

FIFTH ROUND APPLICANTS									
Count	Proj ID	Project Title	First Name	Last Name	Organization	City	Abstract	Total Budget	Funds Req.
1	1023030562	Development of an "On-Board On-Demand" Fuel Reformer for Diesel Exhaust Aftertreatment and Other Applications	Jim	Theuerkauf	ArvinMeritor, Inc.	Columbus	Passenger car Tier 1 suppliers have manufacturing capacity 30% over demand. An alternative to closing plants is to apply core competencies and manufacturing capabilities to new products and new markets. ArvinMeritor is applying their exhaust emissions c	\$3,434,339.00	\$1,717,170.00
2	1024030563	Development of MarrowShield® Technology in Oncology Applications	Joseph	Garlich	ComChem Technologies Inc.	Indianapolis	Bone marrow destruction is a problematic toxic side-effect of many cancer treatments. Several billion-dollar drugs address this problem by helping to restore the marrow quicker after it has been damaged by cancer treatments. Protecting the marrow from	\$6,000,000.00	\$1,998,708.00
3	1025030564	Statistical Computed Tomography for the Dynamic Imaging of Human Organs	Jongmook	Lim	En'Urga Inc.	West Lafayette	Statistical Computed Tomography (SCT) of X-rays offers a new technological approach to visualizing local statistics (RMS, autocorrelation and two point-spatial correlations) in moving objects such as heart, lungs, veins and arteries. Computed local stati	\$822,950.00	\$450,740.00
4	1028030567	MEMS Augmented Vision Visor	Martial	Knieser	Indiana Life Sciences Inc.	Indianapolis	This 21st Century proposal teams together small businesses from Indiana, Indiana Life Sciences Incorporated (ILSI) and Ohio, Essential Research (ER) with Indiana University Purdue University Indianapolis (IUPUI) to commercialize an augmented vision visor.	\$984,593.00	\$475,740.00
5	1028030568	MEMS Devices Using Bio-Inspired Supramolecular Motors	Ramana	Pidaparti & Dr. Michael Knieser	IUPUI at Indianapolis	Indianapolis	Molecular motors are nature's nanomachines. They are the essential agents of movement and integral part of many living organisms. These motor's performance and mechanical efficiency is far superior and unparalleled than that of any man made mo	\$832,986.00	\$410,640.00
6	1029030570	Center of Excellence for Critical Infrastructure Informatics	David	Bodenhamer	IUPUI at Indianapolis	Indianapolis	Many recent events have highlighted the vulnerability of civilization to both natural and unnatural disasters. Examples include tornados, floods, agriculture blights and terrorist acts. The Department of Homeland Security (DHS) has integrated the national	\$3,230,885.00	\$1,999,867.00
7	1030030571	Expansion of Propulsion and Power Center of Excellence	Lynn	Snyder	Allison Advanced Development Company	Indianapolis	It is being proposed that the highly successful Indiana Propulsion & Power Center of Excellence (IP&P COE) be expanded from three technology areas to six in order to accelerate the creation of high tech Indiana jobs. The proposed expansion follows the pl	\$1,608,881.00	\$1,608,881.00
8	1030030573	Production of L-threonine from corn employing a genetically engineered microbial strain	George	Tsao	GRT, Inc.	West Lafayette	This proposal deals a genetically engineered microorganism for producing L-threonine from cornstarch. This may lead to a new industry of \$2.5 billion annual sale, creating thousands of jobs, consuming annually 54 million bushels of corn. The research invo	\$1,698,851.00	\$1,173,500.00
9	1030030574	Transdisciplinary Methodology for Identification of Drug Targets	Hiroki	Yokota	Indiana University	Indianapolis	The Human Genome Project has laid the groundwork for new approaches to drug discovery. With Eli Lilly and Company and Indiana Genomic Initiative, central Indiana is ideally positioned to take advantage of human genomics/proteomics and high-tech instrumen	\$515,676.00	\$330,000.00
10	1031030575	VivusNet: An Extension to Learning Science and Technology Commercialization	Anthony	Davis	VivusNet Corporation	West Lafayette	VivusNet: An Extension to Learning Science and Technology Commercialization This proposal seeks funding in order to conduct advanced research, development, and technology transfer leading to commercialization of a differentiated, world-class produc	\$20,364,111.00	\$2,000,000.00
11	1031030577	Minature Interferometric Explosives Sensor	Alireza	Gharavi	Shayda Technologies, Inc.	Chicago	At Shayda Technologies we have developed a platform for the fabrication of photonic integrated circuits that has a wide range of applications from telecommunication to integrated photonic sensors. Our work on the sensors started long before the September	\$2,414,004.00	\$907,006.00
12	1031030578	Indiana Center of Excellence in Biomedical Imaging Phase II - Molecular Imaging Services	Gary	Hutchins	Indiana University Radiology Associates	Indianapolis	The goal of this proposal is to acquire Phase II funding from the Indiana 21st Century Research and Technology Fund to create a novel imaging service business entitled "Molecular Imaging Services, Inc. (MIS)". This proposal will build upon the outstandin	\$6,008,439.00	\$1,680,860.00
13	1031030585	Discovering the Secrets of Regeneration: A Comparative Strategy	David	Stocum	IUPUI at Indianapolis	Indianapolis	We propose to build upon a partnership between the IU Center for Regenerative Biology and Medicine and Eli Lilly and Company to perform research necessary to move discoveries in the emerging field of regenerative biology into the drug discovery pipeline.	\$6,138,967.00	\$1,680,884.00
