



2017

科学教育国际论坛

INTERNATIONAL FORUM ON SCIENCE EDUCATION

July 3-4, 2017 Beijing, P.R. China



CONFERENCE
MANUAL
会议手册

主办单位

中国青少年科技辅导员协会
中国科协青少年科技中心

支持单位

国际科学院组织科学教育项目
经济合作组织科学基金会

Organizers

China Association of Children's Science Instructors (CACSI)
Children and Youth Science Centre of CAST (CYSCC)

Sponsors

IAP Science Education Programme (IAP SEP)
Economic cooperation organization science foundation (ECOSF)

目录
CONTENTS

02	论坛背景介绍 Introduction
04	主办与支持单位 Organizers & Sponsors
08	日程 Program
12	主旨报告 Keynote Speech Abstracts
18	主旨发言人 Keynote Speakers
24	会议代表 Participants
49	会务信息 Logistic Information
51	旅游信息 Tour
56	会议记录 Page for Notes

论坛背景介绍

当前，世界经济深度调整，是一个充满机遇的时代，各国都在追求和平、发展与合作。2013年，中国国家主席习近平发起建设“丝绸之路经济带”和“21世纪海上丝绸之路”（“一带一路”）的倡议。该倡议加强亚欧互联互通，同时对非洲、拉美等其他地区开放。作为一项重要的国际倡议，“一带一路”为各国深化合作提供了重要机遇，将为各方带来更多福祉。除了经济合作外，“一带一路”倡议还提到加强人文交流和民间纽带，深化教育、科技、体育、卫生、智库、媒体以及包括实习培训在内的能力建设等领域的务实合作。

古丝绸之路堪称人类文明交融最好的历史见证，丝绸之路之所以改变了历史，很大程度上是因为穿行在丝绸之路上的人们把各自的文化传播到沿途各地。“一带一路”的推行，也更离不开文化的“播撒”与文明的对话。

经济全球化的广泛发展，促进了文化的全球性的发展，文化全球化趋势已然出现。各种文化也悄然变化，相互影响，彼此吸收、同化。广大青少年由于尚未确立某种属于自己的生活方式、信念或行为习惯，在全球化过程中很容易迷失自我、忽略本土传统文化、甚至受到极端势力的影响和利用。

“一带一路”沿线各国都有悠久的历史 and 灿烂的文明，可以通过加强人文交流促进青少年对本土文化的理解、喜爱和认同。科学技术发展史是一个相对中立、适用于各个国家的话题和切入点，可以引导青少年加深对本国文化和他国文化的了解，增强民族自豪感的同时扩大国际视野，促进文化融合。国际上已经有过多次以科学技术作为重要手段促进“文化融合”的有效尝试：伊斯兰科技引发了欧洲文艺复兴，为我们现代文明奠定了基础；中国和印度、中亚等地区科技的交流互通加强了地区的发展。

科学技术是人类文化史上最伟大的成就之一。科学在塑造现代世界的物质、技术、宗教和文化方面有着巨大的影响，反过来，科学也会受到这些社会方面的影响。科学教育的目的是把学生引入科学概念和过程中，而且还要帮助学生了解科学，也就是了解不断变化的科学方法、科学的组织形式、科学的证明方法、科学与文化的相互关系等。科学教学需要情景方法和历史方法。

法国“动手做”科学教育项目（LAMAP）基于伊斯兰国家的科技史开发了一个基于探究式科学教育的课程，为我们展示了伊斯兰科技史将如何变成学校的IBSE教学课程。

创设“文化融合”课程是要强调一种文明的发现如何改善和帮助在其他文明中的所有人的生产和生活状况，而不是要在文明间争论高低优劣。我们希望青年人通过了解年轻一代的共同遗产，重新发现文化共同点，有助于减少地区紧张局势和消除暴力。

因此，2017科学教育国际论坛主题定位“一带一路上的历史与科学教育”。主要内容包括“一带一路”相关国家和地区科技教育实践经验交流，以及以科学史为切入点开展科技教育活动的策略研讨和案例交流。通过探讨“一带一路”相关国家和地区科技教育工作者共同合作的内容与形式，推动“一带一路”相关地区和国家间的教育和文化交流。

Introduction

Symbolizing communication and cooperation between the East and the West, the ancient Silk Road Spirit - peace and cooperation, openness and inclusiveness, mutual learning and mutual benefit - is a historic and cultural heritage shared by all countries around the world. In 2013, Chinese President Xi Jinping launched the important cooperation initiative of building the Silk Road Economic Belt and the 21st Century Maritime Silk Road (the Belt and Road) which will link China with Europe through Central and Western Asia and also connect China with Southeast Asia, Africa and Europe.

The building of the Belt and Road can help promote the economic prosperity of the countries along the Belt and Road and regional economic cooperation, strengthen exchanges and mutual learning between different civilizations, and promotion of world peace and development.

China just hosted the Belt and Road Forum for International Cooperation (BRF) in Beijing on 14-15 May 2017. Noting that the Belt and Road Initiative can create opportunities amidst challenges and changes, China is supporting the Belt and Road Initiative to enhance connectivity between Asia and Europe, which is also opened to other regions such as Africa and South America. By providing important opportunities for countries to develop cooperation, it has achieved positive outcomes and has future potential to deliver more benefits as an important international initiative.

The Belt and Road Initiative also aiming at promoting people-to-people exchanges and bonds by deepening practical cooperation on education, science, technology, sport, health, think-tank, media, capacity building through internships.

Aiming at promoting Inquiry-Based Science Education (IBSE) among the countries that sharing a common heritage of the ancient Silk Road and the framework of the Belt and Road initiative, China Association of Children's Science Instructors (CACSI), Children and youth science centers of CAST (CYSC), IAP Science Education Programme (IAP SEP) and Economic cooperation organization science foundation (ECOSF) will co-organize the 2017 international forum on science education in Beijing on July 3-4, 2017.

With the theme of "The history and science education along the Belt and Road", this forum will be an opportunity for historians of S&T and science education curriculum designers to working together trying to figure out the way to develop an IBSE curriculum basing on the S&T achievements in the histories of civilizations along the Belt and Road countries.

主办单位 Organizers

中国青少年科技辅导员协会

中国青少年科技辅导员协会成立于1981年，由中国著名桥梁大师、教育家茅以升院士，著名物理学家、教育家周培源院士等发起成立，是由全国从事青少年科技教育、青少年科普、教研、科教器材研发等工作的人员，以及关心支持青少年科技教育的各界人士和相关单位自愿结成，并经过社团登记机关依法登记的专业性、全国性、非盈利社会组织。协会是中国科学技术协会的团体会员，接受业务主管单位中国科协、社团登记管理机关民政部的业务指导和监督管理。

协会以发展科技辅导员队伍，提高科技辅导员业务能力为宗旨，广泛开展学术交流、科教资源开发、科技辅导员业务培训、青少年科普等各项活动。

协会主办有《中国科技教育》杂志。

China Association of Children's Science Instructors (CACSI)

Founded in 1981 and headquartered in Beijing, CACSI is initiated by well-known bridge scientist、educator、academician Mao Yisheng, famous physicist, educator, academician Zhou Peiyuan and other scientist. CACSI is the institution in the China Association of Science and Technology (CAST) that take the main responsibility of providing science education programs for teachers.

CACSI is consisted of five standing committees—organization committee, training committee, Children and youth Science Center committee, publicity committee and theoretical research committee. CACSI's current membership includes individual membership as well as institutional membership, and has branches in 30 provinces and cities nationwide. CACSI have its local branches all over the country and local branches are afflicted to the local association of science and Technology.

CACSI hosts an academic journal "China Science and Technology Education".

中国科协青少年科技中心

中国科协青少年科技中心（中国科协科普活动中心）成立于1988年，是中国科协直属公益性事业单位，前身是成立于1978年的中国科协青少年工作部。中心致力于向青少年和社会公众普及传播科学技术，提高公民科学素质，培养未来一代的科技创新人才。中心与全国31个省（区、市）科协的青少年科学教育工作机构以及各地科技场馆等校外教育机构，形成了中国科协系统的青少年科技教育和公众科普工作网络，共同组织实施各种全国性科技教育项目及示范性科普活动。

Children & Youth Science Center of CAST

Children & Youth Science Center (CYSC), a non-profit organization affiliated to China Association for Science and Technology(CAST), was found in 1978. CYSC is committed to engaging the public with science and technology and inspiring innovation in young generation through science education programs and public events. CYSC, together with provincial branches, science museums and STE centers have made up a national wide network for informal science education and science popularization events in China.

支持单位 Sponsors

国际科学院组织科学教育项目

国际科学院组织 (IAP) 成立于 1993 年, 其宗旨是通过各成员科学院间的合作与交流, 研究重要的国际科技问题, 并为决策者的政策制定提供科学依据。目前有 106 个成员科学院, 中国科学院是该组织的执委会委员。

该组织下设科学教育项目 (SEP, Science Education Program), 由国际委员会负责实施。目前该项目的领导科学院是马来西亚科学院, 国际委员会主席是马来西亚科学院的李怡章院士, 国际委员会成员由专家、支持者 (多为区域性科学组织负责人)、区域代表组成。2001 年, 教育部和中国科协共同发起的“做中学”科学教育改革工作, 一直得到了该项目的支持和帮助。

国际科学院组织与我国的科学教育专家在探究式科学教育的学术研究领域有较长期和深入的合作。2014 年 10 月 28-30 日, IAP SEP 在北京召开了国际科学教育研讨会, 由青少中心、专委会和 IAP SEP 共同主办。会议成功举办, 并得到了 IAP 项目监督和评估委员会的高度评价。

InterAcademy Partnership Science Education Program (IAP SEP)

IAP is a global network of the world's 107 science academies. It was launched in 1993. Its primary goal is to help member academies work together to advise citizens and public officials on the scientific aspects of critical global issues. One of IAP's priority agenda since the beginning of this century is the Science Education Program (SEP) under the direction of the IAP SEP Global Council.

