Results of Applications for the 2010 Integrated Thematic Projects at Academia Sinica Announced

There are a total of 44 applications for the 2009 Thematic Projects (20 from Division of Mathematics and Physical Sciences; 23 from Division of Life Sciences; 1 from Division of Humanities and Social Sciences). The applications require a budget of NT$449,955,000 in total (NT$240,380,000 for Division of Mathematics and Physical Sciences; NT$207,148,000 for Division of Life Sciences; NT$2,427,000 for Division of Humanities and Social Sciences).

Of all the applications, 15 were approved in the meetings of the Second-round Review and Budget Review, including 8 from Division of Mathematics and Physical Sciences, 6 from Division of Life Sciences, and 1 from Division of Humanities and Social Sciences. The total approved budget amounts to NT$105,055,000 (NT$66,800,000 for Division of Mathematics and Physical Sciences; NT$36,500,000 for Division of Life Sciences; NT$1,755,000 for Division of Humanities and Social Sciences). Please refer to the following table for detailed information.

A. Division of Mathematics and Physical Sciences: (8 projects)

Project No.	Title of Projects	Principal Investigators	Institutions
AS-99-TP-A02	Applications of Electron and Ion Beams Field Emitted from Pyramidal Single-atom Tips	Ing-Shouh Hwang	Institute of Physics, Academia Sinica
	A02-1 Development of Single-atom-tip Based Coherent Electron Diffraction	Ing-Shouh Hwang Hong-Shi Kuo	Institute of Physics, Academia Sinica; Institute of Physics, Academia Sinica
	A02-2 Development of Gas-field-ion-source Focused Ion Beam System Based on Single-atom tips	Hong-Shi Kuo Ing-Shouh Hwang Tsu-Yi Fu	Institute of Physics, Academia Sinica; Institute of Physics, Academia Sinica; Department of Physics, National Taiwan Normal University
	A02-3 Development of Single Atom tip Field Emission Gun SEM	Fu-Rong Chen Gung-Chian Yin	Department of Engineering and System Science, National Tsing Hua University; Biologic Imaging Group, National Synchrotron Radiation Research Center

AS-99-TP-A03	Electron Microscopic Imaging of Biological Molecules in Wet Cell	Chia-Seng Chang Yunn-Shin Jessie Shiue Shao-Kang Hung	Institute of Physics, Academia Sinica; Institute of Physics, Academia Sinica; Department of Mechanical Engineering, National Chiao Tung University
	A03-1 Observation of Live Biological Molecules in the Wet Cell of a Phase Electron Microscope	Fu-Rong Chen Fan-Gang Tseng	Department of Engineering and System Science, National Tsing Hua University; Engineering and System Science, National Tsing-Hua University
	A03-2 Realization of an Electrostatic Tunable Phase Plate Cryo-TEM for Imaging Biological Materials	Wei- Hau Chang	Institute of Chemistry, Academia Sinica
AS-99-TP-A04	Charge Qubits Coupled to a Solid-state Quantum Electrodynamics Cavity	Chii-Dong Chen Cen-Shawn Wu Watson Kuo	Institute of Physics, Academia Sinica; Department of Physics, National Changhua University of Education; Department of Physics, National Chung Hsing University
AS-99-TP-A08	Application of High-field Laser-plasma Devices in Frontier Scientific Research	Jyhpyng Wang	Institute of Atomic and Molecular Sciences, Academia Sinica
	A08-1 Generation of Ultrashort Soft x-ray Pulse by Quantum Coherent Control of Atoms and Clusters	Hsu-Hsin Chu	Department of Physics, National Central University
	A08-2 Femtosecond-laser Deposition and Development of Advanced Materials and Nano-devices	Szu-Yuan Chen	Institute of Atomic and Molecular Sciences, Academia Sinica
	A08-3 Coherent Soft x-ray Flash Imaging with Nanometer Spatial Resolution and Femtosecond Temporal Resolution	Jiunn-Yuan Lin	Department of Physics, National Chung Cheng University