14	1101030586	Joint Public/Private Development and Deployment of Software Algorithms and Implementations for Biomedical Computer Modeling and Computer Game Applications	Michael	Root	Gabriel Group	Indianapolis	The NIH has identified the development of computational biology tools as a key task for biomedical research in the next 25 years (Weiss, 2003). The Biocomplexity Institute at Indiana University Bloomington and IUPUI has developed a successful biomedical t	\$3,836,867.00	\$1,579,693.00

15	1103030587	Creating a Reverse Outsourcing Industry in Indiana	Geoffrey	Fox	Indiana University-Bloomington		Outsourcing and the globalization of business enterprise operations will increase the competition in many job categories as lower cost providers are able to compete effectively using the increasing communication and collaboration power of the Internet. Re	\$2,497,500.00	\$1,278,186.00
16	1103030588	Structural Composite Panel Systems from Recycled Aluminum Cans	Ramana	Pidaparti	IUPUI at Indianapolis	Indianapolis	A new type of composite structural panel using recycled aluminum beverage can sections in conjunction with various skin materials will be developed that is cost effective/high strength and durable. It is anticipated that the new structural composite pane	\$395,670.00	\$395,670.00
17	1103030589	"Targeting High Utilizers: Development of Predictive Models for Medicaid and Commercial Medicare Populations"	Julie	Meek	The Haelan Group	Indianapolis	According to the Centers for Medicare & Medicaid Services (CMS), Medicare provides health insurance coverage for over 40 million people and in 2001 total Medicare spending was \$234,949 (in millions). In addition, the Medicaid Program is funded by both Fe	\$2,004,227.00	\$770,816.00
18	1103030590	Metabolic Imaging Institute of Southern Indiana	Timothy	Quinton	Radiopharmacy, Inc.	Evansville	The proposed activity will make available to southeastern Indiana and Tri-state region a high-tech facility for advanced Positron Emission Tomography (PET) imaging, biomedical research, and PET radioisotope production. Evansville is the hub for medical c	\$7,897,700.00	\$1,990,000.00
19	1103030591	PowderCoil	Robert	McShane	First Precision LLC	Valparaiso	Historically, manufacturers of metallic components have had two options for surface treatment, i.e., coating/painting their end products, (1) post-painting, that is, applying a liquid or powder coating/paint to the metallic part after it has been formed t	\$650,000.00	\$650,000.00
20	1103030592	Consortium for Mixed Reality Learning, Performance and Informatics	Sonny	Kirkley	Indiana University-Bloomington	Bloomington	This Consortium will focus on development of learning, training and on-the-job performance support tools using mixed reality (MR) technologies. MR makes use of virtual reality found in video games and other immersive environments. MR takes these technolog	\$3,352,492.00	\$2,000,000.00
21	1104030593	ObTech, Inc. Partnership with Indiana: Advanced Mobile Medical Software	Robert	Lalouche	ObTech	Terre Haute	ObTech's mobile medical software enhances the efficiency, safety, and quality of medical care provided by health care professionals worldwide. With the help of the 21st Century fund and collaboration with Rose-Hulman University and many other major India	\$4,594,800.00	\$2,000,000.00
22	1104030594	Center of Excellence: Institute for Advanced Pharmaceutical Technology	Venkat	Venkatasubramanian	Purdue University	West Lafayette	The US pharmaceuticals industry is at a crossroad. It foresees mega-opportunities in a phenomenally growing global market due to demographics and the promise of modern biology. On the other hand, it is taking more time and more money to develop new drugs.	\$10,302,027.00	\$1,948,866.00
23	1105030596	Enabling Technologies for 70% NOx Reduction in Next-Generation Environmentally Friendly Aircraft Engines	M. S.	Anand	Rolls-Royce Corporation, Indianapolis	Indianapolis	Technologies for the next-generation low-emission engine combustion system will be developed. This includes maturing advanced fuel injection and fuel-air mixing concepts to be ready for implementation in the design and production of the next-generation g	\$4,311,992.00	\$1,989,616.00
24	1105030597	Tools for Quantifying Software Vulnerabilities and Protection	John	Rice	Arxan Technologies, Inc.	West Lafayette	The quantitative assessment of software vulnerability to various threats is a pressing issue, and is important for reasons ranging from commercial (such as setting insurance rates and fighting piracy) to national security (preserving the integrity of crit	\$2,907,884.00	\$1,178,256.00
25	1106030599	Novel MEMS-Based Microscale Cooling System for the Thermal Management of Integrated Microelectronics	Suresh	Garimella	Purdue University	West Lafayette	This project will develop a microscale cooling system to meet the ever-increasing cooling requirements and stringent space constraints in automotive, computing and military electronics. The cooling system employs a MEMS-based approach in which a microfabr	\$4,313,078.00	\$1,922,056.00
26	1106030600	Real-Time Transportation Infrastructure Information System: An Innovative Platform for Indiana's Automotive Future	Darwin	Dahlgren	Dahlgren LLC	Fort Wayne	The daily cost in lives, dollars and time dealing with America's crumbling transportation infrastructure and traffic congestion problems are increasing. The periodic roadway condition survey data needed to manage infrastructure priorities are expensive, t	\$8,833,400.00	\$1,490,000.00
27	1106030601	Advanced Digital Video Compression: New Techniques for Security Applications	Edward	Delp	Purdue University	West Lafayette	In the past months we have seen how the military has used digital video for the war on terror through the use of overhead surveillance systems. We are also familiar with the numerous cases reported in the news involving perpetrators of burglaries and	\$2,600,579.00	\$856,576.00