The most important event of the IAP SEP is the Biennial IAP SEP Conference. In 2010, the IAP SEP Conference was convened in York, United Kingdom to discuss the many issues involved in beginning or extending the use of Inquiry-Based Science Education (IBSE) in the secondary school. In 2012 the IAP SEP Conference was held in Helsinki on the theme Developing IBSE: the roles of assessment and the relationship with industry.

经济合作组织科学基金会

1977 年 3 月 12 日, 由阿富汗、伊朗、巴基斯坦、塔吉克斯坦、土库曼斯坦、阿塞拜疆、哈萨克斯坦、吉尔吉斯斯坦、土耳其和乌兹别克斯坦等 10 个成员国联合组成的经济合作组织在土耳其伊兹密尔举行成员国会议, 提出《经济合作组织基本章程》, 并建议设立促进科学和技术促进经济发展而设立的专门机构。

2011 年 12 月, 为促进成员国之间的科学和技术高素质人才培养, 提高成员国之间的科技研究水平, 经济合作组织科学基金成立, 理事会第一次会议在巴基斯坦伊斯兰堡举行, 《经济合作组织科学基金会基本文件》获得

批准, 正式作为经济合作组织的专门机构发挥作用, 具有自己的章程、法人自合和管理自主权, 作为成员国之间高素质科技水平人力资源库, 促进各成员国之间的科学技术研究。目前, 基金会秘书处设立在巴基斯坦科学基金会伊斯兰堡。

考虑到探究式科学教育对学校的重要性, 经济合作组织科学基金会制定了能力建设计划, 帮助成员国获得探究式科学教育的支持。在过去的两年中, 基金会与法国做中学科学教育中心, 吉隆坡国际科学技术创新中心、国际科学院组织科学教育项目建立了良好的合作关系, 在成员国之间推行探究式科学教育理念和实践。

Economic Cooperation Organization Scientific Foundation (ECOSF)

Economic Cooperation Organization Science Foundation (ECOSF) is an intergovernmental organization and a specialized agency of the Economic Cooperation Organization (ECO). Establishment of the Science Foundation was envisaged in the "Treaty of Izmir", the Charter of ECO, and the ECOSF Charter was signed in Islamabad in March 1995 by all the 10 member states; **Afghanistan, Azerbaijan, Iran, Kazakhstan, Kyrgyz Republic, Pakistan, Tajikistan, Turkey, Turkmenistan and Uzbekistan.** However, the Foundation was established in Islamabad, Pakistan on 20 December 2011, with holding of the 1st meeting of its Board of Trustees (BOT), the highest decision making body.

ECOSF aims to promote scientific and technological research with an end goal to raise socio-economic standing of 10 member states. The ECOSF serves as a platform to build a reservoir of highly skilled scientific and technical manpower to carry out scientific and technological research of applied nature and other related activities among its member states in collaboration with International, Regional and National Organizations. ECOSF strives to strengthen the science base of future generation and the region's economy, thus it continues to contribute towards promotion of Science, Technology, Engineering and Mathematics (STEM) education in the region. ECOSF engages youth in all its activities and integrates gender perspective in policies, plans and actions directed towards socio-economic development in line with UN Sustainable Development Goals (SDGs) and the ECO Vision 2025.

ECOSF in collaboration with *La main à la pâte* Foundation under the auspices of Academy of Sciences of France, the International Science, Technology and Innovation Center for South-South Cooperation under the auspices of UNESCO (ISTIC) Kuala Lumpur and the Inter-Academy Partnership Science Education Program (IAPSEP) has launched a Capacity Building Program to promote Inquiry Based Science Education at schools in the ECO Region. ECOSF launched this Program in 2015 from Astana, Kazakhstan as one of its flagship projects in the region in order to strengthen the science base for advance S&T research and higher education in the ECO member countries.

The Foundation is also partnering with UNESCO, Federation of Engineering Institutions of Asia and the Pacific (FEIAP), and the Academy of Engineering and Technology of the Developing World (AETDEW). Under the program, Pakistan through Pakistan Engineering Council (PEC) has been accredited by FEIAP in 2016 to mentor other ECO Economies particularly those who lack a national accreditation body, to improve and develop the Standards of Engineering Qualifications in those member states.

The Foundation has established a Science & Technological (S&T) Fund to support applied research projects of strategic and commercial value to contribute to the economic development of the region in line with ECO Vision 2020 and the UN SDGs. The fund provides competitive resources to outstanding researchers working in the ECOSF priority research areas of **energy, water, food security and climate change.** In addition, ECOSF organizes, co-organizes and provides financial support to universities and R&D organizations of the ECO region for organizing conferences, seminars and capacity building/training workshop and STI fairs etc. on applied and emerging S&T topics.

论坛日程

时间、地点	主要内容	主持人
7月2日 中国科技馆大堂		
全天	参会代表报到	
7月3日 上午 B103 会议室		
9:00-9:30	论坛开幕式	欧建成 中国科技馆副馆长、 中国青少年科技辅导员协会副理事长
9:30-10:10	通过探究式科学教育，让孩子们成为传递和平与和谐的使者 Lee Yee Cheong 国际科学院组织科学教育项目国际委员会主席、 南南合作国际科技与创新中心名誉主席	
10:10-10:50	连接文明的力量：丝绸之路科学与文明 孙小淳 中国科学院大学人文学院常务副院长、教授	
10:50-11:10	茶歇	
11:10-11:50	科学教育与文明融合：从亚洲与中东视角看到的因果联系 Moneef R. Zou'bi 伊斯兰世界科学院执行主任	欧建成
11:50-12:30	“一带一路”的科学教育交流与合作 李晓亮 中国青少年科技辅导员协会常务副理事长	
12:30-13:50	午餐（一层宴会厅）	
7月3日 下午 B206 会议室		
14:00-15:00	法国科技史课程开发介绍 Prof. Cécile de Hosson 巴黎大学物理系教授，法国“动手做”科学教育中心项目代表	孙小淳 中国科学院大学人文学院常务副院长、教授
15:00-15:10	中国科技馆华夏之光展览介绍 欧建成 中国科技馆副馆长	
15:10-15:20	科学课程开发案例 叶兆宁 东南大学生物医学与工程学院副教授	
15:20-15:40	茶歇	

15:40-17:30	圆桌讨论：“文化融合”科学课程开发框架 El Tayeb Mustafa 苏丹未来大学校长（20分钟）	Lee Yee Cheong
19:00-20:00	晚餐（鸿宾楼）	
7月4日 上午 B206 会议室		
9:00-10:30	圆桌讨论：“文化融合”科学课程开发框架	Manzoor Hussain Soomro 经济合作组织科学基金会主席
10:30-10:50	茶歇	
10:50-11:45	圆桌讨论：“一带一路”的科学教育交流与合作 罗星凯 广西师大科学教育研究所（10分钟）	祝贺 中国青少年科技辅导员协会副秘书长
11:45-12:00	论坛总结	
12:00-13:50	午餐（一层宴会厅）	
7月4日 下午		
14:00-16:00	北京古观象台参观	

Program

Venue: China Hall Of Science and Technology, Beijing, China

Time	Content	Moderator
Morning of July 3, 2017 Meeting Room: B103		
9:00-9:30	Opening Session	Mr. Ou Jiancheng
9:30-10:10	Children as Agents for Peace and Harmony through Inquiry Based Science Education (IBSE)" Dato Lee Yee Cheong , Chair of IAP SEP Global Council; Honorary Chairman, International Science Technology and Innovation Centre for South-South Cooperation (ISTIC)	Deputy Director of China Science and Technology Museum、 Vice president of China Association of Children's Science Instructors (CACSI)
10:10-10:50	The Connecting Force among Civilizations: Science and Civilization along the Silk Road Prof. Sun Xiaochun , Acting Dean of School of Humanities, University of Chinese Academy of Sciences	
10:50-11:10	Tea Break	
11:10-11:50	Keynote speech Science Education and the Fusion of Civilization:causal Link from an Asian and a Middle Eastern Perspective Prof. Moneef R. Zou'bi , Director General (Diplomatic status), Islamic World Academy of Sciences (IAS), Science Advisor to the Interaction Council (IAC)	Mr. Ou Jiancheng
11:50-12:30	Exchange and Cooperation of Science Education on the Road and Belt Mr. Li xiaoliang , Executive vice president of China Association of Children's Science Instructors (CACSI)	
12:30-13:50	Lunch	Banquet Hall on the First Floor
Afternoon of July 3,2017 Meeting Room: B206		
14:00-15:00	The LAMAP thematic book "The Discoveries in Islamic Countries" Prof. Cécile de Hosson Full prof. Université Paris Diderot - physics department, La Fondation "La Main La Main à la Pâte" associate member	Prof. Sun Xiaochun

15:00-15:10	The Glory Of China : Ancient Chinese Achievements Mr. Ou Jiancheng , Deputy Director of China Science and Technology Museum, Vice president of China Association of Children's Science Instructors (CACSI)	Prof. Sun Xiaochun
15:10-15:20	Case Study: IBSE Curriculum Of Chinese Prof. Ye Zhaoning Associated professor of School of Biological Science & Medical Engineering in Southeast University	
15:20-15:40	Tea break	
15:40-17:30	Round-table discussion: Development of the Fusion of Civilization Curriculum Dr. El Tayeb Mustafa , President of the Future University- Sudan, former Director of the Division for Science Policy & Sustainable Development at the (UNESCO) (20 mins)	Dato Lee Yee Cheong
19:00-	Dinner	Outside the hotel
Morning of July 4, 2017 Meeting Room: B206		
9:00-10:30	Round-table discussion: Development of the Fusion of Civilization Curriculum	Prof. Manzoor Hussain Soomro President of ECOSF
10:30-10:50	Tea Break	
10:50-11:45	Round-table discussion: New Cooperation and Exchange of Science Education along the Belt and Road Pro. Luo Xingkai , Professor in the Faculty of Physics & Technology and director in the Research Institute of Science Education at Guangxi Normal University (10 mins)	Ms. Zhu He Deputy Secretary General of China Association of Children's Science Instructors (CACSI)
11:45-12:00	Closing	
12:00-13:50	Lunch	Banquet Hall on the First Floor
Afternoon of July 4, 2017		
14:00-16:00	Field visit: Ancient Observatory	

