



# 青少年數學潛能拓展 訓練計劃

# TRAINING PROGRAMME FOR YOUNG MATHEMATICS TALENTS

# 申請指南 ENROLMENT GUIDE 2024

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# 領導致辭 MESSAGE FROM MANAGEMENT

自2019年發佈的《粵港澳大灣區發展規劃綱 要》提出,將粵港澳大灣區建設成國際科技 創新中心,區內極需科技創新型人才。二 十大報告中再次強調,堅持科技是第一生產 力,人才是第一資源,創新是第一動力。 香港中文大學以「結合傳統與現代,融會中 國與西方」為使命,不斷開拓創新人才的培 養模式、探索專業領域人才的培養路徑。

數學是許多學科的底層邏輯。數學能力的提 升,將有助於電腦工程、生物醫藥、金融科 技等高新領域以及跨領域型人才的培養。 香港中文大學理學院數學系發起的「青少年 數學潛能拓展訓練計劃」,希望能夠吸引那 些熱愛數學、且在數學領域已經具備一定能 力的優秀青少年,幫助他們儘早挖掘自身優 勢,投身數學或與之相關聯的學科領域,即 所謂「千里之行,始於足下」。

「青少年數學潛能拓展訓練計劃」,由在大 灣區深耕多年的香港中文大學深圳研究院協 辦,從青少年中選拔具有數學天賦的人選, 重點培養。我們希望,透過港中大理學院數 學系的專業訓練,可為大灣區輸送更多的創 新科技型人才。 As mentioned in "Outline Development Plan for the Guangdong-Hong Kong-Macao Greater Bay Area" in 2019, the Central Government highlights that innovation and technology talents are in urgent need. The report of the 20th National Congress of the Communist Party of China emphasized again that talent is an essential propeller for innovation and technology development. With a mission "To combine tradition with modernity, and to bring together China and the West", The Chinese University of Hong Kong (CUHK) continues to develop training programmes for innovative talents and explore ways to nurture talents in professional fields.

Mathematics is the root of a number of disciplines. Improving the mathematical skills of teenagers will help foster talents in high-tech fields such as computing, biotechnology, and financial technology, and facilitate the development of cross-disciplinary talents. The Department of Mathematics, Faculty of Science, CUHK initiated the "Training Programme for Young Mathematics Talents", with aims of attracting outstanding young talents who are passionate about mathematics and already possess certain mathematics and potentials, and dedicating themselves into the field of mathematics rist field of mathematics or its related disciplines. That is likened to "A journey of a thousand miles begins with a single step."

"Training Programme for Young Mathematics Talents" is coorganized by the CUHK Shenzhen Research Institute. The programme targets to select mathematically gifted learners from high schools and offers them a chance to develop through the professional training provided by the Department of Mathematics. We wish more innovation and technology talents are nurtured and will dedicate themselves to innovation and technology development in the Greater Bay Area through the programme.



**陳偉儀教授** 香港中文大學副校长(策略發展)

李嘉誠生物醫學講座教授

#### Prof. CHAN Wai-yee

Pro-Vice-Chancellor / Vice-President (Strategic Developments) Li Ka Shing Professor of Biomedical Sciences CUHK 香港中文大學理學院一直致力培養科研人才及啟發新一代科學 領袖。港中大理學院創立於1963年,一直肩負重任,為有志 投身科研行列的學生和科學家提供理想的學習及研究環境。 我們提供有效的學習環境,其中包括不同類型的課程及活動, 希望培養同學獨立、批判思維和解決問題的能力,並激發他們 的創意。

「青少年數學潛能拓展訓練計劃」由TUYF慈善信託基金資 助,並獲多個單位鼎力支持。港中大理學院數學係有幸籌備此 項目,動員其世界級團隊及發揮其國際影響力。我們將憑藉數 學系的獨特優勢,透過計劃為兩岸三地的高潛人才提供拓寬視 野、激發潛能的機會,為其未來從事科學創新領域的事業打下 基礎。

我衷心希望本項目能為社會培養更多建設型人才,也對眾多未 來的科學家寄予厚望,希望他們透過學習科學、原創研究以及 多方合作,為改善人類生活及社會做出貢獻。

The Faculty of Science at CUHK has long been committed to educating and inspiring the next generation of scientific innovators. Established in 1963, the Faculty of Science of CUHK has taken pride in providing the stimulating environment for young people and active scholars to learn science and undertake research. We hope to provide an enriched learning environment and endeavour to enhance students' learning experience by offering a variety of lecture courses and activities. We hope our initiatives can help students develop their independent, critical thinking, and problem-solving skills, as well as boost their creativity.

