

RGC Ref. No.:
UGC/IIDS14/P01/15
 (please insert ref. above)

**RESEARCH GRANTS COUNCIL
 COMPETITIVE RESEARCH FUNDING SCHEMES FOR
 THE LOCAL SELF-FINANCING DEGREE SECTOR**

INTER-INSTITUTIONAL DEVELOPMENT SCHEME (IIDS)

Completion Report
(for completed projects only)

Submission Deadlines: 1. *The unspent balance, if applicable, and auditor's report: within six months of the approved project completion date.*
 2. *Completion report: within 12 months of the approved project completion date.*

Part A: The Project and Investigator(s)

1. Project Title

Symposia in Data Science

2. Investigator(s) And Academic Department(s) / Unit(s) Involved

Research Team	Name / Post	Unit / Department / Institution
Principal Investigator	Mr ZEL Stanley Tsz-fung Lecturer I	Department of Mathematics and Statistics Hang Seng Management College
Co-Principal Investigator(s)	Dr CHOY Siu-kai Associate Professor	Department of Mathematics and Statistics Hang Seng Management College
	Ms MO Yee-lam Lecturer I	Department of Mathematics and Statistics Hang Seng Management College
Co-Investigator(s)	Dr LEUNG King-tai Assistant Professor	Department of Mathematics and Statistics Hang Seng Management College
	Ms WU Yan Senior Lecturer	Department of Mathematics and Statistics Hang Seng Management College
Others		

3. Project Duration

	Original	Revised	Date of RGC / Institution Approval <i>(must be quoted)</i>
Project Start Date	1 January 2016	Nil	Nil
Project Completion Date	31 December 2016	Nil	Nil
Duration (<i>in month</i>)	12 months	Nil	Nil
Deadline for Submission of Completion Report	31 December 2017	Nil	Nil

Part B: The Final Report**5. Collaboration With Other Self-Financing Degree-Awarding Institutions**

Collaborating Self-Financing Institution	% of Participation	Distinctive Element(s) that the Institution is Responsible for the Project
Nil	Nil	Nil

6. Project Objectives**6.1 Objectives as per original application**

- To provide a platform for knowledge exchange among scholars from different institutions all around the world and all other participants of the symposia
- To form a network of scholars and industry professionals in different schools and organizations who are interested in the topics discussed in the symposia in order to promote inter-institutional collaborations
- To introduce hot trends and cutting edge technology in Data Science to students and the non-experts
- To show students and the non-experts how useful Data Science could be in real-life applications

6.2 Revised objectives

Nil

Date of approval from the RGC: Nil

Reasons for the change: Nil

6.3 Realisation of the objectives

(Maximum 1 page; please state how and to what extent the project objectives have been achieved; give reasons for under-achievements and outline attempts to overcome problems, if any)

1. Knowledge exchange in each presentation is a two-way flow. Other than learning and appreciating the subject matter from the speakers, the participants often raised questions to inspire future development of the subject. Also, participants and speakers often engaged in intellectual discussion on the topic after the presentation and during breaks.
2. Almost 90% of the participants agreed that connection between scholars and industry professionals are established through the symposia. As a result, inter-institutional research collaborations on various research topics are fostered.
3. There are some students and non-experts attended each of the presentation. In the evaluation form, more than 90% of them reflected that the presentation broaden their knowledge in Data Science and its application.
4. Over 85% of the participants indicated that they appreciate the up-to-date applications of Data Science introduced in the symposia.

6.4 Summary of objectives addressed to date

Objectives	Addressed <i>(please tick)</i>	Percentage Achieved <i>(please estimate)</i>
1. To provide a platform for knowledge exchange among scholars from different institutions all around the world and all other participants of the symposia	✓	100
2. To form a network of scholars and industry professionals in different schools and organizations who are interested in the topics discussed in the symposia in order to promote inter-institutional collaborations	✓	100
3. To introduce hot trends and cutting edge technology in Data Science to students and the non-experts	✓	100
4. To show students and the non-experts how useful Data Science could be in real-life applications	✓	100

6.5 Project progress

Original Implementation Schedule	Revised Implementation Schedule (Date of RGC's Approval)	Updated Progress
Day 1 (Theme: Actuarial Science)	Nil	Completed on 20 January 2016
Day 2 (Theme: Bioinformatics and Medical Imaging)	Nil	Completed on 28 January 2016
Day 3 (Theme: Risk Management)	Nil	Completed on 14 April 2016
Day 4 (Theme: Statistical Computing)	Nil	Completed on 29 September 2016
Day 5 (Theme: Data Mining and Knowledge Recovery)	Nil	Completed on 20 October 2016
Day 6 (Theme: Actuarial Science)	Nil	Completed on 17 November 2016