主旨报告 Keynote Speech Abstracts

通过探究式科学教育，让孩子们成为传递和平与和谐的使者

李怡章院士、拿督

国际科学院组织科学教育项目国际委员会主席，南南合作国际科技与创新中心名誉主席

摘要

“一带一路”倡议由中国发起，充满对未来的美好憧憬，意在改变陆上丝绸之路和海上丝绸之路沿线 60 多个国家的经济、社会和可持续发展局面。不幸的是，战争、冲突和恐怖主义仍然充斥着整个世界。没有“一带一路”沿线国家的和平与和谐，“一带一路”美好愿景的实现也就无从谈起。尽管各国已经尝试过使用诸如外交、经济制裁、军事行动以及跨信仰对话交流等种种办法来促进世界和平和谐发展，但是这些方法无一例外都以失败收场。我们可以试着采取一种截然不同的办法，通过对学龄前儿童进行探究式科学教育（IBSE）或者“做中学”教育，来解决上述问题。孩子们生性善良又充满探究精神。通过国际科学院组织科学教育项目（IAP SEP）为“一带一路”沿线国家制定的“文明融合的课程”项目，孩子们有望学到包含各种文明和文化的共同人文思想，促进“一带一路”沿线国家人民生存状况的发展。如果孩子们都有“肤色虽不同，但人人生而相同”的坚定信念，那么他们也会把这种和平与和谐的理念传递给自己的父母、以及自己生活的群体。再者，孩子们都能熟练运用社交媒体，这种理念也会在孩子们的日常交流中逐渐影响到“一带一路”之外的国家和地区的孩子和他们生活的群体，并带来一系列积极影响。

Children as Agents for Peace and Harmony through Inquiry Based Science Education (IBSE)

Dato Lee Yee Cheong

Chair of IAP SEP Global Council; Honorary Chairman, International Science Technology and Innovation Centre for South-South Cooperation (ISTIC)

Abstract

OBOR is the visionary initiative of China that will transform economic, social and sustainable development in the sixty odd countries along the Land Silk Road and the Maritime Silk Road. Unfortunately, the world is beset with war, conflict and terrorism. Without peace and harmony in OBOR countries, the vision of OBOR cannot be fulfilled. The world has tried diplomacy, economic sanction, military action and interfaith dialogue to promote peace and harmony, these efforts have all failed. We should try a different approach through Inquiry Based Science Education (IBSE) or Learning by Doing pedagogy for children from preschool upwards. Children are

born benign and inquisitive. It is hoped through the IAP SEP “Fusion of Civilizations Curriculum Design” project for schools along OBOR countries, children will learn the common humanity amongst civilizations and cultures in improving human condition all along OBOR. If children convince themselves that all human beings are the same under the skin, they will spread this message of peace and harmony to their parents and communities and through their expert use of social media to children and communities outside OBOR.

连接文明的力量：丝绸之路科学与文明

孙小淳教授

中国科学院大学人文学院常务副院长

摘要

近代科学的出现不是历史的机缘凑巧，而是欧亚大陆文明数千年融合之结果。东西方的文明，都为科学文明的兴起做出了贡献。这是一个全球性的现象。了解这一点对于处在全球化时代的我们非常重要，特别现在开始出现对全球化的怀疑甚至出现在国际政治上的反全球化趋势。

今天我讲讲中国与西方在丝绸之路上的科学交流。丝绸之路不仅仅交换物品和商品之路，而且是科学知识传播之路。中国和西方都在这种交流中获得进步。我用几个例子来说明这一点。1）中世纪中国与伊斯兰世界的天文学交流；2）水运仪天仪，世界机械钟发展史的缺失一环；3）中法 18 世纪的天文大地测量：世界性的科学活动。

历史的点点场景连接起来，可以构成一个全球科学史的图景。研究这些场景非常有意义。古代世界相连接的程度比我们想象的强得多。这个历史遗产应该得到传承。不管怎么说，我们是探索科学真理的同一个人类。

The Connecting Force among Civilizations: Science and Civilization along the Silk Road

Prof. Sun Xiaochun

Acting Dean of School of Humanities, University of Chinese Academy of Sciences

Abstract

The emergence of modern science was not a historical serendipity, it was a result of merging of civilizations across the Eurasia for millennia. Civilizations from West and East, all contributed to the surge of civilization. It was a global phenomenon. To know about this history is essential for us in the age of globalization, particularly when we are facing some doubts about globalization and even some reactionary trends in world politics.

Today I am going to talk about scientific exchanges between China and West along the Silk Road. The Silk Road

was not just a route for exchange of goods and commodities, but also a route for the transmission of scientific knowledge. Both China and West benefited from this process.

I will use a few examples to illustrate this.

1. Astronomical exchange between China and Islamic countries in medieval times.
2. The heavenly clockwork, the missing link in the history of mechanical clock.
3. The Sino-French Geodetic survey in the 18th century, a world scientific endeavor.

There are many dots in history that can be connected to present a global history of science. Studying these episodes is extremely interesting. The old world had been more connected than we imagine. This legacy should be handed down to our next generation, and generations of the future. We are, after all, one people in the search of scientific truth.

科学教育与文明融合： 从亚洲 / 中东角度看到的因果联系

MONEEF R. ZOU'BI 博士

伊斯兰世界科学院执行主任，国际行动理事会（IAC）科学顾问

摘要

国际社会目前认为，无论是在发展中国家还是发达国家，科学教育进行的都不够。因此，在世界各地的学校推动科学教育的需求就变得格外迫切——特别是在发展中国家，以便让一代代后辈培养起他们对于定量研究的敏锐度，变得更有求知欲，能掌握分析方法，更富有创新精神，并最终足以肩负重任，尤其是在解决全球发展的问题方面。事实上，对现代社会而言，为了取得和平、实现公正和获得可持续发展，科学教育是基本的前提。

很多国家的政治领袖都有充分的理由认为科学教育是一个重要的领域。例如，南非已故总统曼德拉要求国家科学院为了鼓励该国年青人在科学、工程和技术领域发展自己的职业。此外，一些非洲国家的学院，如乌干达国家科学院（UNAS）认为，科学教育是科学院能够参与的最重要的活动。与此同时，一些像马来西亚科学院这样的亚洲同行在科学教育领域表现得十分活跃。伊斯兰世界科学院（IAS）早就已经意识到，科学带来的福祉和社会的科学教育之间存在着千丝万缕的联系，也注意到了科学史鉴赏力水平的参差不齐，特别是在伊斯兰的背景下。这就是伊斯兰世界科学院致力于组织一系列的科教主题会议，从而在全球范围内培养科学鉴赏力的原因。

世界的各个文明长久以来一直都是相互依存的，今天依然如此。科学事业是一个跨越文化的现象，在历史上，科学会从一个文明（通常更先进）流向另一个文明。所以，存在各种形式的科学组织，例如科学院和学术机构。在这种机制内，科学从希腊流向阿拉伯人和穆斯林，在那里得到了沉淀、产生了同化并被改良。几个世纪之后，它传到了欧洲，最终在工业革命中起了相当大的作用。在过去的两个世纪，通过与殖民大国的接触，科学慢慢地从欧洲和西方传回到伊斯兰和发展中国家。然而，在现今的伊斯兰社会环境下，鼓励科学创新和创造已经成

了一个遥远的回忆。当下很多人并不认为科技是实现强权和富裕的工具。之所以出现缺乏创新文化、普遍的精神淡漠，以及甘心屈服于命运摆布等现象，有部分原因是源自于对信仰的某些方面存在不正确的解释。而这正是“科学教育”可以发挥作用的一个领域。

在我的报告中，我也赞成对“李约瑟难题”¹——“为何近代科学在欧洲得到发展，而非其他地方（在中国或印度）？”做出另一种回答。我的观点是，因为科学知识是在各个文明之间不断进步和累积的，“科学革命”中体现的重大科学转变注定要发生，最终它的确发生了，不是在中国、印度或伊斯兰世界，而是在欧洲。换句话说，我会在人类历史的整体背景下看待科学史，在这个过程中，承认中国和伊斯兰文明对现代科学所做的贡献。在这种情况下，我会借用阿伦·巴拉（Arun Bala）的论点，“传统文化（中国、阿拉伯和印度文明）值得称道的发现促成了现代科学，虽然它们要为未能发展现代科学承担责任。”而且，我的论点是建立在一般性的原则上，而非基于欧洲中心论。

我还认为需要采用科学、技术和创新（STI）工具，在世界范围内进行科学合作，从而解决 21 世纪人类面临的重大挑战。这些合作包括：水资源、能源、健康、农业、生物多样性、增加收入、建设人类文明和构筑世界和平；它们被高度概况在可持续发展目标（SDG）中，正式名称为《改变我们的世界——2030 年可持续发展议程》，包括 17 项全球性目标和 169 项具体目标。

Science Education and the Fusion of Civilizations: Causal Links from an Asian/ Middle Eastern Perspective

Dr. MONEEF R. ZOU'BI

Director General, Islamic World Academy of Sciences (IAS), Science Advisor, InterAction Council (IAC)

Abstract

Science education is currently internationally viewed as inadequate in both the developing and developed worlds. This renders imperative the need to promote science education at schools throughout the world, particularly in developing countries, so that future generations nurture their quantitative acumen, become more inquisitive and analytical, innovate and ultimately be better qualified to inter alia address global development problems. Indeed, education in science is a fundamental prerequisite for modern societies to achieve peace, justice and a sustainable development.

