List of DIP Projects

Results of the 1st Call - 1998

- Project DIP-2.3: Quantum electronics in low-dimensional systems Principal Investigators: Prof. Yigal Meir, Department of Physics, Ben-Gurion University of the Negev, Beer-Sheva Prof. Klaus v. Klitzing, Max-Planck-Institut für Festkörperforschung, Stuttgart

- Project DIP- 3.1 Structure-function studies of ion-coupled transporters Principal Investigators: I: Prof. S. Schuldiner, The Institute of Life Sciences, The Hebrew University, Jerusalem D: Prof. Hartmut Michel, Max-Planck-Institut für Biophysik, Abt. Molekulare Membranbiologie, Frankfurt/Main

- Project DIP-5.2 Novel tribological strategies: from the nano- to meso-scales Principal Investigators: Prof. Joseph Klafter, School of Chemistry, Tel Aviv University, Tel Aviv Prof. Dr. Kurt Binder, Institut für Physik, Universität Mainz, Mainz

- Project DIP-7.1 Spectroscopy and dynamics of cooled and stored molecular ions Principal Investigators: Prof. Daniel Zajfman, Dept. of Particle Physics, Weizmann Institute of Science, Rehovot Prof. Dirk Schwalm, Max-Planck-Institut für Kernphysik, Heidelberg

Results of the 2nd Call - 1999

- Project DIP-A 1.3 Building nanostructured devices by controlled assembly of monomers, polymers and nanoparticles Principal Investigators: Prof. Chaim Sukenik, Department of Chemistry, Fac. of Natural Science, Bar-Ilan University, Ramat Gan Prof. Martin Möller, Organische Chemie II, Makromolekulare Chemie, Universität Ulm

- Project DIP-A 6.2 Broadband laser intersatellite link for microsatellites Principal Investigators: Prof. M. Guelman, Âsher Space Research Institute, Technion Haifa Prof. H. Michalik, Inst. f. Aerospace-Technologie, Hochschule Bremen

- Project DIP-A 6.3 Cellular regulation via the ubiquitin proteasome pathway in health and disease Principal Investigators: Prof. Aaron Ciechanover, Dept. Biochemistry, Fac. Medicine, Technion Haifa Prof. Dieter H. Wolf, Institut für Biochemie, Universität Stuttgart

Results of the 3rd Call - 2000

- Project DIP- B 2.1 Formation of aerosols and gaseous inhomogeneties in industrial and atmospheric turbulent flows: theoretical and experimental investigations Principal Investigators: Prof. Tov Elperin, Department of Mechanical Engineering, Ben-Gurion University of the Negev, Beer-Sheva Prof. Gerd Grünefeld, RWTH Aachen

- Project DIP-B 4.3 Utilization of wild cereal germ-plasm from the Israeli Center of Diversity for Wheat and Barley Improvement: mapping, cloning and transformation of disease and drought resistance genes into elite cultivars Principal Investigators: Prof. Eviatar Nevo, Inst. of Evolution, University of Haifa Dr. Marion Röder, Inst. für Pflanzengenetik und Kulturpflanzenforschung, Gatersleben

- Project DIP-B 5.2 Magnetic resonance imaging advanced technologies in medical and material sciences Principal Investigators: Prof. Gil Navon, Dept. of Physical Chemistry, Tel Aviv University Prof. Bernhard Blümich, RWTH Aachen

- Project DIP-B 7.1 Unravelling of the interrelationship between apoptotic pathway in physiological and pathlogical processes Principal Investigators: I: Prof. Varda Rotter, Dept. of Molecular Cell Biology, Weizmann Institut of Science, Rehovot D: Prof. Krammer, DKFZ Heidelberg

Results of the 4th Call - 2001

- Project DIP-C 1.2 Early detection of and intervention for Schizophrenia in adolescents Principal Investigators: Prof. J. Rabinowitz , School of Social Work, Bar-Ilan University, Ramat Gan Prof. J. Klosterkötter, Klinik für Psychatrie und Psychotherapie, Köln