28	1106030602	Unobtrusive Home Health Monitoring System to Support Aging in Place of the Vulnerable Elderly	Tim	Bruemmer	Home Data Source, LLC	Terre Haute	Maintaining an individual's independence outside of an institutional setting as they age meets both societal and personal objectives by reducing costs of care and increasing quality of life. A key component to the maintenance of independence and reduction	\$1,593,087.00	\$890,730.00
29	1106030603	Integration of Education and Research in MEMS and Nano Technologies Center	Azad	Siahmakoun	Rose-Hulman Institute of Technology	Terre Haute	The focus of MEMS and Nano Technology Center at Rose-Hulman Institute of Technology is to create an interdisciplinary center for design innovations, fabrication, characterization and packaging of MEMS and nanoscale devices. As a result, the Center will tr	\$3,006,040.00	\$1,452,192.00

30	1106030604	RESPONSE- Robots for Effective Surveillance and Protection Operation in Natural and Societal Environments	Matthias	Scheutz	University of Notre Dame	Notre Dame	The main goal of this project is to develop an autonomously operating, multi-level system of mobile robots for a variety of reconnaissance, surveillance, and protection tasks, including homeland security applications, environmental clean-up operations, agr	\$4,038,379.00	\$1,999,088.00
31	1106030605	Cavitation Suppression Technology	Stephen	Emo	Honeywell	South Bend	This proposal describes a program to develop predictive modeling capability of the complex science of cavitation and the transition of this technology into discriminating products for the high technology military and commercial aerospace markets. To date	\$12,908,220.00	\$1,980,000.00
32	1107030607	Effective Ethanol and Enzyme Co-production by Genetically Engineered Saccharomyces Yeast	Nancy W. Y.	Ho	Hoosier Genetic Engineering, Inc.	West Lafayette	Hoosier Genetic Engineering, Inc. (Hoosier Gene) is in the business of developing and commercializing innovative new products using Purdue's unique genetically engineered yeasts. These yeasts can couple the production of high-value products with the prod	\$1,932,241.00	\$966,118.00
33	1107030610	Mind the Design-Engineering Gap: Engineering Advisory System	Nainesh	Rathod	Imaginestics, LLC	West Lafayette	Advanced manufacturing is one of Indiana's pillar industries and its future is tied to its manufacturing heritage. Current trends show that manufacturers nationwide are outsourcing at an alarming rate to reduce costs, causing attrition in the manufacturin	\$5,034,460.00	\$1,481,799.00
34	1107030611	Indiana Center for Insect Genomics: An International Center of Excellence	Jeanne	Romero-Severson	University of Notre Dame	Notre Dame	The Indiana Center for Insect Genomics (ICIG) has earned international recognition for its leadership role in the malaria mosquito (Anopheles gambiae) and yellow fever mosquito (Aedes aegypti) genome projects. We now plan to expand the scope by becoming t	\$3,921,801.00	\$3,178,689.00
35	1107030613	High-Fidelity Hemodynamics and Wall Response in Stenotic and Stented Model Blood Vessels	Steven	Frankel	Purdue University	W. Lafayette	Atherosclerotic cardiovascular disease (ACD) is the leading cause of death in the world. A recent revolution in understanding ACD has occurred with the recognition of "vulnerable plaques"; this motivates interdisciplinary studies related to cardiovascular	\$920,219.00	\$636,426.00
36	1107030614	A Remote Access System for Handheld Devices	Zhiyuan	Li	Purdue University	West Lafayette	This project develops adaptive techniques for remote data and application access from handheld devices over wireless networks. The project partners will build and test an adaptive remote access system which allows handheld devices, such as Pocket PC'	\$610,809.00	\$331,695.00
37	1108030615	Integrated Engineering System for Optimum Machining	Hazim	El-Mounayri	IUPUI at Indianapolis	Indianapolis	This project aims at developing an Integrated Engineering System for Optimum Machining (IESOM) that will significantly reduce the cost and lead-time in process design and machining, and improve product quality. The specific aims consist of: 1) developing	\$1,643,535.00	\$796,897.00
38	1109030616	Controlled Environment Agriculture Enabled by Integrating Biomass Waste Conversion and Energy Reclamation with Efficient Crop-Growth Lighting: Science and Technology Development to Enable the Conversion of Biowaste to Light	Ronald	Turco	Purdue University	West Lafayette	The foundation of the project is the development of an anaerobic-aerobic bioreactor system that efficiently converts food processing waste into fuel-grade methane (CH4), which is used in a fuel cell-driven lighting system for the production of high value foo	\$2,172,251.00	\$1,028,240.00
39	1109030617	Miniature Mass Spectrometer Technology Development	Garth	Patterson	Griffin Analytical Technologies, Inc.	West Lafayette	The focus of this project will be the development and commercialization of innovative, high performance chemical analysis instrumentation. These analytical instruments will meet critical needs in the areas of chemical warfare agent monitoring and explosi	\$3,015,760.00	\$1,569,125.00
40	1110030618	Center for Computational Homeland Security	Alok	Chaturvedi	Purdue University	West Lafayette	Purdue and its partners propose to create the Center for Computational Homeland Security (CCHS). CCHS will be organized within Purdue's Homeland Security Institute and its mission will be to accelerate the creation, validation, and implementation of new k	\$7,818,721.00	\$2,199,070.00
41	1110030619	Integrated Real-Time Experiment Control Platform for Proteomics	Walid	Aref	Purdue University	West Lafayette	One of the most pressing problems in proteomics research is the management of data. Instruments like mass spectrometers can produce massive amounts of raw, unstructured and uncalibrated spectral data (100s of gigabytes per day). The lack of tools to int	\$6,799,877.00	\$2,000,000.00