Science education has been an area that the political leadership in many countries has rightly considered to be important. For example, at some point, the late President Mandela of South Africa challenged the country's academy of sciences to inspire the country's youth to seek careers in science, engineering, and technology. Moreover, some African academies such as the Ugandan National Academy of Sciences (UNAS) view science

¹ “李约瑟问题”或“李约瑟难题”，也被误称为“李约瑟悖论”，是指乔瑟芬·李约瑟（1900-1995）在研究了大量的中国科学文明史后提出的引导问题，在他的很多其他著作中也有提及。他说道，“根本的问题（是）：为何现代科学没有在中国文明（或印度）得到发展，而仅仅在欧洲出现。”

education as the single most important activity in which an academy of sciences can be involved, while some Asian academies of sciences are quite active in the domain of science education, such as the Academy of Sciences Malaysia. The Islamic World Academy of Sciences (IAS) has long realised that an inextricable link exists between the well-being of science and science education in societies, and a certain level of appreciation of the history of science, particularly in the Islamic context. This is why it has paid attention to cultivating a culture of science appreciation internationally by organising a series of conferences on the subject.

World civilisations have been/are interdependent. The scientific enterprise is a trans-civilisational phenomenon and science has historically flowed from one civilisation (normally the more advanced) to another. So have forms of science institutionalisation such as academies and academy-type institutions. Within this framework, science has flowed from the Greeks to the Arabs and Muslims where it was embraced, assimilated and revamped. It was then transmitted into Europe over centuries contributing in no small part eventually to the Industrial Revolution. Over the last two centuries, it has been slowly finding its way back from Europe and the West into the Islamic and Developing worlds through contact with colonial powers. Yet, because the Islamic milieu that encouraged innovation and creativity in science was/is but a distant memory, S&T today are not viewed by many as a tool of might and affluence. This absence of innovation culture and the prevalence of a spirit of apathy and submissiveness to destiny are partly due to the incorrect interpretation of certain aspects of faith. This is one area where ‘science education’ can help.

In my talk, I will also argue for an alternative answer to Needham’s Grand Question², ‘Why did Modern Science develop in Europe and not elsewhere (in China or India)?’ I will propose that because scientific knowledge is progressive and accumulative across civilisations, the paradigm shift in science as manifested by the ‘Scientific Revolution’ had to happen eventually, and eventually it did, not in China, India or the Islamic world, but in Europe. In other words, I am looking at the history of science within the context of the history of humanity as a whole, in the process acknowledging the contribution of the Chinese and Islamic civilisations in the making of modern science. In doing so, I am taking Arun Bala’s argument³ that ‘traditional cultures (Chinese, Arab and Indian civilisations) deserve praise for making discoveries that contributed to modern science, even if they assumed the blame for failing to reach modern science,’ further, and basing my argument on a universal rather than a Eurocentric hypothesis.

I will also argue for the need to adopt the tools of science, technology and innovation (STI) and global scientific cooperation to address some of the major challenges facing humanity in the 21st century. These include: water, energy, health, agriculture, biodiversity, increasing income, building human civilization and world peace; fairly adequately encapsulated in the Sustainable Development Goals (SDGs), officially known as Transforming our world: the 2030 Agenda for Sustainable Development is a set of 17 ‘Global Goals’ with 169 targets between them.

2 The “Needham Question” or “Needham Problem,” also misleadingly called “the Needham Paradox,” refers to the guiding question behind Joseph Needham’s (b. 1900–d. 1995) massive *Science and Civilisation in China*, as well as his many other publications. As he phrased it, “the essential problem [is] why modern science had not developed in Chinese civilization (or Indian) but only in Europe.”

“一带一路”的科学教育交流与合作

李晓亮

中国青少年科技辅导员协会常务副理事长

摘要

2013年,中国政府提出共建“丝绸之路经济带”和“21世纪海上丝绸之路”(即“一带一路”)的倡议,希望继承“和平合作、开放包容、互学互鉴、互利共赢”的丝绸之路精神,秉持共商、共建、共享原则,与各国携手发展,应对全人类面前的严峻挑战,不断朝着人类命运共同体方向迈进。推动青少年科技教育,提升未来劳动者的科学素质和培养科技创新后备人才,对于“一带一路”沿线国家经济社会发展、应对未来挑战具有重要的战略意义。“一带一路”倡议为推动沿线国家开展青少年科技教育交流与合作提供了重要的契机和平台。中国在过去的20年中,通过国家政策支持、组织动员科技界和教育界的合作以及推动科技教育的国际交流与社会资源整合等策略,在发展科技教育、提高青少年科学素养提高方面,进行了积极的实践,并积累了丰富的经验。未来,中国将在“一带一路”倡议的框架指导下,推动区域多边科技教育交流与合作,为提升青少年科学素质和人才培养作出积极的贡献。

Science Education Exchange and Cooperation along “The Belt and Road”

Li Xiaoliang

Executive Vice President of China Association of Children’s Science Instructors

Abstract:

In 2013, the Chinese Government advocated for building the “Silk Road Economic Belt” and the “21st Century Maritime Silk Road” (i.e., “The Belt and Road” Initiative), with a view to carrying forward the Silk Road Spirit of “Peace and Cooperation, Openness and Inclusiveness, Mutual Learning and Mutual Benefit”, upholding the principle of joint discussion, co-construction and sharing, joining hands with the rest of the world for common development, responding to the serious challenges facing all people, and constantly going ahead towards the direction of “Community of Shared Destiny”. Promoting children’s science and technology education, improving future laborers’ scientific quality and cultivating scientific and technological innovation reserve talents are important strategic significances to contribute to economic and social development of countries along “The Belt and Road” and address the future challenges. “The Belt and Road” Initiative provides an important opportunity and platform to facilitate children’s science and technology education exchange and cooperation in countries along “The Belt and Road”. In the past two decades, China makes active practice in developing science and technology education and improving children’s scientific literacy, and gains a wealth of experience through providing national policy support, calling for cooperation between science and technology circles and education circles, promoting international exchange on science and technology education, impelling integration of social resources and other strategies. In the future, under the guidance of the great framework of “The Belt and Road” Initiative, China will make progress in regional multilateral science and technology exchange and cooperation, and make positive contributions to children’s scientific quality improvement and talent cultivation.

主旨报告人 Keynote Speakers



李怡章拿督，马来西亚

李怡章拿督是联合国教科文组织赞助的南南合作国际科学技术与创新中心 (ISTIC-吉隆坡) 管理委员会的马来西亚名誉主席、马来西亚国家科学与研究委员会成员、联合国宽带委员会委员、吉隆坡建设大学副校监、国际科学院组织科学教育项目 (IAP SEP) 全球委员会主席、“创新发展规模化 OECD 奖”的评委团成员、马来西亚国家能源大学 (UNITEN) 能源政策与研究学会 (IEPRE) 理事会前主席、UNITEN 客座教授、MIGHT 国际组织顾问、全球科学与创新咨询委员会 (GSIAC) 成员、马来西亚联合国可持续发展方案联盟 (SDSN) 副主席、国际青年专家基金会前赞助人、加拿大“无国界工程师”国际咨询委员会成员、

马来西亚 - 澳大利亚基金会负责人以及英国技术学会、英国土木工程师学会、澳大利亚工程师协会、缅甸工程师学会和毛里求斯工程师协会荣誉院士。

他曾担任马来西亚工程师学会主席，是该学会的杰出荣誉院士。同时，李怡章拿督也是马来西亚工程师委员会和马来西亚建筑师委员会成员、联邦工程师理事会 (CEC) 前执行主席和现任荣誉主席、2003 年 -2005 年担任世界工程组织联合会 (WFEO) 首任亚洲主席、2000 年 -2006 年代表 WFEO 担任联合国可持续发展委员会大型组织“国际科学技术共同体”的联合主席、2002 年出席在约翰内斯堡召开的联合国全球可持续发展峰会、2005 年出席在突尼斯召开的信息化学会全球峰会。2002 年 -2005 年，他出任联合国千禧年计划“科学、技术与创新”工作小组的联合组长、英国消除贫困工程师受托管理委员会成员、2006 年 -2008 年哥伦比亚大学地球研究所可持续发展项目国际教育委员会成员、加拿大重大挑战国际咨询委员会成员以及肯尼亚全国经济社会理事会成员。

1961 年 -1979 年，李怡章拿督在国家电力委员会工作。1980 年 -2002 年，他创办 TenagaEwbankPreece 公司并出任 CEO，该组织即是后来的 KTA Tenaga。随后，他成为英国 EwbankPreece Consulting Group 公司的合作伙伴、2000 年 -2008 年担任 UMW Holdings Berhad 公司的董事长、2005 年 -2009 年担任马来西亚能源委员会理事以及马来西亚 BadanWarisan (马来西亚遗产组织) 理事会委员。

李怡章拿督也是马来西亚科学院的筹办秘书长和高级研究员、ASEAN 工程技术学会的创始人和主席、澳大利亚技术科学和工程院外籍院士以及泛美工程学会外籍院士。2001 年 -2004 年，他担任全球科技学会国际科学院理事会 (IAC) 的创立理事。2008 年 -2009 年，他出任 IAC 可持续能源联合主席的特别顾问，并且于 2006 年 -2007 年，担任马来西亚科学、技术与创新部长的顾问。