- Project DIP-C 4.1 The impact of social and cultural adaptation of juvenile immigrants from the former Soviet Union in Israel and Germany on delinquency and deviant behavior Principal Investigators: Prof. Gideon Fishman, The Minerva Center for Youth Studies, University of Haifa Prof. Rainer Silbereisen, Dept. of Developmental Psychology, Universität Jena, http://www.uni-jena.de/svw/devpsy/

- Project DIP-C 7.1 Coherence, disorder and interactions in coupled mesoscopic systems Principal Investigators: Prof. Yoseph Imry, Dept. of Condensed Matter Physics, The Weizmann Institute of Science, Rehovot Prof. Jörg Kotthaus, Center for NanoScience (CeNS), Sektion Physik München , Universität München http://www.nano.physik.uni-muenchen.de/

- Project DIP-C 7.2 Investigation of plasma under pulsed energy deposition Principal Investigators: I: Prof. Yitzhak Maron, The Weizmann Institute of Science, Rehovot D: Prof. Dieter H.H. Hoffmann, Technische Universität Darmstadt http://www-aix.gsi.de/~plasma/people/DHH-Hoffmann.html

Results of the 5th Call - 2002

- Project DIP-D 3.1 Functional Nanoparticle Architectures Principal Investigators: Prof. Dr. Itamar Willner, Institute of Chemistry, Hebrew University of Jerusalem, Prof. Dr. Dieter Fenske, Institut für Anorganische Chemie, Universitaet Karlsruhe http://ak-fenske.chemie.uni-karlsruhe.de/

- Project DIP-D3.2 Models and Experiments towards Adaptive Control of Motor Prostheses Principal Investigators: Prof. Dr. Eilon Vaadia, Dept. of Physiology, Hebrew University of Jerusalem Prof. Dr. Ad Aertsen, Institut für Biologie III, Albert-Ludwig-Universität Freiburg

- Project DIP-D 4.2 Metacognition: A window to the Conscious and Unconscious Determinants of Behavior Prof. Dr. Asher Koriat, The Max-Wertheimer Minerva Center for Cognitive Processes and Human Performance, University of Haifa, Prof. Dr. Herbert Bless, Fakultät für Sozialwissenschaften, Universität Mannheim

Results of the 6th Call - 2003

- DIP-E 3.1 Genetic and Metabolic Networks Regulating the Nutritional Value of FruitsProf. Dr. Shmuel Wolf, Inst. f. Plant Science, Hebrew University Jerusalem/Prof. Dr. Lothar Willmitzer, MPI für Molekulare Planzenphysiologie, Golm

- DIP E 6.1 Ensembles of interacting solitons, Prof. Dr. Mordechai Segev, Physics Department, Technion Haifa/Prof. Fedor M. Mitschke, Fachbereich Physik Universität Rostock

- DIP- E 7.1 (nicht verlinkt) Preparation for, and first analyses of the data of the ATLAS detector at the LHC, Prof. Giora Mikenberg, Dept. of Physics Weizmann-Institute of Science Prof. Gregor Herten, Universität Freiburg

Results of the 7th Call - 2004

- DIP F 1.2 (nicht verlinkt) Compositionality: Neuronal basis of complex behaviour, Prof. Moshe Abeles, Brain Research Institute, Bar-Ilan-University/ Prof. Theo Geisel, MPI für Strömungsforschung, Göttingen

- DIP F.2.2 Quantum control of fermion atoms and molecules on atom chips, Prof. Ron Folman, Department of Physics, Ben-Gurion-University of the Negev/ Prof. Jörg Schmiedmayer, Physikalisches Institut, Universität Heidelberg

- DIP F 5.1 Protein supercomplexes and networks that function in the biogenesis of mitochondria Dr. Abdussalam Azem, Faculty of Life Sciences, Tel Aviv University/ Prof. Walter Neupert, Institut f. physiologische Chemie, Universität München