It is our privilege to embark on the "Training Programme for Young Mathematics Talents" which is funded by the TUYF Charitable Trust and supported by various organisations. Our Department of Mathematics has a world-class team with a global impact. The Programme offers enormous opportunities for the talents in GBA to broaden their horizons, unleash their potential and lay the foundation for their future development in the field of science and innovation.

I sincerely hope that the programme will nurture more talents with constructive spirit. By learning science, devoting themselves to research activities and building on collaboration, I believe they could contribute to the improvement of human life and help make the world a better place.



#### 宋春山教授

香港中文大學理學院院长 偉倫化學教授

#### **Prof. SONG Chunshan**

Dean of Science Wei Lun Professor of Chemistry CUHK



**鄒軍教授** 香港中文大學理學院數學系主任 卓敏數學講座教授

#### Prof. ZOU Jun

Chairman, Department of Mathematics Faculty of Science Choh-Ming Li Professor of Mathematics CUHK

香港中文大學理學院數學系成立於1963年,擁有國際一流的教授和研究學者,致力於數學研究和培養 數學專業人才。在2022年的QS世界大學學科排名 中,香港中文大學數學系排名第41位。「青少年數 學潛能拓展訓練計劃」是專為熱愛數學、並在數學 領域有一定天賦的學生而設計,拓展訓練班旨在使 學生了解現代數學並接觸數學研究,激發青少年的 數學發展潛質。

我們將安排為期兩週的數學課程,包括密碼學、線 性代數、微積分、非歐幾何等。課程除安排理論內 容外,亦會配有工作坊和課外考察交流,使青少年 能夠更早地接觸到一些創新科技企業,知曉理論知 識的應用領域,使其「知其然,亦知其所以然」, 同時,我們會安排大量習題訓練和討論時間,使 大家能夠合作溝通去解決問題。

我希望藉此項目,可以更早切入對青少年數理思維 的訓練,提升其創新能力,人才的競爭力將會影響 整個國家、地區的核心競爭力,期望該項目能夠順 利開展,並在未來為粵港澳大灣區乃至國家輸送更 多創新科技型人才,真正實現「人才興國、科技興 國」的目標。 Established in 1963 and ranked 41st in the 2022 QS World University Rankings by Subject, Department of Mathematics, Faculty of Science, CUHK, is a world-class incubator for academic professors and research scholars. "Training Programme for Young Mathematics Talents" is designed for students who love mathematics and possess certain potential in the field of mathematics. The programme aims to enable students to understand modern mathematics and experience mathematical research, as well as to stimulate and develop students' great potential in mathematics.

We will arrange a series of mathematics courses that include cryptography, linear algebra, calculus, non-Euclidean geometry, and more. In addition to theoretical learning through daily classes, the programme allows students to participate in workshops and extracurricular activities so that they can have early and direct access to innovative technology and learn how to apply mathematical knowledge to solve real-world problems.

The competitiveness of talents in the region will affect the core competitiveness of the entire country. Therefore great effort will be made in this programme to train students' mathematical thinking, improve their innovation ability, and enhance their competitiveness from a younger age, in a partial attempt to help achieve the ultimate goal of "revitalizing the country with talents, and rejuvenating the country with science and technology".



**任揚教授** 香港中文大學深圳研究院院长

**Prof. YAM Yeung** Director CUHK Shenzhen Research Institute 香港中文大學深圳研究院於2007年成立。作為香港高校最早在 內陸設立的研究機構之一,深圳研究院自建院起就成為港中大在 粵港澳大灣區發展的樞紐,以及香港與內陸溝通的橋樑。深圳研 究院一直貫徹大學「結合傳統與現代,融會中國與西方」的使 命,求真務實、開拓創新,不斷在產學研方向上深耕,同時,以 客觀、主動、支持、合作的理念,助力大學、校友以及各方合作 夥伴,在科研提升、人才培育、技術轉移以及創新創業發展方面 進行深入合作。