42	1110030620	Dynamic Measurement of Automotive Glass	Leigh	Sargent	Applied Composites Engineering	Indianapolis	Abstract: Development of high speed metrology system utilizing advanced sensor technology for the dimensional measurement of automotive glass. The equipment is targeted for 100% inline inspection and quality control of three dimensional parts in the har	\$1,827,069.00	\$976,008.00

43	1110030621	A New Paradigm for Environmental and Food Safety Testing: A proposal to develop a unique, Point-of-Service Electrochemical Immunoassay (ECIA) biosensor platform for the rapid, accurate and cost effective detection and monitoring of environmental contamin	Russel	Gray	Theron, Inc.	Carmel	In October of 2003, Theron received an exclusive license to Roche Diagnostics' improved biosensor mediator patents for applications in the fields of environmental and food safety testing. This project will demonstrate the feasibility of adapting the Roch	\$6,300,000.00	\$1,900,000.00
44	1110030622	Improved Diesel Emission Reduction Catalysts by Discovery Informatics	Nicholas	Delgass	Purdue University	West Lafayette	A research project between Cummins Inc. and Purdue University will focus on the development of catalytic systems for reduction of diesel emissions. Environmental regulations that go into effect in 2007 and 2010 mandate significant reductions in the emiss	\$16,452,408.00	\$1,744,014.00
45	1110030623	Low Cost Carbon-Carbon Technology for Pervasive Economic Growth - Phase II	Thomas	Siegmund	Purdue University	West Lafayette	Abstract: The proposal seeks funding for a Phase II in the development of low cost carbon-carbon composite materials. The proposing team has made significant progress in Phase I on developing a new robotically controlled manufacturing approach for high t	\$4,291,415.00	\$1,962,811.00
46	1110030624	An Efficient Method to Secure Images	Paul	Salama	Indiana University	Indianapolis	Recent technology advancements have brought us closer to the dream of pervasive computing, where anytime when we need to compute we can, and anytime when we desire to access our information we can. In the very near future, new wireless technologies will p	\$1,590,330.00	\$760,240.00
47	1110030625	Turbine Engine Configuration Change for Generator Set	Ken	Pesyne	Rolls-Royce Corporation	Indianapolis	This proposal is for funding a risk mitigation program for an alternate configuration gas turbine engine driving a generator set.	\$5,020,000.00	\$1,980,000.00
48	1110030626	Thermal Energy Storage Systems	T. Dan	Bailey	Trexco LLC	Indianapolis	The goal of this project is the commercialization of a proprietary technology for the cooling of large capacity electrical transformers, offering a critical enhancement to the US electric power grid. Specifically, this project will expand the market pote	\$5,954,241.00	\$1,890,100.00
49	1110030627	Center for Integrated Visual Systems	Shiaofen	Fang	IUPUI at Indianapolis	Indianapolis	Visual sensory technology is emerging as the primary means by which the digital world interacts with the physical world, and it is rapidly becoming an integrated part of our everyday lives. Examples include digital photography, camera phones night visio	\$4,762,191.00	\$1,359,396.00
50	1110030628	NomadicOffice: Secure and Customizable Workplace Everywhere	David	Yau	Purdue University	West Lafayette	In today's fast-moving global economy, there is an increasing need for businesses to flexibly exploit nationwide or worldwide business opportunities in a cost-effective manner. Unfortunately, having a global presence through owning proprietary, techno	\$2,657,126.00	\$800,000.00
51	1110030629	Intravital 3-dimensional and quantitative multi-photon microscopy	Bruce	Molitoris	Indiana University	Bloomington	Utilization of multi-photon microscopy to study the 3-dimensional interactions of cells within an organ is in its infancy. Researchers at I.U. and Purdue have expertise in multi-photon microscopy and 3-dimensional quantitative analysis, respectively. They propose now to merge their expertise and partner with Eli	\$3,643,596.00	\$1,201,290.00
52	1110030630	Center of Excellence in Computational Diagnostics	Susanne	Ragg	Indiana University	Indianapolis	The recent emergence of high throughput technologies is rapidly changing the field of medicine. For the Indiana University School of Medicine to be a leader in this new era and be competitive for increased research funding, these technologies must be inte	\$3,705,033.00	\$1,831,146.00
53	1111030633	Orthodontic Force Evaluator for Orthodontics Related Training, Manufacturing, and Clinics	Jie	Chen	IUPUI at Indianapolis	Indianapolis	Controlled tooth movement is critical to successful orthodontic treatments. Control of tooth movement is the ability to quantify and manipulate the applied orthodontic force system. Although the quantification of the force system is critical, it is rarel	\$643,390.00	\$296,440.00
54	1111030634	KBEGrid - Knowledge Based Engineering Grid for Advanced Product Design	Donald	McMullen	Indiana University-Bloomington	Bloomington	Economic success in the 21st century will depend on bringing superior products to market with ever shorter development cycles. Engineering tasks must go beyond basic product design to include compliance with performance objectives, as well as manufactura	\$5,668,229.00	\$510,740.00
55	1111030636	Cell Modeling Core Facility	Peter	Ortoleva	Indiana University-Bloomington	Bloomington	A Cell Modeling Core Facility will be created to make a quantitative model for predicting the behavior of a representative set of human cell types available to the medical sciences community. The model will accelerate the discovery of drugs and vaccines,	\$2,560,380.00	\$1,186,376.00