- DIP F 6.2 (nicht verlinkt) Asymmetric catalysis, Prof. Ehud Keinan, Department of Chemistry, Technion Haifa/Prof. Walter Thiel, MPI für Kohlenforschung, Mühlheim

Results of the 8th Call - 2005

- Project DIP G 2.2 The role of intracellular IL-1a in health and disease: mechanisms of action and therapeutic applications
  Principal Investigators: Prof. Ron-Nathan Apte, Department of Immunology and Microbiology, Ben-Gurion University / Prof. Dr. Michael Martin, Immunology FB08 - Biology and Chemistry, Justus-Liebig-University Giessen

- Project G 3.2 Alternative pre-mRNA splicing of ion channels: A fundamental mechanism underlying physiological plasticity and modulation of disease phenotypes, Principal Investigators: Prof. Batsheva Kerem, Life Sciences Institute, Hebrew University Jerusalem / Prof. Stefan Stamm, Institut für Biochemie, Universität Erlangen

- Project DIP-G 7.1 Directed Catalytic Functionalization of Unreactive Molecules
  Principal Investigators: Ronny Neumann, Department of Organic Chemistry, Weizmann Institute, Rehovot / Carsten Bolm, Instiut für Organische Chemie, RWTH Aachen

Results of the 9th Call - 2006

- Project DIP H 2.1 Dynamics of Electrons and Collective Modes in Nanostructures; Principal Investigators: Prof. Doron Cohen, Department of Physics, Ben-Gurion University / Prof. Jan von Delft, Institut für Physik, Universität München

- Project DIP H.2.2 Structure and dynamics of integrin-mediated cell adhesion-from phenotype to molecular level; Principal Investigators: Prof. Medalia Ohad, Department of Life Sciences and the NIBN, Ben-Gurion University / Prof. Reinhard Fässler, Max-Planck-Institut für Biochemie, Planegg-Martinsried Institut für Biochemie

- Project DIP H 3.1. Chemical-genetic platforms for the study of plant biology; Principal Investigators: Prof. Alon Samach, Faculty of Agriculture, Hebrew University Jerusalem / Prof. George Coupland, Max-Planck-Institut für Züchtungsforschung, Köln

- Project DIP H 5.2 Applications fo string theory to particle physics and to gravity; Principal Investigators: Prof. Dr. Jacob Sonnenschein, School of Physics, Tel Aviv University / Prof. Stefan Theisen, Max-Planck-Institut für Gravitationsphysik, Potsdam

Results of the 10th Call - 2007

- Project DIP K 3.1 The use of advanced tracking technologies for the analysis of mobility in Alzheimer's disease and related cognitive diseases; Principal Investigators: Dr. Noam Shoval, Department of Geography, the Hebrew University of Jerusalem / Prof. Dr. Hans-Werner Wahl, Zentrum für Alternsforschung, Ruprecht-Karls-Universität Heidelberg

- Project DIP K 5.1 Integrated in vivo, in vitro and in silico studies of protein misfolding diseases; Principal Investigators: Dr. Gerardo Lederkremer, Department of Cell Research and Immunology, Tel Aviv University / Prof. Dr. Ulrich Hartl, Max-Planck-Institut für Biochemie

- Project DIP K 6.1 Semiconducting nanostructures as building blocks for future electronics - controlled growth and biological tools for their assembly and integration; Principal Investigators: Prof. Dr. Yeshayahu Lifshitz, Technion - Israel Institute of Technology / Prof. Dr. Ulrich Gösele; Max-Planck-Institut für Mikorstrukturphysik

Results of the 11th Call - 2008

- Bar Ilan University: Alternative Splicing: Evolution of Splicing Factors and Their Complex Binding Specificity – Implications to Human Disease

- Tel Aviv University: Structure and Function of Kv7 Patassium Channel Proteins: From X-Ray Crystal and NMR Structures to Human Disease