我們國家的科技實力大幅提升,在許多重要科技領域實現跨越式 發展,而基礎研究正是一系列科技創新的源頭。深圳研究院與理 學院數學系合作進行的「青少年數學潛能拓展訓練計劃」可謂正 逢其時。我們希望透過項目儘早選拔、培養具有數理思維的高潛 力人才,同時也希望得到更多教育領域同仁的支持,為實現前瞻 性基礎研究和科技創新做好人才儲備工作,為灣區乃至國家發 展、人類福祉提高作出貢獻。

The Chinese University of Hong Kong (CUHK) Shenzhen Research Institute (SZRI) was established in 2007 as one of the very first research bases in the Mainland set up by Hong Kong tertiary institutions. Since its establishment, SZRI has been a pivot to CUHK's manu developments in the Guangdong-Hong Kong-Macao Greater Bau Area (GBA) and a bridging channel between Hong Kong and the Mainland. Aligning with CUHK's mission "to combine tradition with modernity, and to bring together China and the West," SZRI maintains itself as an earnest, pragmatic, pioneering, innovative entity in its wideranging activities across the fields of technology application, education and research. The Institute adopts an objective, proactive, supportive and collaborative spirit in supporting the University, alumni and partners on endeavors in advanced research, talent cultivation, technology translation and start-up incubation.

While we are witnessing the great progresses made in multiple scientific and technological fields in the Mainland today, we must never lose sight of the fundamental role played by basic research. In this regard, the launching of the "Training Programme for Young Mathematics Talents" co-organized by the Department of Mathematics of the Faculty of Science at CUHK and SZRI, is a timely reminder of this important message. We truly hope the Programme will be successful in cultivating high-level talents with strong mathematical thinking at their early age and at the same time attaining the enhanced support of colleagues in the education community. The work of realizing a pool of young talents capable of engaging in forward-looking basic research and innovative technological exploration will have tremendous impact to the future of GBA, China and the world!

### 香港中文大學 THE CHINESE UNIVERSITY OF HONG KONG

香港中文大學(簡稱「港中大」)成立於1963 年,為國際化研究型大學。港中大在人文學科、 數學、計算機科學、經濟與金融、醫學、法律、傳 媒、地理等領域堪稱學術重鎮,也是香港唯一有 諾貝爾獎、菲爾茲獎、圖靈獎及香農獎得主任教 的大學。港中大以「結合傳統與現代,融會中國 與西方」為使命,以靈活的學分制、書院制、中 英兼重與多元文化為特色,是環太平洋大學聯 盟、世界大學聯盟、松聯盟、中國大學校长聯誼 會成員。

在香港教育資助委員會(簡稱「教資會」)提供 專項撥款的三十二個卓越學科領域中,由港中大 研究人員領導的佔十一個項目。在發表成果方 面,港中大的成績粲然可觀。無論在專門領域的 學報,還是一般耳熟能詳的期刊,均可看到港中 大學人的專業觀點。 Founded in 1963, The Chinese University of Hong Kong (CUHK), with a global vision "to combine tradition with modernity, and to bring together China and the West," is a forward-looking comprehensive research university that aims to nurture students with both specialized knowledge and wisdom for life. CUHK undertakes a wide range of research programmes in different areas and strives to support all academic staff to undertake consultancy and collaborative projects with the industry.

CUHK is an academic powerhouse in the fields of humanities, mathematics, computer science, economics and finance, medicine, law, media, geography, etc., and is the only university in Hong Kong with the Nobel Prize, Fields Medal, Turing Award, and Shannon Award winners. The University Grants Committee (UGC) provides preferential grant funding to the local tertiary institutions to conduct research in 32 selected Areas of Excellence (AOES), out of which 11 are led by researchers from CUHK. CUHK also has excellent publications of cutting-edge research, both in discipline-specific journals and in more highprofile publications such as Science, Nature, and The Lancet.

#### 數說港中大 CUHK RANKINGS AND FIGURES









#### 間由中國科學技術部核准成立的國家重點實驗室

State Key Laboratories, established with the approval of the Ministry of Science and Technology of the People's Republic of China



Asia: 10th / World: 47th **QS世界大學排名** QS World University Rankings

Asia: 6th / World: 53th 泰晤士高等教育世界大學排名 Times Higher Education Rankings at Invasition Extraction The second

1st in Hong Kong (2016 - 2019) 路透社亞太區最具創新力大學排名 Reuters Asia Pacific's Most Innovative Universities



Hong Kong: 2nd / World: 86th 美國發明專利全球前100名大學 Top 100 Worldwide Universities Granted U.S. Utility Patents



