

**Appendix N: Continued***Engineering*

	Project No.	Project Title	Principal Investigator	Awarded (HK\$)	Status
94	CUHK 4386/02E	Novel Schemes to alleviate the Intrinsic Detrimental Effects of In-line Semiconductor Optical Amplifiers in Optical Transmission Systems	Prof Chun Kit Chan	476,404	On-going
95	PolyU 5074/02E	Motion Analysis and Feature Extraction from Optical 3D Motion Capture Data	Dr George Baciu	609,404	On-going
96	PolyU 5075/02E	Design of Fault Tolerant Mobile Agent Systems	Dr Jiannong Cao	413,404	On-going
97	PolyU 5080/02E	A Distributed Detection Approach to Flooding-Based Distributed Denial-of-Service Attack Prevention	Dr Rocky Kow Chuen Chang	413,404	On-going
98	PolyU 5083/02E	iMASS-An Intelligent Multi-resolution Agent-based Surveillance System	Dr Raymond Shu Tak Lee	413,404	On-going
99	PolyU 5085/02E	Determination of Temporal Reference in Chinese News Articles	Dr Wenjie Li	413,404	On-going
100	PolyU 5092/02E	Statistical Sensitivity Analysis of Gaussian Radial Basis Function Networks Trained by Gradient Descent	Prof Daniel So Yeung	413,404	On-going
101	PolyU 5094/02E	Functional Imaging Techniques for Early Detection of Liver Cancer	Prof Dagan Feng	611,404	On-going
102	PolyU 5099/02E	Designing and Applying Second Generation Machine-Readable Models	Dr Thomas Fischer	413,404	On-going
103	HKUST 6158/02E	Efficient Bayesian implementation of stochastic neural networks and hierarchical mixtures of experts	Prof Samuel P S Wong	413,404	On-going
104	HKUST 6180/02E	Caseminer: Discovering cases from log data for case-based reasoning	Prof Qiang Yang	413,404	On-going
105	HKUST 6181/02E	Easily constructed, commodity-based, large format displays	Prof Michael S Brown	556,000	On-going
106	HKUST 6184/02E	Tuple condensing: Handling data cubes with huge sizes	Prof Hongjun Lu	599,404	On-going
107	HKUST 6185/02E	Ordered data dependencies in XML databases	Prof Wilfred S H Ng	413,404	On-going
108	HKUST 6187/02E	Pattern conformance testing of java production systems	Prof Shing Chi Cheung	413,404	On-going
109	HKUST 6188/02E	Automatic quasi-dense reconstruction from image sequences	Prof Long Quan	413,404	On-going
110	HKUST 6190/02E	Provably good conforming delaunay tetrahedralization	Prof Siu Wing Cheng	413,404	On-going
111	HKUST 6193/02E	Correspondence, segmentation, and image-based rendering	Prof Chi Keung Tang	413,404	On-going
112	HKUST 6194/02E	Wavetable matching with modified spectral snapshots	Prof Andrew B Horner	396,000	On-going
113	HKUST 6195/02E	Machine learning for content-based and collaborative recommender systems	Prof James T Y Kwok	423,404	On-going
114	HKUST 6196/02E	The end-to-end adaptive video multicast over the internet	Prof Bo Li	413,404	On-going
115	HKUST 6197/02E	Spatio-temporal data warehouses	Dr Dimitrios Papadias	413,404	On-going
116	HKUST 6199/02E	Overcoming network bandwidth limitation by means of multipath routing for layered video multicast	Prof Gary Shueng Han Chan	582,000	On-going
117	HKUST 6200/02E	Scalable and high-performance packet switches based on the close-network architecture	Prof Mounir Hamdi	857,404	On-going
118	HKUST 6201/02E	Discriminative training of non-parametric auditory filters for automatic speech recognition	Prof Brian K W Mak	413,404	On-going
119	HKUST 6205/02E	Abduction in logic programming	Prof Fangzhen Lin	611,404	On-going
