTART	PRINCIPAL INVESTIGATOR	PROPOSAL	VERTICAL
•		<b>Ulysses Balis, M.D.</b> <b>Peter Higgins, M.D., Ph.D.</b> Pathology Internal Medicine	Health IT solution for automated safety monitoring for patients with Irritable Bowel Syndrome (IBS) (on thiopurine)	Therapeutic
•		<b>Omer Berenfeld, Ph.D.</b> <b>Hakan Oral, M.D.</b> Internal Medicine – Cardiology	Novel real-time intracardiac mapping system to guide ablation in patients with atrial fibrillation	Health IT
•		<b>Mark Cohen, M.D.</b> <b>Anna Schwendeman, Ph.D.</b> Surgery – Endocrine Medicinal Chemistry	SRB-1 targeted withanolide nanoconjugates for improved targeted therapy of endocrine cancers	Therapeutic
	•	<b>Matthew DiMagno, M.D.</b> Internal Medicine	An Electronic Alert Instrument Shortens Hospital Length of Stay in Acute Pancreatitis	Health IT
•		<b>Kojo Elinitoba-Johnson, M.D.</b> <b>Megan Lim, M.D., Ph.D.</b> Pathology	Clinical Genomic Sequence Analysis Software: Automated variant identification from complex genetic datasets	Health IT
	•	<b>Todd Herron, Ph.D.</b> <b>Jose Jalife, M.D.</b> Internal Medicine	3D Human Cardiac Tissue for Predicting Oncology Induced Cardiotoxicity	Research Tool
	•	<b>Joseph Holoshitz, M.D.</b> <b>Henry Mosberg, Ph.D.</b> Internal Medicine	Medicinal Optimization of a Shared Epitope Antagonistic Lead Peptidomimetic Compound	Therapeutic
	•	<b>Thiran Jayasundera, M.D.</b> <b>Matthew Johnson Robertson, Ph.D.</b> Ophthalmology	Automated Measurement of Changes in Retinal, Retinal Pigment Epithelial, or Chroidal Disease	Health IT
	•	<b>Jerome Kalifa, MD. PhD</b> Internal Med/Cardiology	Smart Ablation	Medical Device
•		<b>Donna Livant, Ph.D.</b> Radiation Oncology	Evaluation of PhScN as a Potent Systemic Therapy Combined with Herceptin and/or Radiation for Breast Cancer	Therapeutic



**2014 STATEWIDE PROJECT AWARDS, cont.**

MTRAC	KICKSTART	PRINCIPAL INVESTIGATOR	PROPOSAL	VERTICAL
		<b>William Meurer, M.D.</b>	Brain-Cooling Devices for Stroke	Medical Device
	•	<b>Albert Shih, Ph.D.</b> Emergency Medicine Michigan Center for Integrative Research in Critical Care Mechanical Engineering		
•		<b>Shahzad Mian, M.D.</b>	Real-time, continuous measurement of intraocular pressure for better ongoing monitoring and management of glaucoma patients	Medical Device
		<b>Nikos Chronis, Ph.D.</b> Ophthalmology & Visual Sciences Mechanical Engineering		
	•	<b>Kayvan Najarian, Ph.D.</b>	A Portable Real-Time Monitoring System for Detection of Cardiovascular Events	Diagnostic
		<b>Kenn Oldham, Ph.D.</b> Emergency Medicine Computational Medicine & Bioinformatics Michigan Center for Integrative Research in Critical Care Mechanical Engineering		
•		<b>Mukesh Nyati, Ph.D.</b>	Targeting EGFR-dimerization and EGFR-Hsp90 interaction for drug-resistant lung and colorectal cancers	Therapeutic
		<b>Theodore Lawrence, M.D.</b> Radiation Oncology		
•		<b>Dan Orringer, M.D.</b> Neurosurgery	Taking the Guesswork Out of Brain Surgery	Medical Device
	•	<b>Howard Petty, Ph.D.</b> Ophthalmology	Nanoparticle Therapy in Cancer	Therapeutic
	•	<b>David Raffel, Ph.D.</b> Radiology	Clinical Translation of 18F-Hydroxyphenethylguanidines for Quantifying Cardiac Nerve Density	Diagnostic
	•	<b>Dipankar Ray, Ph.D.</b> Oncology	Therapeutic Targeting of Mutant KRAS	Therapeutic
•		<b>Albert Shih, Ph.D.</b> Emergency Medicine Michigan Center for Integrative Research in Critical Care Mechanical Engineering	Airway Support Device	Medical Device



**2014 STATEWIDE PROJECT AWARDS, cont.**

MTRAC	KICKSTART	PRINCIPAL INVESTIGATOR	PROPOSAL	VERTICAL
•		<b>Mohamad Tiba, M.D.</b> Emergency Medicine Michigan Center for Integrative Research in Critical Care	Dynamic Response Impedance Volume Evaluation (DRIVE)	Diagnostic
	•	<b>Hector Valdivia, M.D., Ph.D.</b> Internal Medicine	Anti-arrhythmic Drugs Based on Natural Peptides	Therapeutic
•		<b>Thomas Wang, M.D.</b> Internal Medicine – Gastroenterology	Fluorescent-labeled peptide for targeting early detection of colorectal cancer	Diagnostic
	•	<b>Chris Whitehead, Ph.D.</b>  <b>Judy Leopold, Ph.D.</b> Radiology	Dual Inhibitor of Receptor Tyrosine and Lipid Kinases	Therapeutic