2nd in Hong Kong 《軟科世界大學學術排名》 Shanghai Ranking's Academic Ranking of World Universities

# 主辦單位介紹 ORGANIZER

## 香港中文大學理學院數學系 DEPARTMENT OF MATHEMATICS, FACULTY OF SCIENCE, CUHK

科學教育是促進文明社會經濟發展的關鍵。香 港中文大學理學院的使命是: 培養及啟發新一 代科學領袖及革新者、開拓人類知識的領域。 理學院有六個主要教學部門: 生命科學學院、 化學系、數學系、物理系、統計學系及地球系 統科學課程; 有超過3600位學生和400位教學 及科研老師。數學系的教研隊伍包括一位諾貝 爾獎得主、一位菲爾茲獎得主,以及多位中國 科學院和工程學院院士、裘槎優秀科研者、世 界知名學術團體會員及其得獎者,和備受推崇 的學術期刊及書籍的編輯。他們在各個科學領 域從事頂尖的研究及教學工作。畢業生亦在各 個科學領域成為出色的研究員、教育學者及專 業人士,備受本地及國際社會認同。

长久以來,科學研究和教學都是數學系的發展 核心。數學系與中文大學同年成立,並協同大 學經歷了60年的風風雨雨。數學系擁有一支世 界級的科研團隊,在代數、數學分析、幾何、 拓樸、偏微分方程、運算科學等不同的前沿研 究領域取得突破,當中不少學者更榮獲國際的 獎項和院士名銜,以表彰他們傑出的研究成 果。

數學系亦注重知識的傳承,歷年來培養的畢業 生,不少都投身科研行列,在國內外的著名學 府和研究所作出貢獻,當中更包括享負盛名的 菲爾茲獎得主、華人數學家丘成桐教授。此 外,數學系於1993年在丘教授的協助下成立數 學科學研究所,進一步加強人才培訓。 Science education is the propellent to civilization and socioeconomic development. The Faculty of Science has six major teaching units, namely School of Life Sciences, Department of Chemistry, Department of Mathematics, Department of Physics, Department of Statistics, and Earth System Science Programme. Their Facultu members include a Nobel laureate, a Fields medallist, and Academicians of the Chinese Academies of Sciences and Engineering and world- class scholars, who are committed to the pursuit of excellence in teaching and research. The graduates are highly received by the local and international communities with many recognized as outstanding researchers, educators, and professionals in all sectors, both in Hong Kong and overseas. The missions of the Faculty of Science are to educate and inspire the next generation of scientific innovators and leaders; and to expand the frontier of human knowledge. Among all departments, the Department of Mathematics was established in the same year as CUHK, and has experienced 60 years of development in collaboration with the University.

The Department of Mathematics has a world-class scientific research team that has achieved breakthroughs in different frontier research fields such as algebra, mathematical analysis, geometry, topology, partial differential equations, and computational science, and many of them have been honored with highly prestigious international awards and fellowships which become a recognition of their outstanding research results.

The Department of Mathematics also focuses on the inheritance of knowledge. Over the years, many graduates have devoted themselves to scientific research in world-class universities and research institutes, including the Fields Medalist, Chinese mathematician Professor YAU Shing Tung. In addition, with the assistance of Professor YAU, the Department established the Institute of Mathematical Sciences in 1993 to further strengthen the training of mathematics talents.





#### 香港中文大學深圳研究院 CUHK SHENZHEN RESEARCH INSTITUTE (SZRI)

在深圳市政府的支持下,香港中文大學深圳研 究院於2007年成立,是香港中文大學在大陸首 個全資擁有的產學研基地。作為香港中文大學 在內地發展的重要平台之一,深圳研究院多年 來一直推進大學在深圳、粵港澳大灣區及內地 其他城市的發展,穩步推進學研提升、人才培 育、技術轉移、全球接軌、創新發展等領域的 發展工作。 With a great support of the Shenzhen Municipal Government, CUHK Shenzhen Research Institute (SZRI), the first wholly- owned industry-university-institute base of CUHK in the Mainland, was established in May 2007. Being one of the important platforms for the strategic development of CUHK in the Mainland, SZRI has been expanding the University's developments in Shenzhen, the Guangdong-Hong Kong- Macao Greater Bay Area (GBA) and other cities of mainland China over the years, through providing comprehensive support in academic and research advancement, talents cultivation, technology transfer, global connection, as well as innovation and development.