6.6 Speaker(s)

Title / Name (Surname in Capital Letters)	Post / Institution	Title / Topic of Presentation / Course	Previous Research Links with Hong Kong Institutions (Nature and Date (Month / Year))
Dr WEI Wei	Assistant Professor, Department of Mathematical Sciences, University of Wisconsin-Milwaukee	Optimization Problems in Insurance and Finance with Dependent Risks	Nil
Professor YUEN Kam-chuen	Professor, Department of Statistic and Actuarial Science, The University of Hong Kong	Actuarial Analysis for a Risk Model with Dependence	Professor at HKU (since 1993)
Dr LI Fuhai	Assistant Professor, Department of Biomedical Informatics, Ohio State University	Data- Driven Computational Analysis for Biomarker and Drug Discovery	Nil
Dr TANG Annie Mei-ye	Medical Physicist, Clinical Oncology Department of Queen Elizabeth Hospital, Hong Kong	Detection of Antiangiogenic Treatment Responses in a Mouse Xenograft Tumor Model using ASL and DCE MRI	Nil
Dr BILONICK Richard	Assistant Professor, Department of Ophthalmology, University of Pittsburgh	A Latent Variable Model for Inter-Rater Agreement at the Pixel Level for Image Segmentation	Presented at the Workshop Series in Applied Statistics at HSMC in Jan 2015
Mr LAM Simon Yat-tung	General Manager, Munich Reinsurance Company Honorary Lecturer, The University of Hong Kong	Unfold the Untold – Reinsurance 101	Nil
Ms LIN Cathy Su-hua	Appointed Actuary & Head of Risk, Assicurazioni Generali S.p.A.	Emerging Risk Based Capital Regime in HK	Nil
Ms LI Nora	Manager, Cathay Conning Asset Management Ltd.	Risk Management for Insurance	Nil

		Companies	
Mr CHUNG Alex	Senior Enterprise Solutions Manager, SAS Institute Ltd.	How Big Data Impact Daily Life	Nil
Dr LIEW Alan Wee-chung	Associate Professor, School of Information and Communication Technology, Griffith University	Ensemble Learning and Multi-classifier System	Dr Liew collaborated with Prof Hong Yan from the CityU of HK since 2001, and was a research collaborator with Prof Yan in several RGC grants between 2005-2009
Professor YANG Hailiang	Professor, Department of Statistic and Actuarial Science, The University of Hong Kong	Valuing Equity-linked Death Benefits and Other Contingent Options	Professor at HKU (since 1996)
Dr ZHOU Xian	Associate Professor, Department of Actuarial Studies, Macquarie University	Applications of Survival Analysis in Actuarial Science	Joint researches with CUHK since 1996 and continuing

- 6.7 Please provide details of the activities organized, including the theme / objectives of the activities, targeted participants, attendance, analysis of participants, e.g. country of origin, research background, etc., evaluation forms of the activities and a summary of the participants' evaluation. (Photos of the activities are preferred.)

(1) Promotional materials for the activities organized

Day 1

SYMPOSIA IN DATA SCIENCE

Theme:
Actuarial Science

OPEN TO PUBLIC

Date: 20 January 2016 (Wednesday)
Time: 4:00PM – 6:00PM
Venue: A310
 Hang Seng Management College
 Hang Shin Link, Siu Lek Yuen
 Shatin, New Territories

SPEAKERS

Dr Wei Wei
 Assistant Professor, Department of Mathematical Sciences, University of Wisconsin–Milwaukee
 Topic: "Optimization Problems in Insurance and Finance with Dependent Risks"


Professor K C Yuen
 Professor, Department of Statistics & Actuarial Science, The University of Hong Kong
 Topic: "Actuarial Analysis for a Risk Model with Dependence"

Organising Committee:


Mr Stanley Zel
 Dr S K Choy
 Ms Elaine Mo
 Dr Jacky Leung
 Ms Michelle Wu

Supported by BSc (Hons) in Data Science and Business Intelligence,
 Department of Mathematics and Statistics, School of Decision Sciences, Hang Seng Management College

Fully supported by Research Grant Council of Hong Kong Special Administration Region, China
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恒生管理學院
HANG SENG
MANAGEMENT COLLEGE



SYMPOSIA IN DATA SCIENCE

Theme:
Bioinformatics and Medical Imaging

OPEN TO PUBLIC

Date: 28 January 2016 (Thursday)

Time: 3:00PM – 6:00PM

Venue: D404
Hang Seng Management College
Hang Shin Link, Siu Lek Yuen
Shatin, New Territories