56	1111030637	21st Century Digital Cinema	Zygmunt	Pizlo	Purdue University	West Lafayette	This project brings together several disparate sciences to answer a common question: "How does the typical viewer perceive quality and value in very large format images?" Such an understanding is crucial to the success of Indiana businesses related to d	\$1,190,320.00	\$522,051.00

57	1111030638	Virtual Pattern Casting Advanced Manufacturing Commercialisation into the Biomedical Industry	Lisa	Laughner	Rolls-Royce	Indianapolis	Rolls-Royce has developed valuable advanced manufacturing technologies for its aerospace business and seeks to commercialise the technologies in the biomedical industry. These technologies were developed as a strategic cost and lead-time reduction for t	\$4,800,000.00	\$2,400,000.00
58	1111030640	Development of Small-Molecule Inhibitors of HDAC for the Correction of Errant Gene Expression in Rare Diseases	Norbert	Wiech	Errant Gene Therapeutics	Phoenix	This proposal describes the goal of Errant Gene Therapeutics which was organized to discover, develop and commercialize therapeutic agents designed to correct the aberrant gene expression activity associated with many life-threatening conditions of rare d	\$1,005,100.00	\$1,005,100.00
59	1111030641	DataVault: A Highly Available and Secure Storage Infrastructure	Suresh	Jagannathan	Purdue University	West Lafayette	This collaborative project between Purdue University, IUPUI, and Surfeit Technologies aims to develop an electronic	\$2,508,500.00	\$561,093.00
60	1111030642	Soybean-Based Bio-products Research, Product Development, and Commercialization	Bernard	Tao	Purdue University	W. Lafayette	The development of biotechnology and the life sciences is a major opportunity for economic development in Indiana over the next half century. This proposal targets the development of bio-based product industries in Indiana, with the goals of commercializ	\$9,649,315.00	\$780,782.00
61	1111030643	Project TPS- Thomson Progressive Sourcing - Science and Technology Development and Commercialization	Krista	Robinson	Thomson	Indianapolis	Thomson is a leading provider of video technologies, products, and services - with revenue of \$12 billion USD. Thomson's brands include Technicolor, Grass Valley, and RCA. Thomson's US headquarters are located in Indianapolis, IN	\$4,795,000.00	\$1,822,100.00
62	1111030644	Application of Raman Spectroscopy and a Novel Substrate for BioPharmaceutical Process Improvement, Monitoring and Quality Control	Raymond	DeGrella	Tienta Sciences	Indianapolis	Currently, pharmaceutical production involves process monitoring of physical parameters such as temperature, pressure, flows, pH, etc. and quality control by both laboratory and on-line analysis. However, continual process optimization, recurring manufact	\$5,324,755.00	\$1,809,486.00
63	1111030645	Smart Bio-Spray Technologies--New approaches for spray drying complex fluids	Osvaldo	Campanella	Purdue University	West Lafayette	Two Indiana companies require technology that is unavailable because the basic science does not exist. The first company requires the technology to build a state-of-the-art spray drying plant for manufacturing high value-added specialty starch ingredient	\$2,917,331.00	\$1,333,123.00
64	1111030646	The Indiana Power Prairie	John	Rusek	Swift Enterprises, Ltd.	West Lafayette	The specific objectives of this project are two-fold: 1) the development and commercialization of low-toxicity hypergolic rocket propulsion ingredients, and 2) the development and commercialization of stationary direct fuel cells using renewable fuels sto	\$2,415,235.00	\$1,999,869.00
65	1111030647	Development of a Center for Interactive Buildings	James	Braun	Purdue University	West Lafayette	Concerns over energy, global environmental, health and productivity, and homeland security will drive significant changes in the building industry over the next several decades. A new Center for Interactive Buildings will be formed to perform multi-disci	\$3,365,909.00	\$2,000,000.00
66	1112030648	Human Tremor Diagnosis	Russell	Eberhart	Computelligence LLC	Indianapolis	Indiana has the academic and industrial potential to be the center of excellence in the U.S. biomedical device development arena. Many medical device companies in Indiana have either originated from collaborations with the universities or have started fro	\$818,400.00	\$399,000.00
67	1112030649	Development and Commercialization of a New Bone and Soft Tissue Ingrowth Material	Steven	Schmid	University of Notre Dame	Notre Dame	The proposal describes a new technique for producing bone and soft tissue ingrowth materials (scaffolds), applicable to a wide variety of orthopedic products. With technological advances of the past decades, implants have longer lives, requiring that impr	\$3,970,163.00	\$1,432,328.00
68	1112030650	Center for Human Cell Processing	Mark	Pescovitz	IUPUI at Indianapolis	Indianapolis	This project will establish a Center for Human Cell Processing (CHCP) at Indiana University School of Medicine (IUSM) that provides an infrastructure to develop standardized methodologies to isolate cells directly from human tissue. These cells are gainin	\$400,000.00	\$200,000.00
69	1112030651	On-Line Design of Experiments to Maximize Information during Data Collection	Peter	Meckl	Purdue University	West Lafayette	The design of complex industrial products, like diesel engines, requires extensive data to be collected, so that mathematical models can be built to describe them. The standard approach to data collection involves a conventional design of experiments, wh	\$854,021.00	\$418,469.00