#### 香港中文大學粵港澳大灣區發展辦公室 OFFICE FOR GREATER BAY AREA DEVELOPMENTS (GBAO), CUHK

香港中文大學在擁有國際視野、全球接軌、出 色研究的高水準教育水平,及「一國兩制」的 雙重優勢下,於2020年8月成立粵港澳大灣區 發展辦公室,積極主動參與大灣區的發展,推 動大學新的策略計劃。粵港澳大灣區發展辦公 室將協助大學投入參與大灣區的建設,為大學 成員在大灣區的學研提升、創新創業等活動提 供適切的支持,同時加強與各地政府、企業合 作夥伴、產業機構及校友組織等的溝通與聯繫, 推動與落實大學在大灣區名項目的工作。 Established in August 2020, the Office for Greater Bay Area Developments (GBAD) of CUHK actively participates in the development of the Greater Bay Area (GBA) and facilitates the implementation of the University's strategic plans and projects in GBA by providing support to university members in academic research, innovation and entrepreneurship, and other activities in GBA. In addition, GBAO will help strengthen communication and cooperation with municipal offices, business partners, industrial institutions, and alumni-related organizations.

# 項目介紹 TRAINING PROGRAMME

「創新驅動發展,科技引領未來」。科技創新的基礎在教育,關鍵在人才。為推動粵港澳大灣區建成 高水平人才高地與創新人才蓄水池,香港中文大學 理學院數學系發起「青少年數學潛能拓展訓練計 劃」(簡稱「計劃」))。「計劃」依託港中大世界 級資源以及在灣區深耕多年的項目經驗,選拔具有 數學天賦的灣區青少年,透過大學先進的數學教育 理念和方法,幫助學生了解數學前沿領域,培養嚴 謹的科學素餐與創新能力,從而為灣區乃至中國培 養未來新一代創新領軍人才打下基礎,推動中國引 領新一輪科技和產業變革。 "Innovation drives development, and technology nurtures the future". The foundation of scientific and technological innovation lies in education, while talents are the keys to its achievement. To solidify GBA's status as a talent hub of the kind, the Department of Mathematics, Faculty of Science, CUHK has launched the "Training Programme for Young Mathematics Talents". Relying on CUHK's multifaceted resources and years of project experience in GBA, the programme aims at training mathematicaltalented young students to acquire scientific literacy and innovation ability through the University's advanced mathematics concepts and methods, so as to lay a foundation for cultivating the next generation of innovation leaders for the Region, and even the Country.

#### 目標 Objectives



激發學生對基礎數學的興 趣,提升他們對STEM的意 識、認知與理解

Accelerating students' interest in basic mathematics or STEM and raising their awareness, cognition and understanding in the field



培育粵港澳大灣區具有數學潛力 的學生,並推動粵港澳青年 與香港中文大學之間的聯繫

Cultivating mathematics talented students in GBA and establishing their connection with CUHK



提高學生進入大學選讀數學或 STEM相關學系的積極性,為培養 粵港澳大灣區創科人才奠下基石

Motivating students to enroll mathematics or STEM-related subjects at university and cultivating the future technological and innovative leaders in GBA

#### 課程時間 Study Period

第一期 Session 1	2024/07/15-07/26
第二期 Session 2	2024/08/05-08/16



(不含任何形式的個人費用)

Fees covered meals, accommodation, and activities (Personal expenses of any kind are excluded)

\*本項目為非營利性質,所有收取費用均用於以上用途。 其他行政費用由TUYF慈善信託基金所承擔。 This programme is non-profit-making. All the fees collected from the participants will be used to cover the abovementioned costs. All administration costs incurred will be absorbed by The TUYF Charitable Trust.