SPEAKERS

Dr Annie Tang
Medical Physicist, Queen Elizabeth Hospital, Hong Kong
Topic: "Detection of Antiangiogenic Treatment Responses in a Mouse Xenograft Tumor Model using ASL and DCE MRI"


Dr Richard Bilonick
Assistant Professor, Department of Ophthalmology, University of Pittsburgh
Topic: "A Latent Variable Model for Inter-Rater Agreement at the Pixel Level for Image Segmentation"

Dr Fuhai Li
Assistant Professor, Biomedical Informatics Department, Ohio State University
Topic: "Data-Driven Computational Analysis for Biomarker and Drug Discovery"


Organising Committee:
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恒生管理學院
HANG SENG
MANAGEMENT COLLEGE



SYMPOSIA IN DATA SCIENCE

Theme:
Risk Management

OPEN TO PUBLIC

Date: 14 April 2016 (Thursday)

Time: 3:30PM – 6:30PM

Venue: D408
Hang Seng Management College
Hang Shin Link, Siu Lek Yuen
Shatin, New Territories

SPEAKERS

Mr Simon Lam
General Manager, Business Development, Taiwan,
Munich Reinsurance Company
Topic: "Unfold the Untold – Reinsurance 101"

Ms Nora Li
Manager, Investment Solutions,
Cathay Conning Asset Management Limited
Topic: "Risk Management for Insurance Companies"


Ms Cathy Lin
Appointed Actuary & Head of Risk,
Assicurazioni Generali S.p.A.
Topic: "Emerging Risk Based Capital Regime in Hong Kong"

Organising Committee:


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恒生管理學院
HANG SENG
MANAGEMENT COLLEGE



SYMPOSIA IN DATA SCIENCE

Theme:
Statistical Computing

OPEN TO PUBLIC

Date: 29 September 2016 (Thursday)
Time: 4:00PM – 6:00PM
Venue: D408
 Hang Seng Management College
 Hang Shin Link, Siu Lek Yuen
 Shatin, New Territories

SPEAKER

Mr Alex Chung
 Senior Enterprise Solutions Manager, SAS Institute Ltd.
 Topic: "How Big Data Impact Daily Life"



Organising Committee:
 Mr Stanley Zel
 Dr S K Choy
 Ms Elaine Mo
 Dr Jacky Leung
 Ms Michelle Wu

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恒生管理學院
HANG SENG
MANAGEMENT COLLEGE



SYMPOSIA IN DATA SCIENCE

Theme:
Data Mining and Knowledge Recovery

OPEN TO PUBLIC

Date: 20 October 2016 (Thursday)

Time: 2:30PM – 3:30PM

Venue: D404
Hang Seng Management College
Hang Shin Link, Siu Lek Yuen
Shatin, New Territories

SPEAKER


Dr Alan Liew
Associate Professor
School of Information and Communication Technology
Griffith University
Topic: **Ensemble Learning and
Multi-Classfier System**

Organising Committee:


Mr Stanley Zel
Dr S K Choy
Ms Elaine Mo
Dr Jacky Leung
Ms Michelle Wu

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恒生管理學院
HANG SENG
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SYMPOSIUM IN DATA SCIENCE



恒生管理學院
HANG SENG
MANAGEMENT COLLEGE

Theme:
Actuarial Science

OPEN TO PUBLIC

Date: 17 November 2016 (Thursday)

Time: 4:00PM – 6:00PM

Venue: D408
Hang Seng Management College
Hang Shin Link, Siu Lek Yuen
Shatin, New Territories

SPEAKERS

Professor Hailiang Yang

Professor
Department of Statistics and Actuarial Science
The University of Hong Kong
Topic: "Valuing Equity-linked Death Benefits and Other Contingent Options"

Dr Xian Zhou

Associate Professor
Department of Applied Finance and Actuarial Studies
Macquarie University
Topic: "Application of Survival Analysis in Actuarial Science"

Organising Committee:

Mr Stanley Zel
Dr S K Choy
Ms Elaine Mo
Dr Jacky Leung
Ms Michelle Wu

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Fully supported by Research Grant Council of Hong Kong Special Administration Region, China
(Project Reference No. UGC/IIDS44/P05/J5)



(2) Evaluation Form

Hang Seng Management College

Symposia in Data Science

Evaluation Form

Thank you for attending the Symposia in Data Science.

Please rate the following items on a scale from 1 to 5 by putting a ✓ in the appropriate box.

Choose N/A if the item is not applicable.