70	1112030652	Rural Broadband Research Center	Stephan	Jones	Ball State University	Muncie	The results of the 2003 Indiana Interconnect report showed that, beyond the Indianapolis metropolitan area, Indiana is a dial-up state in a broadband world. Lack of affordable and reliable broadband service seriously limits Indiana's prospects for econom	\$1,523,880.00	\$961,940.00
71	1112030653	The LEAP process, a leap in cost and time reduction in designing complex products	Brian	Tanner	American Aviation Company, Inc.	Peru	This project will utilize commercial and academic resources to demonstrate the validity of the Lean Engineering and Advanced Prototyping (LEAP) process in facilitating rapid design to prototype, as well as generating data in support of AAC's aerospace dr	\$3,295,330.00	\$1,895,330.00
72	1112030654	Copper Planarization for Integrated Circuit Manufacturing	Stephen	Beaudoin	Purdue University	West Lafayette	Modern integrated circuits (ICs) are made by modifying the surface of a silicon wafer to create individual devices, and then interconnecting the devices with (typically) copper (Cu). During interconnection, an insulating layer (dielectric) is deposited on	\$1,839,792.00	\$264,365.00

73	1112030655	Optically Based Vital Signs Monitor - A non-invasive device for the measurement of vital signs	Theodore	Bailey	Theron Technologies, LLC	Indianapolis	Our goal is to address the demonstrated medical need of Neonatal Intensive Care Units (NICU) for a non-invasive medical device that can simply and continuously measure vital signs with accuracy and precision. Over the course of the two-year project, we w	\$4,157,237.00	\$1,956,805.00
74	1112030656	Gene Therapy for Joint Damage: Development and Commercialization of New Treatments for Articular Cartilage and Meniscal Damage	Stephen	Trippel	IUPUI at Indianapolis	Indianapolis	The purpose of this project is to develop and commercialize novel gene therapy-based products for the treatment of articular cartilage and meniscal damage. Sports injuries that affect joints are a major unsolved problem in modern medicine. Both articula	\$4,634,147.00	\$2,000,000.00
75	1112030657	Teacher's Web: Developing an Agent-Based Learning Environment for Indiana Teachers and Beyond	Ali	Jafari	IUPUI at Indianapolis	Indianapolis	This grant proposal proffers the conceptualization, design, development, testing, and commercialization of a software environment called Teachers Web, or t-Web. The t-Web project suggests an "intelligent" collaboration for a dynamic resource and interact	\$2,060,106.00	\$769,008.00
76	1112030658	Unitized Construction For Advanced Aerospace Manufacturing	Alten F.	Grandt, Jr.	Purdue University	West Lafayette	Research is proposed to commercialize an advanced aerospace manufacturing concept – unitized construction. This new manufacturing method is receiving intense study by the aerospace industry, and provides a unique opportunity to bring new technology to ai	\$2,432,201.00	\$1,734,978.00
77	1112030659	Testing and Analysis of Electronic Circuit Boards in Harsh Automotive Environments for Improved Reliability	Edmundo	Corona	University of Notre Dame	Notre Dame	This proposal describes new experiments that will characterize the thermo-mechanical failure of solder joints in electronic assemblies manufactured for the automotive industry. Researchers at the University of Notre Dame will collaborate with engineers at	\$399,343.00	\$197,518.00
78	1112030660	Controlled Environment Production System for Plants Genetically Modified to Create Pharmaceutical and Other Beneficial Proteins	Douglas	Ausenbaugh	Controlled Pharming Ventures LLC	Indianapolis	The use of genetically modified plants and crops to produce pharmaceutical proteins (pharma plants) shows great promise from cost, safety, and capacity perspectives. However, development and commercialization has been hampered due to concerns of confinem	\$10,000,000.00	\$1,996,857.00
79	1113030662	Advanced Deep Reactive Ion Etching: An Enabling Technology for Micro and Nano-scale Engineering in Indiana	Dimitrios	Peroulis	Purdue University	West Lafayette	Micro/Nano-scale engineering has been identified as one of most promising enabling technologies in a number of different areas including bio-nano-technology, microfluidics, nanomachines, wireless microsystems and nanophotonic networks. Not only have micro	\$1,310,648.00	\$486,515.00
80	1113030663	A Center of Excellence in Orthopedic Research and Engineering (CORE)	Steven	Schmid	Department of Mechanical Engineering	Notre Dame	A significant concentration of the orthopedic industry exists in and around Warsaw, in the so-called "Orthopedics Corridor" of northern Indiana. Over \$6 billion in annual sales is generated by companies that maintain their research and development, manu	\$19,552,639.00	\$5,000,000.00
81	1113030666	Enabling Manufacturers to Configure for Custom Solutions: Self-Service Product Configurator	Doug	Wood	80/20, Inc	Columbia City	The age of mass production has given way to mass customization, where "order-to" manufacturing is replacing the way customers select and purchase products. This trend, driven by companies like Dell has clearly proven that customers prefer this type of sal	\$4,994,084.00	\$1,514,574.00
82	1113030668	The Enhancement of the Software Engineering Research Center	Wayne	Zage	Ball State University	Muncie	Our mission is to enhance the Software Engineering Research Center (SERC) for the specific purpose of benefiting Indiana. The SERC, established in 1986, is a National Science Foundation, Industry-University Cooperative Research Center (IUCRC) that curren	\$1,492,574.00	\$795,758.00