## 課程形式 Programme Structure







工作坊 Workshops



**訓練數理思維** Training in mathematical thinking



交流考察 Activities

 高新科技企業考察 Technology Company Visit

- · 走進香港中文大學 Campus Visit
  - 講座或互動交流 Seminars / Interactive Activities /





#### 課程內容 Curriculum









#### 課程講授的理論知識

**Theoretical Knowledge** 

基礎離散數學 Introduction to Discrete Mathematics

數論在現實世界中的應用:密碼學 Real-world Application of Number Theory: Cryptography

線性代數及其應用 Linear Algebra with Applications

微積分與微分方程 **Calculus and Differential Equations** 

初探非歐幾何 First Journey into Non-Euclidean Geometru

抽象代數導論 Introduction to Abstract Algebra

微積分與微分幾何 Calculus and Differential Geometry

#### 涉及應用領域

**Future Learning Path** 

數學 Mathematics

**物理學** Physics

**數學/科學研究** Mathematics/ Science Research

**數學/科學教育** Mathematics/ Science Education

統計 Statistics

量化金融 Quantitative Finance

精算及风險管理 Actuary and Risk Management

自然科學 Natural Science

計算機科學 Computer Science

信息工程 Information Engineering

人工智能 Artificial Intelligence

**軟體工程** Software Engineering

**數據科學** Data Science



#### 顧問委員會 Advisory Board



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Prof. CHUNG Tsz Shun Eric

Professor (Outstanding Fellow) Department of Mathematics, Faculty of Science, CUHK



金邦梯教授 香港中文大學理學院數學系教授 全球創科學人

**Prof. JIN Bang Ti** Professor (Global STEM Scholar) Department of Mathematics, Faculty of Science, CUHK



**梁迺聪教授** 香港中文大學理學院數學系及數學科學研究所 卓敏數學講座教授

**Prof. Conan Nai Chung LEUNG** Professor Department of Mathematics Faculty of Science, CUHK



**于如岡 教授** 香港中文大學理學院數學系 利希慎數學講座教授

**Prof. YU Jiu Kang** Lee Hysan Professor of Mathematics Department of Mathematics Faculty of Science, CUHK

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**辛周平 教授** 香港中文大學數學科學研究所副所长 蒙民偉數學講座教授

#### Prof. XIN Zhou Ping

William M.W. Mong Professor of Mathematics Executive Director The Institute of Mathematical Sciences, CUHK



**鄒軍 教授** 香港中文大學理學院數學系主任 卓敏數學講座教授

**Prof. ZOU Jun** Choh-Ming Li Professor of Mathematics Chairman, Department of Mathematics Faculty of Science, CUHK

#### 導師介紹 Coaches



Michael MCBREEN教授於加拿大 麦吉爾大學取得學士學位,後於 美國普林斯頓大學取得博士學位。 現任香港中文大學數學系助理教 授,研究方向為表示論、辛幾何 及弦理論。 Prof. Michael MCBREEN received his bachelor's degree from McGill University in Canada and his PhD from Princeton University in the United States. He is currently an assistant professor in the Department of Mathematics at The Chinese University of Hong Kong. His research interests include representation theory, symplectic geometry and string theory.

Dr. CHAN Hiu Ning graduated from The University

of Hong Kong with a bachelor's degree and then received her MPhil and PhD from The Chinese

University of Hong Kong and The University of

Hong Kong respectively. Her research interest is

partial differential equations with numerical

methods. Dr. CHAN is currently a lecturer in the

Department of Mathematics at The Chinese

University of Hong Kong, and a lecturer of the Enrichment Programme for Young Mathematics

Dr. CHAN Kai Leung received his PhD from The

Chinese University of Hong Kong with research

interests in mirror symmetry in symplectic geometry

and string theory. Dr. CHAN is currently a lecturer in

the Department of Mathematics at The Chinese University of Hong Kong. He is the programme

coordinator as well as a lecturer of the Enrichment

Programme for Young Mathematics Talents. In addition, Dr. CHAN serves as a fellow of the Centre for

Promoting Science Education of the Faculty of Science

and Course Advisor of Diploma Yi Jin. Dr. CHAN is enthusiastic about teaching and received the 2021

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Dr. CHAN Ping Shun graduated from Columbia University with a bachelor's degree and obtained his

PhD from the Department of Mathematics at The

Ohio State University, with research interest in

number theory. Dr. CHAN is currently a lecturer in the

Department of Mathematics at The Chinese

University of Hong Kong, and a lecturer of the Enrichment Programme for Young Mathematics

Faculty Exemplary Teaching Award.

Talents.

Talents.