此外，李怡章拿督还曾与他人合著 2005 年联合国千禧年计划：科学技术和创新工作小组研究报告《创新：发挥知识的力量促进发展》。2010 年 9 月，他出版了自传《马来西亚思考，全球行动》。他曾经荣获韩国“蒋英实国际科学与文化奖”、DPMP 和 KMN 马来西亚国家奖以及澳大利亚勋章 (AO) 的荣誉长官奖。

Dato' Ir. Dr. Lee Yee Cheong, Malaysian

Academician Dato' Ir. (Dr.) Lee Yee Cheong, BE Hons (Adelaide), Hon. Doc Eng (UNITEN), DPMP, KMN, AO,

Dato' Lee is the Malaysian Honorary Chairman, Governing Council, International Science Technology and Innovation Centre for South-South Cooperation under the auspices of UNESCO (ISTIC), Kuala Lumpur; Commissioner of the UN Broadband Commission, Member of the National Science and Research Council, Malaysia; Pro-Chancellor, Infrastructure University Kuala Lumpur; Chairman Global Council InterAcademy Partnership (IAP) Science Education Program; Jury member of "OECD Award for Taking Innovative Development to Scale"; former Chairman of Governing Board, the Institute of Energy Policy and Research (IEPRE), University Tenaga Malaysia (UNITEN); Adjunct Professor of UNITEN; Advisor to MIGHT International; Member of Global Science Innovation Advisory Council (GSIAC); Vice Chairman, UN Sustainable Development Solution Network (SDSN) Malaysia; former Patron of the International Young Professionals Foundation; former Member of the International Advisory Board of "Engineers Without Borders" Canada; Director of Malaysia Australia Foundation and Honorary Fellow of the Institution of Engineering and Technology, UK, the Institution of Civil Engineers, UK, Engineers Australia, Myanmar Engineering Society and the Institution of Engineers, Mauritius.

He was President and now Distinguished Honorary Fellow of the Institution of Engineers Malaysia; Member of the Board of Engineers Malaysia and the Board of Architects Malaysia; Chairman and now Honorary President of Commonwealth Engineers Council (CEC); the first Asian President of the World Federation of Engineering Organisations (WFEO) 2003-2005; He represented WFEO as Co-chair of the "International Science and Technology Community" Major Group of UN Commission on Sustainable Development 2000-2006 and attended UN World Summit on Sustainable Development Jo'burg 2002 and World Summit on Information Societies Tunis 2005. He was Co-chair of Task Force "Science, Technology and Innovation" of the United Nations Millennium Project 2002-2005; Member of the Board of Trustees of Engineers Against Poverty, U.K; Member of the International Commission for Education for Sustainable Development Practice, Earth Institute, Columbia University 2006-2008; Member of International Advisory Board of Grand Challenges Canada and Member of the National Economic and Social Council Kenya.

He served with the National Electricity Board, 1961-1979. He then founded and was CEO of Tenaga Ewbank Preece and later KTA Tenaga 1980-2002. He became a Partner of Ewbank Preece Consulting Group, UK; He was a Board Director of UMW Holdings Berhad 2000-2008; a Commissioner of the Energy Commission of Malaysia 2005-2009; and a Council Member of Badan Warisan Malaysia (Heritage Organisation Malaysia), 2005-2009.

He is founding Secretary General and Senior Fellow of the Academy of Sciences Malaysia; the founder President of the ASEAN Academy of Engineering and Technology; Foreign Fellow of the Australian Academy of Technological Sciences and Engineering; and a Corresponding Member of the Pan-American Academy of Engineering. He served as a founding Board member of the InterAcademy Council (IAC) of the world's scientific academies 2001-2004. He served as Special Advisor to IAC Co-Chair on Sustainable Energy 2008-2009 and

Advisor to the Minister of Science, Technology and Innovation Malaysia 2006-2007.

He was Co-author of the UN Millennium Project Science Technology and Innovation Task Force Study Report "Innovation: Applying Knowledge in Development", 2005. He published his autobiography "Think Malaysia, Act Global" September 2010. He was awarded the Jang YoungSil Grand International Science and Culture Prize, Korea; the Malaysian State Awards of DPMP and KMN and the Honorary Officer in the Order of Australia (AO).

孙小淳教授，中国



中国科学院大学人文学院常务副院长、教授。1984年获南京大学天文学系学士学位，1989年获南京大学天文学系硕士学位，1993年获中国科学院自然科学史研究理学（自然科学史）博士学位，2007年获美国宾夕法尼亚大学哲学博士学位。2004年入选中国科学院“百人计划”。从事天文学史研究，著有《中国汉代星空》(The Chinese Sky During the Han)及多篇学术论文。现任国际哲学与人文科学理事会(CIPSH)执委，国际科学技术史学会(DHST)执委，国际天文学联合会(IAU)天文学史专业委员会主席、中国科学技术史学会理事长等职。2016年孙小淳当选为国际科学史学院(IAHS)院士。

Prof. SUN Xiaochun, China

SUN Xiaochun is Professor and Acting Dean of School of Humanities, University of Chinese Academy of Sciences. He received his Ph.D. in History of Astronomy from the Chinese Academy of Sciences in 1993 and his second Ph.D. in History and Sociology of Science from the University of Pennsylvania in 2007. His co-authored book The Chinese Sky during the Han (Leiden: Brill, 1997) presents a reconstruction of the Chinese Constellations based on the study of the earliest Chinese star catalogue (ca. 100 BC), which is comparable in its historical significance to that of Ptolemy of the Greek. He has published extensively on the history of Chinese astronomy, including more than 60 articles and several co-edited volumes on the subject. Currently he serves as President of Chinese Society for the History of Science and Technology, President of History of Astronomy Commission of International Astronomical Union (IAU), Assessor of International Union of History and Philosophy of Science and Technology/ Division of History of Science and Technology (IUHPST/DHST), and of International Council for Philosophy and Human Sciences (CIPSH). He is the Executive Dean of School of Humanities, University of Chinese Academy of Sciences (UCAS). He is an Effective Member of the International Academy of History of Science (IAHS).



Moneef R. Zou'Bi 博士，约旦

伊斯兰世界科学院 (IAS) 执行主任。

三十年来，Moneef R. Zou'Bi 博士一直致力于提倡运用科学和技术推动社会发展。他出生于约旦安曼，1980年-1987年，他于英国的布莱顿大学和拉夫堡大学，分别取得土木工程技术与管理学士学位和硕士学位。在涉足全球发展问题后，Moneef 博士成功在马来西亚大学科学技术研究部获得职位。

1990年，Moneef 博士进入伊斯兰世界科学院 (IAS)，从事涉及超过 57 个国家的国际科技合作工作，该组织是一家总部位于约旦并隶属伊斯兰合作组织的国际科技非政府组织 (NGO)。1998年5月，在 IAS 担任不同职位后，获

IAS 理事会任命为 IAS 总干事。摩尼 Moneef 博士同时也在国际行动理事会 (IAC) 担任科学顾问一职，该理事会是借助一些政治家（这些政治家都在各自国家担任显要职位）的经验和国际关系采取行动的独立国际组织。Moneef 博士也担任发展中国家工程技术院创始院士，该组织总部位于马来西亚吉隆坡。

在过去三十年间，Moneef 博士参与了 30 多个国家的科研项目。自九十年代中期起，他便致力于在各个层面倡导科学和创新，推动科学学会作为变革助推器，加强全球范围内科学、技术和发展的紧密结合，并消除不同国家、文化和文明之间存在的政治分歧。

Moneef 博士针对科学和技术问题、科学教育和可持续发展以及从中东角度看待水资源问题，著有大量作品，并就前述话题在超过 25 个国家（包括加拿大和美国）发表主题演讲。他曾出版 60 多部作品，主编和联合主编 10 本书籍，内容涉及高等教育、环境以及转换技术领域。2010年，他与其他人员共同著作了划时代的《2010年 UNESCO 科学报告》中的阿拉伯国家章节部分，成功预见中东阿拉伯之春及其相关动荡的出现。2015年，他再次受命作为第一作者，撰写《2015年 UNESCO 科学报告》的阿拉伯国家章节部分。

除了本职工作，Moneef 博士还涉足中东历史和政治、科学历史（特别是科学学会的历史）、科学和宗教关系、科学外交以及发展中国家的可持续发展和水资源问题。

Moneef 博士曾访问过 60 多个国家，并与大部分国家的高层保持密切联系；他会说阿拉伯语、英语和一些法语，是许多国际组织的成员，包括马来西亚 UNESCO 科学、技术和创新南南合作国际中心、纽约科学学会、世界艺术与科学学会和欧洲科学技术研究协会。自 2007 年起，Moneef 博士担任发展中国家工程技术学会 (AETDEW) 创始院士，该组织总部位于马来西亚吉隆坡；自 2009 年，他担任伊斯兰世界科学院院士 (Ex-Officio)；自 2011 年起，摩尼 (Moneef) 博士还出任穆斯林科学院顾问委员会成员；自 2013 年，担任美国科学促进会 (AAAS) 的成员。

Dr. Moneef R. Zou'Bi, Jordan.

SCIENCE FOR PEACE AND PROSPERITY AT THE GLOBAL LEVEL

Dr Moneef R. Zou'bi has been an advocate of Science and Technology for Development for around 30 years.

Born in Amman, Jordan, he studied for his undergraduate and postgraduate degrees in Civil Engineering Technology and Management at Brighton and Loughborough Universities in the United Kingdom, 1980 - 1987. After becoming involved in global development issues, he successfully pursued further post-graduate work at the Department of Science and Technology Studies at the University of Malaya.