120	HKUST 6206/02E	On the construction of 3D delaunay triangulations of points from 2D surfaces	Dr Mordecai J Golin	413,404	On-going

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121	HKUST 6209/02E	Enhanced 3D vascular reconstruction in phase contrast magnetic resonance angiograms and its evaluation	Dr Chi Shing Chung	413,404	On-going
122	HKUST 6210/02E	Interpretation and reconstruction from architectural drawings	Dr Chiew Lan Tai	413,404	On-going
123	HKUST 6213/02E	Automatic deduction of semantic networks using corpus-based methods	Prof Pascale N Fung	413,404	On-going
124	HKUST 6225/02E	Indexing and querying location dependent data in a wireless environment	Prof Dik Lun Lee	611,404	On-going
125	HKU 7036/02E	Applying clustering technique to partition large collection of XML documents for fast query processing	Dr David Wai Lok Cheung	433,404	On-going
126	HKU 7039/02E	Improving robust speech recognition techniques for talking to handheld devices	Dr Qiang Huo	413,404	On-going
127	HKU 7040/02E	Computational problems in sequence mining	Dr Benjamin Chi Ming Kao	413,404	On-going
128	HKU 7042/02E	Compressed indexing data structures for biological sequences	Dr Tak Wah Lam	512,404	On-going
129	HKU 7044/02E	Multicast congestion control for real-time applications	Prof Victor On Kwok Li	636,404	On-going
130	HKU 7045/02E	Algorithmic issues on designing media-on-demand systems	Dr Hing Fung Ting	611,404	On-going
131	HKU 7046/02E	Stringency of tests for random number generators	Dr Wai Wan Tsang	413,404	On-going
132	HKU 7048/02E	Active queue management schemes for supporting web traffic	Dr Lawrence Kwan Yeung	413,404	On-going
133	HKU 7379/02E	Fast gossiping for mesh-connected parallel computers	Dr Francis Chi Moon Lau	413,404	On-going
134	HKU 7380/02E	Storage schemes and search algorithms for high dimensional data	Dr Nikolaos Mamoulis	611,404	On-going
<b>Subject Area Total</b>				<b>33,724,684</b>	
<b>Subject Area: Electrical &amp; Electronic Engineering</b>					
135	CityU 1004/02E	Developing an On-line Chaos-based Image Encryption Technology for Real-time Secure Internet Applications	Prof Guanrong Chen	599,404	On-going
136	CityU 1005/02E	Broadband Linearized Amplifiers for Multi-band and Multi-mode Mobile Phone Handsets	Dr Wing Shing Chan	460,404	On-going
137	CityU 1034/02E	Investigation of a Novel Optical Fibre: the Segmented Cladding Fibre	Prof Kin Seng Chiang	513,404	On-going
138	CityU 1035/02E	Robust Curve Tracing Techniques for Image Analysis	Prof Hong Yan	413,404	On-going
139	CityU 1049/02E	Development of Field Tunable Dielectric BST Thin Films for Microwave Filter and Phase Shifter Applications	Prof Haydn Hai Dung Chen	511,404	On-going
140	CityU 1052/02E	Plasma Engineering of Silicon-based Blue Light Emitting Materials	Prof Paul Kim Ho Chu	433,404	On-going
141	CityU 1116/02E	Neural Network Approaches for Source Coding of Illumination Adjustable Images	Dr Andrew Chi Sing Leung	423,404	On-going
142	CityU 1140/02E	Secure WDM Communication System based on Synchronized Optical Chaos in Fibre	Prof Pak Lim Chu	861,404	On-going
143	CityU 1166/02E	Robotic Non-destructive Test System for External-wall Inspection of High-rise Buildings	Prof Shiu Kit Tso	713,404	On-going
144	CityU 1182/02E	Design, Analysis and Applications of Recursive Erasure Correcting Codes	Dr Ping Li	413,404	On-going