	A08-4 Experimental Investigation on the Interaction Between Laser Pulse and Electron-positron Plasma	Jyhpyang Wang	Institute of Atomic and Molecular Sciences, Academia Sinica
AS-99-TP-AB4	Decoding Glycoproteomics and Phosphoproteomics Signatures in B cell Activation by Target-oriented Approaches	Yu-Ju Chen	Institute of Chemistry, Academia Sinica
	AB4-1 Functional Investigation of Targeted Molecules in Regulating B Cell Activation Based on the Quantitative Analysis of Glycoproteomic and Phosphoproteomic Signatures	Kuo-I Lin	Genomics Research Center, Academia Sinica
	AB4-2 Synthesis of Specific Saccharides/ Enzyme Inhibitors to Study Protein Glycosylations in Extra- and Intracellular Fashions during B-Cell Activation	Chun-Hung Lin	Institute of Biological Chemistry, Academia Sinica
	AB4-3 Functionalized Magnetic Nanoparticles as Nano-probes for the Separation of Specific Cell, Glycoprotein and Phosphoprotein	Chun-Cheng Lin	Department of Chemistry, National Tsing-Hua University
	AB4-4 Dissecting Dynamic Glycoproteomic and Phosphorptoemic Signatures by Advanced Bioinformatics-assisted Mass Spectrometry	Yu-Ju Chen Kay-Hooi Khoo	Institute of Chemistry, Academia Sinica; Institute of Biological Chemistry, Academia Sinica
AS-99-TP-AB5	An Integrative Single-molecule Biophysical and Chemical Biology Approach to Elucidate the Nature of Ubiquitin and Its Modes in Regulating Eukaryotic Transcription	Wei-Hau Chang	Institute of Chemistry, Academia Sinica
	AB5-1 Build Nano-second Resolution Single-molecule Alternating Excited Confocal Core Facility and Use FRET to Test Pol II Ubiquitylation Model	Wei-Hau Chang Jen-Tse Huang	Institute of Chemistry, Academia Sinica; Institute of Chemistry, Academia Sinica
	AB5-2 Ubiquinination of RNA Polymerase II and the Conformational Fluctuation of Single Molecule Ubiquitin upon Polyubiquitination	Rita Pei-Yeh Chen	Institute of Biological Chemistry, Academia Sinica
	AB5-3 Mapping the Ubiquitin and Ligation Enzyme Interaction Sites in the RNA Polymerase II Elongation Complex	Hung Ta Chen	Institute of Molecular Biology, Academia Sinica
	AB5-4 Developing Statistical Algorithms for Automatic Data Analysis on Two Channel-immobilized-single-molecule-FRET Experiments	I-Ping Tu	Institute of Statistical Science, Academia Sinica

AS-99-TP-AB6	Building a Map of Wiring Diagrams for Olfactory Computation in the Drosophila brain	Wen-Liang Hwang Ann-Shyn Chiang	Institute of Information Science, Academia Sinica; Department of Life Science , National Tsing Hua University
	AB6-1 Three-dimensional Image Processing System for Neuroimages of Olfactory Circuits in the Drosophila Brain	Yung-Chang Chen Wen-Liang Hwang	Department of Electrical Engineering, National Tsing Hua University; Institute of Information Science, Academia Sinica
	AB6-2 Construction and Classification of Probabilistic Maps of Drosophila Olfactory Circuits	Henry Horng-Shing Lu Su-Yun Huang	Institute of Statistics, National Chiao Tung University; Institute of Statistical Science, Academia Sinica
	AB6-3 Mapping Neurons for Processing Olfactory Information in the Drosophila Brain	Ann-Shyn Chiang Chi-Tin Shih	Department of Life Science, National Tsing Hua University; Department of Physics, Tunghai University
	AB6-4 Video Processing, Compression and Copyright Protection for an Olfactory Circuit Database of the Drosophila Brain	Wen-Liang Hwang Yung-Chang Chen	Institute of Information Science, Academia Sinica; Department of Electrical Engineering, National Tsing Hua University
AS-99-TP-AC1	The Application of Magnetoencephalography in Investigating the Dynamic Cortical Network of Language and Music Processing	Maw Kuen Wu	Institute of Physics, Academia Sinica
	AC1-1 The Effect of Human Brain Perception to Language and Music from Different Cultural Regions—Deciphering the Theory of Human Origin from Cultural Diversity	Maw Kuen Wu Chia Ying Lee	Institute of Physics, Academia Sinica; Institute of Linguistics, Academia Sinica
	AC1-2 The Brain Dynamics of Phonological Processing in Learning to Read Chinese	Chia Ying Lee Jie-Li Tsai	Institute of Linguistics, Academia Sinica; Department of Psychology, National Chengchi University

	AC1-3 An Integrative Approach Using MEG, fMRI, and Computational Model to Examine Effective Connectivity of the Human Brain: from Visuomotor to Reading	Wen-Jui Kuo	Institute of Neuroscience, National Yang Ming University
	AC1-4 The Neural Correlates Associated with Semantic Processing of Chinese Characters, Disyllabic Words, and Sentences	Denise Wu	Institute of Cognitive Neuroscience, National Central University
	AC1-5 In-vivo Mapping of Effective Neural Connectivity: A Language Processing Study	Ching-Po Lin Po-Lei Lee	Institute of Neuroscience, National Yang Ming University; Department of Electrical Engineering, National Central University
	AC1-6 The Emotional Brain: Neuromagnetic Dynamics of Vocal Emotional Processing	Ya-wei Cheng Chia-Yen Yang	Institute of Neuroscience, National Yang Ming University; Institute of Computer, Communication and System Engineering, Ching Yun University of Technology