Moneef joined the Islamic World Academy of Sciences (IAS) (an international scientific NGO based in Jordan and affiliated to the Organisation of Islamic Co-operation (OIC)) in 1990, embarking on a career in international scientific and technological collaboration involving more than 57 countries. After serving in various capacities at the IAS, he was appointed by the IAS Council as Director General, IAS, in May 1998. He also serves as the Science Advisor to the Interaction Council (IAC) which is an independent international organization that mobilizes the experience and international contacts of a group of statesmen who have held the highest office in their own countries. He is also a Founding Fellow of the Academy of Engineering and Technology for the Developing World (AETDEW), based in Kuala Lumpur (Malaysia).

Over the last three decades, he has been involved in scientific missions in more than 30 countries. He has, since the mid-1990s, devoted all his energies to science and innovation advocacy at all levels, and to promoting the role of academies of sciences as agents of change engaged in bridging scientific and technological, development, and even political divides between countries, cultures and civilizations.

He has written extensively on science and technology issues, science education and sustainable development, as well as on water issues from a Middle Eastern perspective, and has given lectures on such topics in over 25 countries including Canada and the United States. He has published over 60 publications and edited and co-edited 10 books on topics such higher education, the environment as well transformational technologies. In 2010, he co-authored the ground-breaking Arab States Chapter of the 2010 UNESCO Science Report that foresaw the advent of the Arab Spring and the associated turmoil in the Middle East. In 2015, he was commissioned again to be lead author of the Arab States Chapter of the 2015 UNESCO Science Report.

Apart from his work-related interests, he is interested in the history and politics of the Middle East, the history of science especially the history of academies of sciences, the science and religion nexus, science diplomacy as well as sustainable development and water issues in the developing world.

Moneef has visited more than 60 countries and enjoys high-level contacts in most; he speaks Arabic, English and some French, and is a member of many international organizations including the UNESCO International Centre for South-South Co-operation in Science, Technology and Innovation (ISTIC), Malaysia; the New York Academy of Sciences; World Academy of Art and Science and the European Association for the Study of Science and Technology; and is a Founding Fellow, of the Academy of Engineering and Technology for the Developing World (AETDEW), based in Kuala Lumpur (Malaysia). He is also a member of the Advisory Committee of the Rosenberg International Water Forum, USA, since 2007; member (Ex-Officio) of the Council of the Islamic World Academy of Sciences, since 2009; member of the Advisory Board, Muslim-Science.Com, since 2011, and a member of the American Association for the Advancement of Science (AAAS), since 2013.



李晓亮，中国

中国青少年科技辅导员协会常务副理事长、中国教育学会校外教育分会副理事长，中国科协青少年科技中心原主任，中国科协第八届、第九届全国委员会委员。

长期从事青少年科技竞赛和科学普及活动的组织领导，组织实施了全国青少年科技创新大赛、“明天小小科学家”、全国青少年机器人竞赛、高校科学营、中学生英才计划、神州十号航天员太空授课等一系列品牌活动；多次牵头或参与组织中央领导同志参加的全国科普日北京主场活动、首都少年儿童“六一”儿童节等大型科普活动；还牵头组织了中法科技教育日、中美科学教师论坛、海峡两岸科学传播论坛等国际和港澳台科技教育交流活动。

长期致力于青少年科技教育事业和科技创新后备人才培养的研究，发表《对美国科学中心的认识和思考》、《科技竞赛活动对青少年科学教育的积极作用和影响》、《关于青少年科技竞赛活动在继承中创新、在创新中发展的思考》等多篇论文。

Mr. Li Xiaoliang, China

Li Xiaoliang, Executive Vice President of China Association of Children's Science Instructors, Vice Chairman of After-School Education Branch of Chinese Society of Education, former Director of Children & Youth Science Center of China Association for Science and Technology and a committee member of the 8th and 9th National Committee of China Association for Science and Technology.

As an organizer and executor of S & T competitions and science promotion campaigns for children and young people, he has organized and implemented a series of well-known activities such as China Adolescents Science & Technology Innovation Contest, Awarding Program for Future Scientists, Science Talent Program, China Adolescent Robotics Competition, Youth University Science Camp, National Space Science Activities for Adolescents; furthermore, he has organized many science popularization events such as National Science Day; in addition, he has also organized some S & T education activities and exchanges such as China-France Science Education Day, China-US Forum on Science Education, etc.

Being committed to the education of S & T for adolescents and the research of reserve talents for scientific and technological innovation for a long term, he has published numerous papers such as the Understanding and Thoughts of USA's Science Centers, Positive Effects and Impacts of Science and Technological Contests on the Scientific Education of Adolescents and Thoughts on the Innovations of Adolescents' Science and Technological Contests in Inheritance and the Development of That in Innovations.

会议代表 Participants



Mahmoud Amani Tehrani 博士, 伊朗

2013 年起担任伊朗教育部课程与教材开发办公室主任

受教育程度：

物理学学士（1988 年）- 德黑兰大学

教育规划专业硕士（1999 年）- 德黑兰教育管理与规划学院

社会科学硕士，研究方向为变革管理（2001 年、2002 年）- 西悉尼大学课程
研究博士（科学教育）

专业经验：

开发国家新科学课程

《1-8 年级科学教材》（合著）

《1-8 年级科学教材教师指南》（合著）

制作 15 个小学教师科学视频节目, 26 个小学生科学视频节目, 制作 3 个初中生视频节目, 标题为“科学是什么？”

Dr. Mahmoud Amani Tehrani, Iran

Current Position: General Director of Curriculum and Textbooks Development Office, since 2013, Ministry of Education

Educational Degrees:

B.S. in Physics (1988) – Tehran University

M. Ed in Educational Planning (1999) – Educational Management and planning College Tehran

Graduate Diploma in Social Sciences With major Studies in Change Management (2001, 2002), University of Western Sydney

PhD in Curriculum Studies (Science Education)

Professional Experiences:

Developing the new National Science Curriculum

Author of: Science Textbooks for grades 1-8 (with others)

Author of: Science Textbooks Teacher's Guides 1-8 (with others)

Producing 15 Video Programs for primary teacher about science

Producing 26 Video Programs for primary student about science

Producing 3 Video Programs for Lower Secondary Students titled “What is Science?”



Tasneem Anwar 博士, 巴基斯坦

Tasneem Anwar 博士是巴基斯坦阿加汗大学教育发展研究所助理教授。Anwar 博士从美国明尼苏达大学获得 STEM 教育系课程与教学专业博士学位。她的博士论文研究方向是通过基于设计的教师在线专业发展，探索科学、技术、工程和数学（STEM）在巴基斯坦的融合。Anwar 博士在巴基斯坦和美国明尼苏达的课程开发、实施和评估方面拥有丰富的工作经验。她曾担任过科学教师、教师培训导师和研究员，专注于通过培训和学习手段，在线下、线上以及社交环境中，推动 STEM 教师成为反思型实践者。

Dr. Tasneem Anwar, Pakistan

Assistant Professor at AKU-IED, Karachi, Pakistan. Dr Anwar has recently completed her PhD in Curriculum and Instruction in STEM Education from the University of Minnesota, USA. Her doctoral dissertation study, explores Science, Technology, Engineering, and Mathematics (STEM) integration in Pakistan through design-based online teacher professional development. Dr Anwar has a rich experience of working on curriculum development, implementation and evaluation both in Pakistan and Minnesota, USA. As a former science teacher, teacher educator and researcher, her work focuses around facilitating STEM teachers to become reflective practitioners through coaching and learning both in face to face and online, popular social networking environments.



Azim Malikov 博士, 乌兹别克斯坦

阿齐姆·马利科夫（Azim Malikov）博士，乌兹别克斯坦共和国科学院历史研究所人类学与人种学部门高级研究员，2001 到 2010 年间担任撒马尔罕州立大学乌兹别克斯坦史系助理教授。2010 至 2013 年间，成为马克斯·普朗克社会人类学研究所综合与冲突部门博士后研究员，并加入中亚工作组。其研究重点方向为中亚（特别是乌兹别克斯坦和哈萨克斯坦）伊斯兰教、种族划分、身份认同、文化变迁、城市研究（撒马尔罕史）、伊斯兰教圣地及宗教世系研究等。

2010 年 3 月，他成为马克斯·普朗克研究院综合与冲突部门博士后，并加入中亚工作组。在撒马尔罕州立大学（位于乌兹别克斯坦）学习后，他在该大学继续攻读历史社会学硕士及历史学博士，并在撒马尔罕州立大学担任教学工作，之后加入马克斯·普朗克社会人类学研究所。他是各国民族研究协会、中央欧亚研究学会（CESS）、国际人类学与民族学联合会、中国人类学民族学研究会成员。2003 年

1月至5月期间，作为访问学者前往哈佛大学（美国）戴维斯中心。2008年至2010年期间，担任乌兹别克斯坦历史学家协会撒马尔罕分会主席。另外，他在撒马尔罕历史问题，乌兹别克斯坦泽拉夫尚河流域人口的民族历史和身份问题，泽拉夫尚河流域的神庙和圣人崇拜问题上发表多篇文章。现在，他密切关注中亚加尼人的历史和身份转化，也是《国际现代人类学杂志》的编委会成员，该刊物由 Association Tunisienne d'Anthropologie 负责出版。

Dr. Azim Malikov, Republic of Uzbekistan

Dr. Azim Malikov is a senior research fellow at the Department of Anthropology and Ethnology of Institute of History of Academy of sciences of Republic of Uzbekistan. He was an Assistant professor (dotsent) at the Department of History of Uzbekistan at Samarkand State University in 2001-2010. In 2010-2013 he was post-doctoral fellow at the Department of Integration and Conflict of Max Planck institute for Social anthropology where he became member of the working group on Central Asia. His research interests focus on Islam, ethnicity and identity, cultural transformation, urban studies (history of Samarqand), Islamic shrines, sacred lineages in Central Asia (in particular Uzbekistan and Kazakhstan).