145	CityU 1184/02E	High Temperature Processing of Organic Electroluminescent Devices	Dr Chun Sing Lee	433,404	On-going

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146	CityU 1192/02E	Large-scale Simulations of Wave Scattering from Random Media and Rough Surfaces	Prof Tsang Leung	413,404	On-going
147	CityU 1194/02E	Polymeric Optical Waveguides and Devices	Prof Edwin Yue Bun Pun	433,404	On-going
148	CityU 1195/02E	A Trifilar Helical Antenna on a Hemispherical Shell of Dielectric Resonator with an Elliptical Base for Handsets in the Third Generation Mobile Communication	Prof Edward Kai Ning Yung	413,404	On-going
149	CityU 1227/02E	Dielectric-resonator Loaded Patch Antennas	Prof Kwai Man Luk	511,404	On-going
150	CityU 1229/02E	Design and Fabrication of Cryptogram Embedded E-beam Lithographic Generated Digital Dot Matrix Hologram	Mr Henry Nai Keng Bao	453,404	On-going
151	CityU 1232/02E	Global Control of Complex Systems	Prof David J Hill	797,404	On-going
152	CityU 1233/02E	Research into Ballast Technologies for Fluorescent Lamps with Wide Dimming Range and Operating Temperature	Dr Henry Shu Hung Chung	568,404	On-going
153	CityU 1237/02E	Application of Compact Microstrip Resonant Cells in Microwave and Millimeter-wave Components	Prof Chi Hou Chan	433,404	On-going
154	CityU 1248/02E	Reception Strategies for High Data-rate Transmission in 3G/4G Cellular Systems	Dr Qitu Zhang	413,404	On-going
155	CityU 1249/02E	Efficient and Accurate Method for Analysis of Annular Apertures and Its Application to the Dielectric Resonator Antenna	Dr Kwok Wa Leung	433,404	On-going
156	CityU 1251/02E	Development of Integrated Polymeric Passive and Active Photonic Devices	Dr Hau Ping Chan	453,404	On-going
157	CUHK 4366/02E	Code Allocation in Multi-Rate Spread Spectrum Wireless Systems	Prof Wing Shing Wong	413,404	On-going
158	CUHK 4369/02E	Photonic Pre-processors for Ultrafast Analog-to-digital Converters	Prof Chester Ching Tat Shu	443,404	On-going
159	CUHK 4370/02E	Low Level Birefringence Detection for Study of Stresses in Ultrathin Film/Substrate Systems	Prof Joseph Sai Peng Wong	433,404	On-going
160	CUHK 4371/02E	A Highly Efficient Modal Analysis Methodology for Integrated RF Passive Circuits with Finite Metallization Thickness	Prof Ke Li Wu	608,404	On-going
161	CUHK 4372/02E	Engineering and Characterization of Organic Electronic Films and Devices by Scanning Probe Microscopy	Prof Jian Bin Xu	503,404	On-going
162	PolyU 5101/02E	Optimization of Frequency-Response Masking Digital Filters	Prof Kok Lay Teo	890,404	On-going
163	PolyU 5103/02E	Advanced Transfer Capability Calculation and Optimization of Large Complex Power Systems under the Deregulated Environment	Dr Ka Wing Chan	433,404	On-going
164	PolyU 5112/02E	Prediction of Lightning Strike Probabilities to Improve Lightning Protection Design	Dr John Mark Kynaston MacAlpine	440,404	On-going
165	PolyU 5122/02E	Design Optimization of Power-Factor-Corrected Switching Power Supplies	Dr Hoi Lam Martin Chow	678,404	On-going
166	PolyU 5125/02E	Synthesis and Applications of Polyphase Converters Using Integrated Magnetics	Prof Yim Shu Lee	905,404	On-going
167	PolyU 5131/02E	Non-linear Stochastic Matching for Robust Speaker Verification	Dr Man Wai Mak	413,404	On-going
168	PolyU 5133/02E	Fast Wavelet Transform Using Lifting Structure for Image and Video Compression	Prof Wan Chi Siu	611,404	On-going