83	1113030669	Development of Quantum Dot Probes for In-vivo Imaging	Christoph	Naumann	IUPUI	Indianapolis	The collaborative project described herein seeks to develop and commercialize next-generation quantum dots for in vivo imaging applications by bringing together existing strengths in nanotechnology and life sciences in the Indianapolis area. The innovati	\$2,035,567.00	\$1,012,352.00
84	1113030670	Leveraging Central Indiana Life Sciences Assets to Create 1) Novel Technology for Seeds Industry QA/QC, and 2) a Local Company to Develop and Commercialize	Ronald	Meeusen	Dow AgroSciences LLC	Indianapolis	Despite decades of research the global seed industry still relies on germination of seeds on wet paper towels and manual counting of the sprouted seeds as its primary QA/QC technology, and largely lacks the ability to separate dead from live seed. This r	\$382,358.00	\$247,326.00
85	1113030671	Commercialization of a Neutron Based Explosives Detection Device (Car Bomb Detection)	Jon	Massey	Raytheon Technical Services Company LLC	Indianapolis	The recently formed partnership between Raytheon Technical Services Company (RTSC), 2K and Purdue University has successfully demonstrated the validity of a Neutron based explosive detection system. This machine will primarily be marketed to Homeland Def	\$2,825,000.00	\$1,662,000.00
86	1113030672	The Indiana Protein Center	James R.	Ludwig	Eli Lilly and Co.	Indianapolis	The Indiana Protein Center, an academic-industrial partnership sponsored by the Central Indiana Corporate Partnership, is an infrastructure investment for the future of Indiana's life sciences economy. It has three missions for Indiana: (1) to prov	\$7,780,000.00	\$2,000,000.00
87	1113030673	In vivo Thermoacoustic Imaging of HER2 Status	William	Kiser	OptoSonics	Indianapolis	Molecular imaging, a rapidly expanding area of the biotechnology sector, is used to image the distribution of specific molecules as they are transported through living organisms. These molecules, typically a protein or compound, are labeled with a contra	\$1,763,866.00	\$900,313.00

88	1113030674	Design, Development and Demonstration of an Integrated and Optimized Distributed Generation and Interconnect System Controller	Tim	Chambers	iPower Technologies, Inc.	Anderson	The proposed program will to design, develop, and demonstrate an integrated and optimized Distributed Generation System Control (DGSC) module. The system will improve overall power generation performance and lower the capital cost associated with further	\$1,791,778.00	\$873,756.00
89	1113030675	eTRUEGROUP - Next Generation Group Insurance Policy Administration	Michael	Mitsch	eTRUEGROUP, Inc.	Indianapolis	Where in-place 10-40 year old legacy applications used throughout the group insurance industry are cumbersome mainframe based application systems lacking the flexibility, scaling and true web functionality required by carriers their clients and employees.	\$9,000,000.00	\$1,000,000.00
90	1113030676	Research and Commercialization of Building Informatics Software	Jeff	Badders	Porteum	Fort Wayne	Porteum is an Indiana company, specializing in digital asset management solution and information transformation services for the construction industry. Porteum transforms existing building information, regardless of its current state, into accurate, compl	\$2,600,000.00	\$922,500.00
91	1113030678	The Development of RF Powered Non-invasive Monitoring System for Implantable Medical Devices	Andrew	Hsu	IUPUI at Indianapolis	Indianapolis	Many implantable medical devices require frequent monitoring after their implant into human bodies to ensure safe and proper functioning. Examples include cardiovascular stents, artificial heart valves, pacemakers, artificial joints, etc. However, the acc	\$1,641,467.00	\$842,994.00
92	1113030679	Folate-targeted Chemotherapy: A Science and Technology Grant Application	Crhstopher	Leamon	Endocyte, Inc.	West Lafayette	Notwithstanding the noteworthy advances in its treatment, cancer persists as the second largest cause of death in America with one in four deaths being caused by this disease. Chemotherapy remains the primary method of treatment for metastasized or dissem	\$20,000,000.00	\$1,950,000.00
93	1113030680	Development and Commercialization of Micro-fluidic Technology for the Biomedical Industry	Hsueh-Chia	Chang	University of Notre Dame	Notre Dame	This proposal aims to facilitate transfer of micro-fluidic technology from the Center for Microfluidics and Medical Diagnostics (CMMD) at the University of Notre Dame to the Indiana biomedical and pharmaceutical industries to create significant long-term	\$4,702,819.00	\$1,932,461.00
94	1113030681	Title: A Living Laboratory for Prognosis with a Science & Technology Showcase, Subtitle: Cost Share/Center of Excellence Request for NSF Center in Prognosis for System of Systems	Mark	Smith	Electrical and Computer Engineering	West Lafayette	\$2M is requested to develop a one-of-a-kind \$4M Living Laboratory for Prognosis at Purdue as the cornerstone of an invited \$25M NSF Science & Technology Center proposal in Prognosis for System of Systems. This state-of-the-art facility will significantly	\$25,000,000.00	\$2,000,000.00
95	1113030682	Distributed Large-Scale In-Situ Combined Sewer Overflow Detection Using Novel Interactive Embedded Wireless Sensor Network Technology	Jeffrey	Talley	University of Notre Dame	Notre Dame	Science and Technology Development and Commercialization Project Abstract: The combined sewer overflow (CSO) problem is an important challenge facing most major cities in the Midwest, Westcoast, and Northeast United States. In these cities, storm and s	\$4,622,788.00	\$1,999,364.00
96	1113030683	Development of Virtual Security Surveillance Infrastructure	Bin	Lin	Stone Technology Inc.	Fort Wayne	Development of Virtual Security Surveillance Infrastructure A research and development proposal for 21st Century Research and Technology Fund, Science and Technology Commercialization Award. (Round-5, November 14, 2003)  This project focuses on the d	\$4,350,000.00	\$1,200,000.00