#### Prof. Michael MCBREEN



陳曉寧 博士 Dr. CHAN Hiu Ning



陳啟良 博士 Dr. CHAN Kai Leung

陳曉寧博士本科畢業於香港大 學,後分別於香港中文大學與香 港大學取得碩士學位與博士學 (立,研究方向為偏微分方程及其 數值方法。陳博士現任香港中文 大學數學系講師,同時也為系內 數學英才精進課程的講師。

陳啟良博士於香港中文大學取得博 士學位,研究方向為辛幾何和弦理 論中的鏡像對稱現象。陳博士現任 職香港中文大學數學系講師,同時 亦為系內數學英才精進課程的講 師。此外,陳博士亦擔任理學院科 學教育促進中心的資深顧問, 穀裡 文憑課程數學及延伸數學科的課程 顧問。陳博士熱心於教學工作,更 榮獲理學院「2021年度學院模範教 學獎」。

陳秉迅博士本科畢業於美國哥倫

比亞大學,後於美國俄亥俄州立

大學數學係取得博士學位,研究

方向為數論。陳博士現任香港中

文大學數學系講師,同時也為系

內數學英才精進課程的講師。



陳秉迅 博士 Dr. CHAN Ping Shun



鄭文銓 博士 Dr. CHENG Man Chuen <sup>請</sup>

鄭文銓博士於香港中文大學數學 系取得學士及碩士學位,後取得 美國斯坦福大學數學博士學位, 並曾於美國麻省理工學數學尼及加拿 大英屬哥倫比亞大學任博士後, 研究方向為代數拓樸。鄭博士現 任香港中文大學數學系講師,同 時也為系內數學英才精進課程的 講師。 Dr. CHENG Man Chuen received his bachelor's degree and MPhil from the Department of Mathematics, The Chinese University of Hong Kong, and obtained PhD from Stanford University. He later served as a postdoctoral fellow at Massachusetts Institute of Technology and University of British Columbia. His research interest is algebraic topology. Dr. CHENG is currently a lecturer in the Department of Mathematics at The Chinese University of Hong Kong, and a lecturer of the Enrichment Programme for Young Mathematics Talents.



子夜旋 停工 Dr. LI Chun Che

廖振隆 博士 Dr. LIU Chun Lung

李俊捷博士於美國加州大學洛杉 磯分校取得博士學位,後於美國 加州大學洛杉磯分校及台灣 中研究院」數學研究所任博士 後。研究方向為數論與自守式的 表示論。李博士現任中文大學數 學系講師,同時也為系內數學英 才精進課程的講師。 Dr. LI Chun Che received his PhD from the University of California at Los Angeles, and worked as a postdoctoral fellow at the University of California at Los Angeles and the Institute of Mathematics at Academia Sinica, Taiwan. His research interests are number theory and representation theory of automorphic forms. Dr. LI is currently a lecturer in the Department of Mathematics at The Chinese University of Hong Kong, and a lecturer of the Enrichment Programme for Young Mathematics Talents.

廖振隆博士於美國密執安州立大 學取得博士學位,後於德國杜伊 斯堡-埃森大學任博士後,研究方 向為代數幾何與代數配邊理論。 廖博士現任職文大學數學系講 師,同時亦為系內數學英才精進 課程的講師。廖博士善於深入淺 出介紹高深數學理論,並曾多次 獲邀為無線電視節目《學是學 非》的嘉賓,推廣普及數學教 育。

吳銘豪博十於香港大學取得學

士、碩士及博士學位,主要研究

解析數論,課題包括自守形式及

L-函數。吳博士現為香港中文大

潘莉博士於大連理工大學取得數

學學士學位,後於香港大學取得

數學博士學位,研究方向為運籌

學與最優化理論。潘博士現任香

肖晶晶博士本科畢業於武漢大學 數學與統計學院,後於香港中文

大學數學系取得博士學位,研究

港中文大學數學系講師。

學數學系助理講師。

Dr. LIU Chun Lung received his PhD from Michigan State University in the United States, and worked as a postdoctoral fellow at the University of Duisburg-Essen in Germany. His research interests are algebraic geometry and algebraic cobordism. Dr. LIU is currently a lecturer in the Department of Mathematics at The Chinese University of Hong Kong, and a lecturer of the Enrichment Programme for Young Mathematics Talents. Dr. LIU is good at introducing advanced mathematical theories in simple terms, and has been invited as a guest on the TVB program "Sidewalk Scientist" for many times to promote and popularize mathematics education.

Dr. NG Ming Ho received his BSc, MPhil and PhD from The University of Hong Kong. His main research

interest lies in analytic number theory including

automorphic forms and L-functions. Dr. NG is currently an assistant lecturer in the Department of

Mathematics at The Chinese University of Hong

Kona.