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169	PolyU 5134/02E	Development of Thick GaN Epiwafers using High Growth-rate Chemical Vapor Deposition Technique	Dr Charles Surya	463,404	On-going
170	PolyU 5135/02E	SAW Devices on ZnO/III-nitride/Diamond Multilayered Substrates	Dr Wai Yip Tam	423,404	On-going
171	PolyU 5137/02E	Investigation of Chaos-Based Communications	Prof Michael Chi Kong Tse	413,404	On-going
172	HKUST 6021/02E	A novel sub-50nm vertical SOI CMOS technology for ULSI applications	Prof Johnny K O Sin	433,404	On-going
173	HKUST 6022/02E	Study and fabrication of gate-all-round MOSFET	Prof Philip C H Chan	458,404	On-going
174	HKUST 6024/02E	Minimization of fringe-field effects in silicon microdisplay by ridged pixel structures and optimal rubbing directions	Prof Ho Chi Huang	443,404	On-going
175	HKUST 6028/02E	Bistable displays for smart card applications	Prof Hoi Sing Kwok	911,404	On-going
176	HKUST 6066/02E	Optical properties and lasing action in wavefunction-engineered GaAs/GaAsSb-based quantum structures	Prof Yuqi Wang	461,404	On-going
177	HKUST 6072/02E	Noise characterization of novel ultra-violet detectors	Prof lam Keong Sou	438,404	On-going
178	HKUST 6164/02E	Multiuser resource allocation for broadband multicarrier wireless networks	Prof Khaled Ben Letaief	817,404	On-going
179	HKUST 6166/02E	Polygonal micro-pillar resonators for dense wavelength division multiplexed optical communications	Prof Andrew W O Poon	791,404	On-going
180	HKUST 6168/02E	The gradient-based policy iteration method for Markov decision processes	Prof Xiren Cao	811,404	On-going
181	HKUST 6171/02E	Theory of periodic and multirate systems	Prof Li Qiu	594,000	On-going
182	HKUST 6173/02E	Micromachined compact photonic bandgap structures fabricated on silicon substrates for wireless applications	Prof Kevin J Chen	686,404	On-going
183	HKUST 6174/02E	Effects of residual nickel on the stability and reliability of metal-induced laterally crystallized polycrystalline silicon thin-film transistors	Prof Man Wong	433,404	On-going
184	HKUST 6203/02E	Advanced motion compensated wavelet video coding	Prof Oscar C L Au	413,404	On-going
185	HKUST 6207/02E	Silicon germanium BiCMOS circuit characterization and modeling	Prof Ping Keung Ko	686,404	On-going
186	HKUST 6227/02E	Wireless communications over MIMO systems	Prof Roger S K Cheng	413,404	On-going
187	HKUST 6243/02E	High performance CMOS charge pumps for portable applications	Dr Wing Hung Ki	513,404	On-going
188	HKUST 6246/02E	Lattice sequence detectors for advanced communication systems with large bandwidth efficiency	Prof Wai Ho Mow	443,404	On-going
189	HKUST 6249/02E	Metamorphic heterostructure bipolar transistors	Prof Kei May Lau	857,404	On-going
190	HKUST 6255/02E	A low-voltage low-IF CMOS receiver with high on-chip image rejection and wide dynamic range	Prof Howard C Luong	779,404	On-going
191	HKU 7050/02E	Computation intelligent fault detection and isolation methods for nonlinear systems	Dr Che Wai Chan	453,404	On-going
192	HKU 7056/02E	Microcavity organic light emitting diodes	Dr Aleksandra B. Djuricic	433,404	On-going
193	HKU 7057/02E	A study of robust adaptive filters in impulse noise environment	Dr Ka Leung Ho	413,404	On-going
194	HKU 7058/02E	Image matching by eigenvector decomposition and elastic deformation	Dr Yeung Sam Hung	413,404	On-going