97	1114030685	"The MathSpeak™ Digital Talking Book Initiative"	David	Schleppenbach	gh, LLC	West Lafayette	The project will develop a new method of reading mathematics for persons with print disabilities. This method will involve computer software to create, render, and manipulate Science, Mathematics, Engineering, and Technology (SMET)-related books and othe	\$959,300.00	\$959,300.00
98	1114030686	Semiochemic Biosensors For Detecting Biological Agents	Fred	Regnier	Purdue University	West Lafayette	The goal of this proposal is to 1) develop a Semiochemic Biosensing System for simultaneously detecting any one of multiple pathogenic organisms that could be used in bioterrorism (BT) or biological warfare (BW) and 2) to integrate it into a cargo screeni	\$4,000,000.00	\$2,000,000.00
99	1114030687	High Speed Ultraviolet Raman Spectroscopy System for In-Line Pharmaceutical Monitoring	George	Laurence	Monocle Technologies, Inc.	West Lafayette	This proposal describes the development of a high-speed Raman spectroscopy system suitable for in-line production measurement of pharmaceutical products. Raman spectroscopy can be used to identify a chemical's composition and quantify the amount present.	\$5,225,995.00	\$1,798,668.00
100	1114030688	A Study of the Feasibility and Commercialization Potential of a Proposed Energy Technology Based Upon a Low-Energy Reaction Deuterium Device	David	Cappelletti	LENR, LLC	Elkhart	This is a proposal from LENR, LLC, and the University of Notre Dame, to the Indiana 21st Century Fund to develop a potentially high-leverage nuclear energy technology. Specifically, we propose to analyze the potential of a recently patented nuclear fusio	\$750,835.00	\$371,562.00
101	1114030690	Examination and improvement of sterile processing of medical devices using rigid containers.	Keith	Baldwin	WIS Medical, LLC	Noblesville	WIS Medical, LLC (WIS) is the product design, development, and commercialization arm of WIS Sheet Metal. Our business currently serves the medical, packaging and air/fluid controls markets. Making the most of our 80,000 square feet facilities, our high	\$4,657,000.00	\$1,200,000.00

102	1114030692	Low Energy Neutron Source (LENS)	John	Cameron	Indiana University-Bloomington	Bloomington	This is a request for a 21st century Research and Technology Fund cost-share of new and pending Federal awards to build the Low Energy Neutron Source (LENS) at IU Bloomington. Indiana University requests support to leverage construction awards of about \$7	\$10,650,000.00	\$2,400,000.00
103	1114030693	Center of Excellence in Proteomics	Mu	Wang	IUPUI at Indianapolis	Indianapolis	Proteomics is the systematic study of proteins and their activities expressed by a given genome. The study of proteomics holds great promise in advancing the molecular understanding of the complexity of biological function in the context of disease and hu	\$2,615,091.00	\$2,000,000.00
104	1114030695	The Increased Conservation and Mobility Envelope of an All Mechanical Oxygen Delivery System for Medical Applications	Keith	Baldwin	WIS Medical, LLC	Noblesville	WIS Medical, LLC (WIS) is the product design, development, and commercialization arm of WIS Sheet Metal. Our business currently serves the medical, packaging and air/fluid controls markets. Making the most of our 80,000 square feet facilities, our highl	\$5,460,000.00	\$1,400,000.00
105	1114030696	An Alternative Dialysis Access System and Method	Keith	Baldwin	WIS Medical, LLC	Noblesville	WIS Medical, LLC (WIS) is the product design, development, and commercialization arm of WIS Sheet Metal. Our business currently serves the medical, packaging and air/fluid controls markets. Making the most of our 80,000 square feet facilities, our highl	\$7,055,000.00	\$2,000,000.00
106	1114030697	"Center for Applied Genomics Technology"	Rex	Stith	IUPUI at Indianapolis	Evansville	: The Center for Applied Genomics Technology (CAGT) is a project that recognizes the importance of emerging biotechnology and its relevance to medical science and patient health care recognizing the impact on both economic development and the demands for	\$3,218,126.00	\$1,879,857.00
107	1201030698	Cost Share Request for an NSF STC Proposal. Center for the Integrative Study of Human-Environment Dynamics (CISHED)	Emilio F.	Moran	Indiana University	Bloomington	Cost Share Request for an NSF STC Proposal <b>Center for the Integrative Study of Human-Environment Dynamics (CISHED)</b> . The attached pre-proposal provides a general view of the goals of this Center-level project. The pre-proposal has been selected to submit a full proposal to the National Science Foundation in what was very rigorous competition.	\$25,000,000.00	\$2,000,000.00
108	1114030699	CFD Modeling for High Rate Pulverized Coal Injection (PCI) to Blast Furnaces - Cost-Sharing with American Iron and Steel Institute	Chenn Q.	Zhou	Department of Mechanical Engineering	Purdue University - Calumet	The U.S. Steel industry produces over 100 million tons of steel annually. Northwest Indiana has the largest concentration of steel mills in the U.S., employing over 26,000 people. These facilities are losing their competitive edge owing to aging technologies. The blast furnace that converts iron ore to molten iron is an important component in these facilities. The objective is to develop a state-of-the-art computational fluid dynamics (CFD) model of pulverized coal injection (PCI) to blast furnace (BF). The project will lay a solid foundation to develop a long-term R&D steel program as well as to expand applications to other industries.	\$400,502.00	\$200,251.00