吳銘豪 博士 Dr. NG Ming Ho



潘莉 博士 Dr. PAN Li



肖晶晶 博士 Dr. XIAO Jing Jing

方向為偏微分方程與雙曲守恆 律。肖博士現任香港中文大學數 學系講師。肖博士對教學充滿熱 忱,曾榮獲理學院「2018年度 學院模範教學獎」。 Dr. PAN Li graduated from Dalian University of Technology with a bachelor's degree in mathematics, and received her PhD from The University of Hong Kong. Her research interests are operations research and optimization theory. Dr. PAN is currently a lecturer in the Department of Mathematics at The Chinese University of Hong Kong.

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Dr. XIAO Jingjing graduated from the School of Mathematics and Statistics of Wuhan University with a bachelor's degree, and then received his PhD from the Department of Mathematics at The Chinese University of Hong Kong, with research interests in partial differential equations and hyperbolic conservation laws. Dr. XIAO is currently a lecturer in the Department of Mathematics at The Chinese University of Hong Kong. Dr. XIAO is enthusiastic about teaching and received the 2018 Faculty Exemplary Teaching Award.

# 申請須知 APPLICATION INFORMATION

#### 申請條件 Requirements

- 粤港澳大灣區在讀初三、高一、高二學生
- 崇尚科學、身體健康、成績優異、創新潛 力突出
- 對數學有興趣且有意向從事數學研究、或 以數學作為底層邏輯的其他前沿科技研究, 並在數學領域表現出潛質和優勢
- From 3 and High school students in GBA
- Interested in science and innovation, healthy, with outstanding academic performance and innovation potential
- Interested in mathematics and intend to engage in mathematical research, or other cutting-edge scientific or technological research with mathematics as the underlying logic, and are able to demonstrate mathematics potential

#### 申請資料 Application Materials

- 報名申請表
- 過往成績單
- 數理老師推薦信
- 相關得獎證書

- Application form
- Latest transcripts
- Recommendation letter(s) written by the mathematics/ science teacher
- Certificates/ Awards

### 申請流程 Application Procedures



会 授課地點 Course Venue(s)

香港中文大學深圳研究院及考察參訪交流的企業院校

CUHK Shenzhen Research Institute and visits to enterprises and institutions



#### 證書頒發 Certificate of Attendance

完成課程後,將由香港中文大學理學院數學系頒發訓 練出席證書

Upon completion of the programme, a certificate of Attendance will be issued by the Department of Mathematics, Faculty of Science, CUHK.



	聯絡電話 Tel:	(86) 755-8692 0032 (852) 3943 0344	
	手機/ 微信 Mobile/ WeChat:	(86) 180 2538 2810	
	報名郵箱 Email address:	gbao@cuhkri.org.cn	

**報名二維碼** Scan the QR Code for application





#### 主辦單位 Organizer

	香港中文大學數學系 Department of Mathematics, CUHK					
	<b>網址</b> Website:	www.math.cuhk.edu.hk				
	電話Telephone:	(852) 3943-7988	DEPARTMENT CONTRACTOR OF HONG KON	DEPARTMENT OF		
	<b>郵箱</b> E-mail:	dept@math.cuhk.edu.hk		UNIVERSITY OF HONG KONG		
	<b>地址</b> Address:	香港新 <b>界沙田中文大學邵逸夫夫人樓二樓 220室</b> Room 220, Lady Shaw Building, CUHK, Hong Kong				
	協辦單位 Co-org	ganizers				
	香港中文大學深圳研究院 CUHK Shenzhen Research Institute					
	<b>網址</b> Website:	www.cuhkri.org.cn				
	電話 Telephone:	(86) 755-86920000	四台	香港中文大學深圳研究院 Shenzhen Research Institute The Chinese University of Hong Kong		
	<b>郵箱</b> E-mail:	cuhkszri@cuhkri.org.cn (				
	<b>地址</b> Address:	<b>深圳市南山區粵興二道10號</b> No. 10, 2nd Yuexing Road, Nanshan District, Shenzhen				
	香港中文大學粵港澳大灣區發展辦公室 Office for Greater Bay Area Developments, CUHK					
	<b>網址</b> Website:	gbao.cuhk.edu.hk				
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	郵箱 E-mail:	gbao@cuhkri.org.cn/ gbao@cuhk.edu.hk	🚹 大 灣 區 發 展			
	<b>地址</b> Address:	<b>深圳市南山區粵興二道10號</b> No. 10, 2nd Yuexing Road, Nanshan District, Shenzhen		GBA Developments		
		香港中文大學博文苑三樓A室				

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