- Technion: A Search for New Cancer Drug Targets: The E4orf4 Network of Cancer Cell-Specific Apoptosis

- Weizmann Institute: Quantum Phases of Ultra Cold Atoms in Optical Lattices

Results of the 12th Call - 2009

- Bar-Ilan University: Nanostructured hybrids of superconductors and ferromagnets

- Haifa University: Role of the hippocampal GABA system in the development of post-traumatic stress symptoms

- Tel Aviv University: Dynamics and Cosmological Evolution of Galaxies and Massive Black Holes

Results of the 13th Call - 2010

- Haifa University: The Roles of Protein Expression in Synaptic Stability and Memory Consolidation

- Tel Aviv University: Probing and Manipulating Biomolecules: From Single Molecules to an Ensemble

- Weizmann Institute: Genom-wide Transcriptional Programs Regulating Invasive Growth of Human Breast and Brain Cancer

Results of the 14th Call - 2011

- Hebrew University: Understanding lifetime tracks and fitness of long-distance avian migrants
- Tel Aviv University: Functional genomics and systems-level analysis of septicemic E.coli pathogenes
- Technion: Challenging the ubiquitin proteolytic signal – Novel modes of modification and recognition
- Weizmann Institute: Dynamic Nuclear polarization: Integrating fundamentals and new applications

Results of the 15th Call - 2012

- Bar-Ilan University: Decoding visual content and perception from neuronal population activity in visual cortex: VSDI, fMRI and computational modelling
- Hebrew University: Genomics of trait canalization in tomato
- Technion: Multifunctional Reactive Intermediates: Preparation, Characterization, Reactivity and Catalysis
- Weizmann Institute: Fundamental Studies on Disorder-Order Transitions Inspired by Biomineralization

Results of the 16th Call - 2013

- Ben-Gurion University: Solid-state nano-containers for triggered release of single molecules
- Haifa University: Ecological genomics: Analysis of gene expression underlying parallel habitat adaptation in distinct salamander species
- Hebrew University: Programmable molecular nanorobots for treatment of chronic pain and epilepsy
- Tel Aviv University: Biblia Arabica: The bible in Arabic among Jews, Christians and *Muslims*
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Results of the 17th Call – 2014 (recommended for funding).

- Bar-Ilan University: Information consolidation: A new paradigm in knowledge search

- Ben-Gurion University: Optometabolic and molecular analysis of functional links between mitochondrial CA2+ signaling, gene regulation and metabolism in the brain

- Tel Aviv University: Science and applications of electron wave-functions shaped and manipulated by engineered nanoholograms

- Technion: Nanoengineered optobioelectronics with biomaterials and bioinspired assemblies

Results of the 18th Call – 2015

- Ben-Gurion University: Quantum phenomena in hybrid systems: Interfacing engineered materials and nanostructures with atomic systems

- Hebrew University: Spatial and temporal regulation of macromolecular complex formation in bacteria

- Technion: Structural and functional dynamics of Na+/H+ antiporters

- Weizmann Institute: Climate feedbacks and benefits of semi-arid forests (CLiFF)

Results of the 19th Call – 2016

- Haifa University: Scripta Qumranica Electronica: Dead Sea scrolls aggregated database and virtual research environment

- Hebrew University: Development of vision following late emergence from congenital blindness

- Technion: Quantum simulators: from photonic to atomic

- Technion: An integrated experimental-computational investigation of metabolic vulnerabilities in cellular senescence and post-senescent cancers

Results of the 20th Call – 2017

- Tel Aviv University: Atomic and molecular interstellar medium in high redshift star-forming galaxies.

- Weizmann Institute: MitoBalance: Uncovering the mechanisms underlying mitochondrial proteostasis

Results of the 21st Call – 2018

- Ben-Gurion University: Fundamentals of cooperation in modern communication networks
- Tel Aviv University: The epitranscriptome (m6A, m1A and Nm) in regulation of RNA fate