On March 2010 Azim Malikov joined the institute as a Max Planck post-doctoral fellow at the Department of Integration and Conflict where he became member of the working group on Central Asia. Having studied at the Samarkand State University (Uzbekistan), he holds a Master in History and Social Sciences from the Samarkand State University and a Doctoral degree in History. Before joining the Max Planck Institute for social anthropology in 2010, he held teaching positions at the Samarkand State University. He is member of the Association for the Study of Nationalities, Central Eurasian Studies Society (CESS), International union of anthropological and ethnological sciences, China union of International union of anthropological and ethnological sciences (CUAES). He was a visiting scholar at the Davis Centre from January 2003 to May 2003 in Harvard university (USA). From 2008 to 2010 he was a chair of the Samarkand branch of Society of historians of Uzbekistan. He is the author of several articles on ethnic history and identity of the population of the Zarafshan Valley, history of Samarqand, shrines and cult of saints in the Zarafshan Valley in Uzbekistan. Currently he is working on history and identity transformation of Khoja group in Central Asia. He is editorial board member of the "International journal for modern anthropology" publishing by: Association Tunisienne d'Anthropologie.



Cécile de Hosson 教授，法国

Cécile de Hosson 是法国巴黎第七大学物理教育研究领域的教授。她于 1994 年在巴黎北部一所中学担任物理和化学老师，自此便开启其职业生涯，她在该学校工作了 8 年。2002 年，她前往阿尔萨斯（法国东北部地名）IUFM（职前教师培训机构）担任理科教师的培训讲师，在此期间，她也攻读了物理教育研究博士学位，并于 2004 年通过毕业答辩。2006 年，Cécile de Hosson 在巴黎第七大学谋得职位，担任副教授职位并与其他人员共同创办了法国最大的科学教育研究团队 Laboratoire de Didactique André Revuz-LDAR，目前她是该团队的负责人（团队共有 77 名从事数学和科学教育研究的研究人员和博士研究生）。2011 年，她通过了督导研究（法国 HDR）资格认证答辩会。Cécile de Hosson 教授的研究涉及利用科学历史开展科学教学工作的支持条件，以及解决高等教育物理老师教学实践中遇到的问题。2012 年，Cécile de Hosson 教授作为科学教学和教师培训领域的专家，受到法国教育部邀请，加入并负责创办 Ecoles Supérieures du Professorat et de l'Éducation-ESPE 的团队。

除了管理工作，Cécile de Hosson 教授还负责物理教学、科学教育研究培训以及小学和中学职前教师 / 在职教师培训工作。2004 年，她加入 La Main à la Pâte 团队，致力于作为参与在法国国内召开的教师培训活动。Cécile de Hosson 教授还创作了众多教学论文和书籍，例如 2009 年她与科学史家 Ahmed Djebbar 和 La Main à la Pâte 团队负责人 David Jasmin 共同出版的《伊斯兰国家探索发现》，致力于发挥科学教育研究成果的积极作用。

2015 年，由于在科学教学和科学教育研究领域的突出贡献，Cécile de Hosson 教授获得 de Chevalier dans l'Ordre National du Mérite 勋章。

Prof. Cécile de Hosson, France

Cécile de Hosson is Full Professor in physics education research at the Université Paris Diderot – Paris 7. She begins her professional career in 1994 as a secondary school teacher in physics and chemistry in the northern part of Paris where she stays 8 years. In 2002 she enters the IUFM of Alsace (institut for preservice teachers' training) as a teachers' trainer in science, while preparing a PhD in physics education research that she defends in 2004. She obtains an Associate Professor position at Paris 7 university in 2006 and participates in the creation of the biggest science education research team in France, the Laboratoire de Didactique André Revuz, - LDAR, that she is the head of today (77 researchers and PhD students in mathematics and science education research). In 2011, she defends her Accreditation to Supervise Research (French HDR). Her researches deal with the conditions that support relevant uses of history of science for science teaching; they also address physics teachers' pedagogical practices in higher education. Her expertise of science teaching and teachers' training issues makes her participate, in 2012, in the group responsible for the creation of the Ecoles Supérieures du Professorat et de l'Éducation – ESPE, at the French Ministry of Education.

Besides the management activities she carries out, Cécile de Hosson shares her time between physics teaching, training in science education research, and pre/in service teachers' training in primary and secondary school. In this capacity, she joins in 2004, the La Main à la Pâte team, in order to participate, as an associate member, in training activities for teachers' trainers in France and abroad. In order to make results coming from science education results useful, Cécile de Hosson is the author of several pedagogical papers and books such as Discoveries in Islamic countries, that she publishes in 2009 with the historian of science Ahmed Djebbar and David Jasmin, head of La Main à la Pâte team.

In 2015, Cécile de Hosson receives the insignes de Chevalier dans l'Ordre National du Mérite for her commitment to science teaching and research in science education.



Farzin Rezaeian 博士，伊朗

Farzin Rezaeian 是广受赞誉的纪录片和教育片制作人兼导演。他曾于芝加哥伊利诺伊大学主修社会学、政治学和通信专业，随后在伊朗艺术和文化领域进行深造学习。

在过去二十年，Rezaeian 博士在 Sunrise Visual Innovations 公司导演或制作了 50 多部教育片和纪录片，在此期间，他开展了大量研究工作，并撰写了很多文章。

他曾创作并出版了 7 本书以及相关 DVD。这些配有大量插图的书籍有强烈的教育意义。这 7 本书为：《伊朗：一种文化的七个面孔》、《重建斯波利斯宫殿》、《令人称奇的伊斯法罕》、《重现帕萨尔加德：伟大的赛勒斯》、《伊朗 UNESCO 世界文化遗产》、《伴着春风，探索伊朗》和《伊朗工程上下五千年历史》。

Dr. Farzin Rezaeian, Iran

Farzin Rezaeian is an award-winning documentary and educational film producer and director. He studied sociology, political science and communications at the University of Illinois in Chicago and then continued his studies in Iranian arts and civilization.

For the past twenty years, Dr. Rezaeian has researched and written for over 50 educational and documentary films that he has personally produced or directed at Sunrise Visual Innovations.

He has authored seven books with accompanying DVDs. These lavishly illustrated books which incorporate transparent overlays for invigorating educational purposes include:

1. Iran: Seven Faces of a Civilization

2. Persepolis Recreated
3. Incredible Isfahan
4. Recreatin Pasargadae: Cyrus the Great's Paradise
5. The UNESCO World Heritage Sites of Iran
6. Exploring Iran with the Spring Wind
7. 5000 Years of Iranian Engineering

R. Indarjani 博士，印度尼西亚



R. INDARJANI 博士，南澳大利亚阿德莱德大学海洋生物学博士，印度尼西亚万隆理科教师和教育人才素质提高 (QITEP) SEAMEO 区域中心项目副总监。(QITEP) SEAMEO 区域中心致力于通过多样化创新型培训和研习会推动探究式科学教育 (IBSE) 的发展，实现在区域内创造教学资源、开办教育讲座和学术会议以及建立专业社区学习模式的目标。她于 2015 年推动印度尼西亚共和国文化部长以官方名义正式召开以 IBSE 为主题的高水平政策论坛。她努力推动 IBSE 的发展使之得到国家政策层面的重视，并获得政府承诺——在全印尼范围内通过科学教育和学习方式推广 IBSE。在担任 SEAMEO 区域中心项目

副总监期间，R. INDARJANI 博士于 2013 年成功实施与澳大利亚政府联合开展的计划——PRAISE 计划，该计划为亚太地区的受培训老师举办国际创新科学教学和 IBSE 教学培训研讨会，该研讨会自 2013 年起即得到马来西亚和联合国教科文组织-ISTIC 以及法国 La main ala pate 基金会 (LAMAP) 的支持，并通过以可再生能源为主题的 STELR 培训研习会引进 STEM。上述研讨会自 2013 年起即得到澳大利亚技术科学与工程学院 (ATSE) 的支持 2015 年，她通过曼谷 SEAMEO 秘书处托管的科学及数学学院，采纳二十一世纪课程体系而实施了基于 ICT 项目的多年计划。2015 年 -2018 年，R. INDARJANI 博士作为印尼代表，担任国际科学院组织科学教育项目 (IAP SEP) 全球委员会成员。在此期间，国际科学院组织科学教育项目 (IAP SEP) 全球委员会主席和印尼科学院 (APII) 院长对其超过 20 年的丰富生物学教学经历及其在区域科学发展方面的贡献给予了高度评价。2017 年 -2020 年，她被选举担任发展中国家工程技术院 (AETDEW) 的创始院士。

Dr. R. Indarjani, Indonesia

R. Indarjani (Doctor of Philosophy in Marine Biology from the Adelaide University, South Australia) is Deputy Director for Program of SEAMEO Regional Center for Quality Improvement of Teacher and Education Personnel (QITEP) in Science, Bandung Indonesia. This institution has committed to promote Inquiry Based Science Education (IBSE) through various and innovative trainings and workshops, producing learning resources,

conducting education seminars and conferences and establishment of professional community learning in region. Her effort to promote the IBSE was also touch the policy level by defining IBSE as niche areas of the center and also conducting High Level Policy Forum on IBSE in 2015 that officially opened by the Minister of Education and Culture of Republic of Indonesia, request commitment to implement proper IBSE in a science teaching and learning process in national level. Through her role as Deputy Director of Program, she successfully conducted PRAISE in 2013, a joint project with Australian Government, run international innovative science teaching and learning training workshop on IBSE for teacher trainers of Asia Pacific that supported by ISTIC-Unesco, Malaysia and Foundation of La main ala pate Foundation (LAMAP), France since 2013 and also introduce STEM through STELR Training Workshop on Renewable Energy with supported by Australian Technological and Science Education (ATSE), since 2013. Currently (2015), she is conducting the multi years project on ICT-Based Program on Adopting 21st Curriculum through Science and Mathematics as mandated by SEAMEO Secretariat, Bangkok. For her long experience in education, more than 20 years as Biology lecturer, and her dedication in promoting science in region has been acknowledged by the Chairman of Global Council of Inter Academy Panel on Science Education Program (IAP-SEP) and endorsed by the President of Indonesian Academy of Sciences (API), to be a member of Global Council of International Academy Panel on Science Education Program (IAP-SEP) 2015-2018 as Indonesian representative. She also has been elected as a Founding Fellow of the Academy of Engineering and Technology for developing World (AETDEW) 2017-2020.