B. Division of Life Sciences：（6 projects）

Project No.	Title of Projects	Principal Investigators	Institutions
AS-99-TP-B03	Dissection of the epidermis specific iron stress response in Arabidopsis roots	Wolfgang Schmidt	Institute of Plant and Microbial Biology, Academia Sinica
	B03-1 Gene expression profiling of the iron stress response in Arabidopsis root epidermal cells by high throughput parallel sequencing	Santi Simonetta	DISA(Plant Nutrition group) University of Udine, Italy
	B03-2 Iron deficiency-induced changes in the proteome of Arabidopsis root epidermal cells	Wolfgang Schmidt	Institute of Plant and Microbial Biology, Academia Sinica
AS-99-TP-B05	Roles of isotocin and vasotocin in fish environmental adaptation	Pung-Pung Hwang	Institute of Cellular and Organismic Biology, Academia Sinica
	B05-1 Roles of isotocin and vasotocin in stenohaline zebrafish ion regulation and acid/base balance	Pung-Pung Hwang	Institute of Cellular and Organismic Biology, Academia Sinica

	B05-2 Roles of isotocin and vasotocin in osmoregulation in euryhaline black porgy	Ching-Fong Chang	Department of Life Sciences, National Science Council
AS-99-TP-B08	Molecular mechanism study of left-right asymmetry in zebrafish	Chang-Jen Huang	Institute of Biological Chemistry, Academia Sinica
	B08-1 Functional analyses of zebrafish cdx1b in left-right asymmetry	Sheng-Ping Hwang	Institute of Cellular and Organismic Biology, Academia Sinica
	B08-2 Use of the epithalamus to study the left-right asymmetry in zebrafish brain	Chang-Jen Huang	Institute of Biological Chemistry, Academia Sinica
	B08-3 Investigate the factors and mechanisms controling the generation of habenular asymmetry	Yung-Shu Kuan	Institute of Biological Sciences , National Taiwan University
AS-99-TP-B09	Mechanistic and functional analysis of autophagy induction	Ruey-Hwa Chen	Institute of Biological Chemistry, Academia Sinica
	B09-1 Role of DAPK in autophagy induction and tumor suppression	Ruey-Hwa Chen	Institute of Biological Chemistry, Academia Sinica
	B09-2 Role of Atg1 kinase in actomyosin activation and autophagy induction	Guang-Chao Chen	Institute of Biological Chemistry, Academia Sinica
	B09-3 Characterization of the Atg1 kinase complex components and their roles in autophagy induction	Wei-Pang Huang	Department of Life Science , National Taiwan University
	B09-4 Dissecting the autophagy initiation steps with optical microscopy.	Wei-Yuan Yang	Institute of Biological Chemistry, Academia Sinica
AS-99-TP-B12	A novel granulysin-mediated cytotoxic pathway as therapeutic targets for Stevens-Johnson syndrome and graft-versus host disease	Yuan-Tsong Chen Tse-Wen Chang	Institute of Biomedical Sciences, Academia Sinica; Genomics Research Center, Academia Sinica
	B12-1 Development of humanized granulysin–neutralizing antibodies for treatment of Stevens-John syndrome and graft-versus-host disease	Yuan-Tsong Chen Shuen-Iu Hung Wen-Hung Chung	Institute of Biomedical Sciences, Academia Sinica; Department of Pharmacology, National Yang-Ming University; Chang-Gung Memorial Hospital Dermatology

	B12-2 Preparation, characterization and cytotoxic mechanism of granulysin	You-Di Laio	Institute of Biomedical Sciences, Academia Sinica
	B12-3 Regulating the cascade of immune responses in Stevens-Johnson syndrome and graft-versus-host disease by functional aptamers	Konan Peck	Institute of Biomedical Sciences, Academia Sinica
	B12-4 Generation of humanized immune system mice as a tool to study immunopathogenesis and target-based therapy of Stevens-John syndrome and graft-versus-host disease	Jeffrey Jong-Young Yen Michael Hsiao	Institute of Biomedical Sciences, Academia Sinica; Genomics Research Center, Academia Sinica
AS-99-TP-B20	Functional Coupling of the Genetic Information Transfer Pathway	Tien-Hsien Chang	Genomics Research Center, Academia Sinica
	B20-1 Molecular mechanism of H2B ubiquitylation and ribosome synthesis	Cheng-Fu Kao	Institute of Cellular and Organismic Biology, Academia Sinica

C. Division of Humanities and Social Sciences: (1 project)

Project No.	Title of Projects	Principal Investigators	Institutions
AS-99-TP-C01	A Study of the Unpublished Oracle Bones in the Collection of the Academia Sinica	Che-Mao Tsai	Institute of History and Philology, Academia Sinica
	C01-1 Rejoignings of the Unpublished Oracle Bones in the Collection of the Academia Sinica	Hung-Ming Lin	Department of Chinese, National Cheng-Chi University