	Strongly Agree 5	4	3	2	Strongly Disagree 1	N/A
1. The symposium has expanded my knowledge in Data Science and its applications.						
2. The symposium has ignited my interest to continue studying Data Science.						
3. I appreciate the up-to-date applications of Data Science introduced in the symposium.						
4. The skills introduced in the symposium will be useful for my academic and/or career development.						
5. My research interest has been broadened.						
6. This symposium provided a venue to establish connections between scholars from different institutions.						
7. In general, I am satisfied with what I have learned from the symposium.						
8. Other comments or suggestions:						

9. Circle the category from below that best describes you.

(a) Academic Staff

(b) Student

(c) General Public

Your feedback is appreciated. Thank you.

*The Symposia in Data Science is fully supported by Research Grant Council of Hong Kong Special Administration Region, China
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(3) Summary of the Participants' Evaluation and Analysis of Participants

Day	Average Score						
	Q1	Q2	Q3	Q4	Q5	Q6	Q7
1	4.57	4.15	4.36	4.23	4.29	4.43	4.36
2	4.64	4.55	4.59	4.38	4.40	4.50	4.62
3	4.71	4.57	4.50	4.43	4.50	4.50	4.57
4	4.43	4.29	4.67	4.29	4.19	4.19	4.38
5	4.21	4.21	4.14	4.15	3.93	4.23	4.08
6	4.85	4.58	4.69	4.69	4.77	4.77	4.69
Overall	4.56	4.39	4.51	4.36	4.33	4.42	4.46

Day	Background of Participants				Total Number of Response
	Number of Academic Staff	Number of Students	Number of General Public	No Information	
1	7	7	0	0	14
2	10	9	1	2	22
3	7	6	0	1	14
4	7	12	0	2	21
5	3	9	1	1	14
6	8	5	0	0	13
Overall	42	48	2	6	98

(4) Selected Photos of the Events





7. Research-Related Outcome

7.1 Potential for development into research proposal and the proposed course of action (Maximum half a page)

Participants (academics from HSMC and other institutions) established a network and fostered inter-institutional collaboration on various research topics, such as image processing and actuarial science. Academics from HSMC are encouraged to submit research proposals in collaboration with colleagues from HSMC and/or scholars in other institutions.

7.2 Research collaboration achieved (Please give details on the achievement and its relevant impact)

Dr Becky Lee (HSMC) is collaborating with Dr Wei Wei (Speaker) on the research on analysis and application of bounds in insolvency problem.

Dr Kevin Yuen (HSMC) has ongoing research with Professor Hailiang Yang (Speaker) on optimal asset allocation.

Research collaboration between Dr Marco Yu (HSMC) and the Department of Ophthalmology, The University of Pittsburgh was established through Dr Richard Bilonick (Speaker).

7.3 Any new development and/or challenging research topic(s) has / have been identified and any new initiative(s) for future research has / have been inspired.

Future research topic:

- Variational Model-based Image Segmentation
- Deep Learning in Ophthalmic Imaging

8. The Layman's Summary

(Describe in layman's language the nature, significance and value of the research activities, in no more than 200 words)

The proposed project is a series of symposium to be held on several non-consecutive days throughout the 2015-16 academic year. Each day, there will be a theme within the scope of Data Science with about two to four talks given by invited speakers from the academia and/or the industry. The invited speakers are from both the academia and the industry, therefore, the symposia will not only focus on theories, but also emphasize the practicality of Data Science.

Themes selected are recent trends and cutting edge technology in Data Science. They are also chosen to be consistent with the strategic research area of the Department of Mathematics and Statistics. It also aligns with the current and future development of the Department. The themes are:

- Data Mining and Knowledge Recovery,
- Statistical Computing,
- Actuarial Science,
- Risk Management, and
- Bioinformatics and Medical Imaging.

Part C: Research Output**9. Recognized Conference(s) Paper(s) Related To This Project Was / Were Delivered (As Applicable)***(Please attach a copy of each conference abstract)*

Month / Year / Place	Title	Conference Name	Submitted to RGC <i>(indicate the year ending of the relevant progress report)</i>	Attached to this Report <i>(Yes or No)</i>	Acknowledged the Support of RGC <i>(Yes or No)</i>
Nil	Nil	Nil	Nil	Nil	Nil

10. Research Personnel Trained (As Applicable)

Name	Capacity
Nil	Nil

11. Other Impact (As Applicable)*(e.g. prizes, collaboration with other research institutions, technology transfer, etc.)*

Nil

12. Public Access Of Completion Report*(Please specify the information, if any, that cannot be provided for public access and give the reasons.)*

Information that Cannot Be Provided for Public Access	Reasons
Nil	Nil