Ramasubramanian 教授, 印度

持有理论物理学博士学位、梵文硕士学位和工程学士学位。

目前,他在孟买印度理工学院担任教授,效力于梵文科学和技术机构、印度人类与社会科学部。

2003年,完成吠檀多不二论的严苛课程(14个学期计划)后,印度经院哲学家 Sri Sringeri Sharada Peetham 向他颁发了他梦寐以求的头衔“Vidvat Pravara”。

Ramasubramanian 教授是著名书籍《Ganita-yuktibhasha》和《Tantrasangraha》的作者之一,他负责编写详细注释。这两本书籍在数学和天文学领域,为培养了数位天文学家和数学家的喀拉拉邦(印度西南部)学校作出了极具深远意义的贡献。

2008年,印度总统向他授予著名的 Maharshi Badarayan Vyas Samman,以表彰其在融合传统与现代领域为印度作出的杰出贡献,包括其卓越的学术成就和研究成果。

Prof. Ramasubramanian, India

Prof. Ramasubramanian holds a doctorate in Theoretical Physics, a Bachelors in Engineering, and a Masters in Sanskrit.

Presently he is Professor at NT Bombay in the Cell for Indian Science and Technology in Sanskrit, Department of Humanities and Social Sciences.

For completing a rigorous course in Advaita Vedanta (a 14 semester program) he was honored with the coveted title “Vidvat Pravara” by the Shankaracharya of Sri Sringeri Sharada Peetham in the year 2003.

He is one of the authors who prepared detailed Explanatory Notes of the celebrated works Ganita-yuktibhasha (Rationales in Mathematical Astronomy) and Tantrasangraha which brings out the seminal contributions of the Kerala School of astronomers and mathematicians in the field of Mathematics and Astronomy.

In 2008, he was conferred the prestigious Maharshi Badarayan Vyas Samman by the President of India in recognition of his scholarship as well as the outstanding research work done by him to the process of synergy between modernity and tradition.



李秀菊博士, 中国

中国科普研究所副研究员

主要从事科学教育相关研究工作,特别关注校外科学教育领域,主持中国科协调查类课题、中国科协普及部委托课题等多项课题。在青少年科学素质测评、青少年创造性想象力测评、科学竞赛评估方面积累了丰富的经验。李秀菊博士 2016.12-2017.3 曾在伊利诺伊理工大学数学与科学教育系做访问学者。公开发表中英文学术论文近 40 篇,出版《中国科学教育发展报告 2015》、《青少年创造性想象力培养理论与实践》等多部著作。获“第三届全国未成年人思想道德建设先进工作者”称号。

Dr. Li Xiuju, China

Dr. Li Xiuju is working at China Research Institute for Science Popularization (CRISP) as a researcher. She has a Ph.D. in Education from Beijing Normal University in China. Dr. Li was a visiting scholar in MSED (Mathematics and Science Education Department) at IIT (Illinois Institute of Technology) from 2016.12 to 2017.3. she has engaged in measurement of youth's scientific literacy and young people learning science in the informal education settings. She also has been the principal investigators of over ten national and provincial research programs. She published nearly 40 papers in national and international journals and some research books in Chinese as well.



林长春教授，中国

重庆师范大学初等教育学院教授、院长，科学教育学、课程与教学论（化学）硕士生导师。中国青少年科技辅导员协会副理事长、中国教育学会科学教育分会副理事长、国家《3-6年级科学课程标准》（实验稿）修订专家组成员、第二届教育部基础教育课程教材专家工作委员会委员、重庆市儿童与教师教育研究中心重点人文基地主任、重庆师范大学科技教育与传播研究中心主任、重庆市教育学会科学教育专委会理事长、重庆市科普咨询专家库成员。主要从事科学教育理论、科学教师教育等方面的教学与研究工作。

Prof. Lin Changchun, China

The dean and professor of School of Primary Education, Chongqing Normal University. He is the master tutor for pedagogy of science, curriculum and instruction (Chemistry). He is mainly engaged in the teaching and research work on the theory of science education, science teacher education and other aspects. Position: Vice-Chairman of China Association of Children's Science Instructors; Vice-Chairman of Science Education Branch of China Education Association; Member of the group of experts on the revision of science curriculum standards for grades 3-6 (experimental manuscript); Member of the 2nd Ministry of Education Curriculum Materials Expert Working Committee; Director of Children and Teacher Education Research Center, the key humanity base in Chongqing; Director of Science and Technology Education and Communication Research Center of Chongqing Normal University; Chairman of Institute of Education Science of Chongqing Education Committee; Member of Experts of Popular Science Consultation in Chongqing.



林利琴，中国

北京师范大学教育学硕士

1998年起在中国科学技术学会科学技术普及部工作，2007年起在中国科协青少年科技中心工作，负责青少年科技竞赛和青少年科普活动的组织。目前担任中国青少年科技辅导员协会秘书长。

Ms. Lin Liqin, China

Educational Experience:

1995-1998 Beijing Normal University, Postgraduate Degree in Education

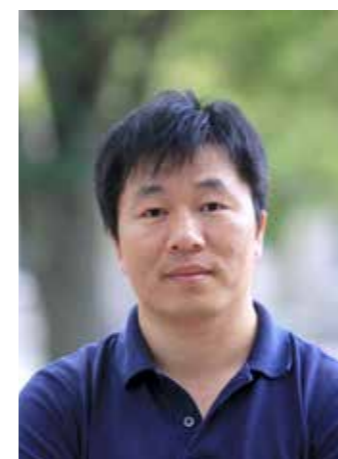
1991-1995 Anhui Normal University, Bachelor Degree in Education

Work Experience:

1998-2007 Science Popularization Department of China Association for Science and Technology;

2007-Now Children & Youth Science Center of China Association for Science and Technology

Mainly working on organizing national science contest and other popular science activities for young students



罗兴波博士，中国

中国科学院大学副教授，中国科学技术史学会副秘书长。主要研究方向为科学的社会研究、科学与文化的关系，以及中国近现代科技人物研究。

Dr. Luo Xingbo, China

Xingbo Luo, Associate Professor of University of Chinese Academy of Sciences, deputy secretary general of Chinese society for the history of science and technology, Visiting Research Fellow at Princeton University (2015-2016). Luo

received his PhD in History of Science from the Institute for the history of Natural Science, Chinese Academy of Sciences in 2008. His research interests focus on the social study of science, the relationship between science and culture, and research of modern Chinese prominent scientists.



罗星凯教授，中国

博士，广西师范大学科学教育研究所所长、物理科学与技术学院教授、桂林兴华科学教育研究院创始人兼理事长，兼任第二届国家基础教育课程教材专家工作委员会委员，教育部第二届教师教育课程资源专家委员会委员、教育部与中国科协全国高层次科普专门人才培养指导委员会委员、全国教育专业学位研究生教育指导委员会专家工作小组成员、中国教育学会科学教育分会常务副理事长、中国物理学会教学委员会委员等职。

1993年以来,作为第一完成人先后获高校优秀教学成果国家级二等奖1次、省级特等奖1次、省级一等奖3次,主持“科学探究”专题研究2006年获第三届全国教育科研优秀成果评选二等奖、2011年获全国基础教育课程改革教学研究成果二等奖。先后获全国模范教师、全国先进工作者、“八桂名师”等荣誉称号,2009荣获第五届高等学校教学名师奖。近年来致力于建设兴华科学技术教育协同创新平台,对接普通高中《通用技术》新课程创新实施、小学科学课程实施能力和校外场馆科学教育能力提升等重大需求,协同高校、中小学和科技场馆,开展以提升师资培养质量和科学技术类课程育人价值为主要内容的深度合作。

Prof. Luo Xingkai, China

Dr. LUO Xingkai is a professor in the Faculty of Physics & Technology and director in the Research Institute of Science Education at Guangxi Normal University in China where he has worked for pre-service and in-service science/physics teacher education since 1988. His research interests include scientific inquiry and promoting inquiry-based science learning by improving assessment and teacher education, developing innovative learning resources, especially thought-provoking hands-on experiments. He is currently leading his team working with 40 senior high schools trying to bring inquiry-based learning into reality of science and technology classroom.

Prof Luo served as a member of ICPE (the International Commission on Physics Education) from 2002 to 2008 and he is currently the vice standing president of the National Association for Science Education in China and the Education Committee Member of the Chinese Physics Society. He received many recognition including the “National Outstanding University Teacher Award” by China MOE in 2009.



El Tayeb Mustafa 博士, 苏丹

El Tayeb Mustafa 博士自 2011 年起即担任苏丹未来大学的校长,是前联合国教科文组织(UNESCO)科技政策与可持续发展部部长。

El Tayeb 博士于圣彼得堡(列宁格勒)矿业学院取得工程学位(理学荣誉学士学位),于法国波尔多第一大学获得硕士和博士学位。他的职业生涯开始于 1974 年,在苏丹地质勘察部担任采矿工程师/地球物理工程师。他的工作涉及地球物理学应用、土建工程、工程地质学以及苏丹不同区域的矿产资源勘探。

1976 年-1980 年期间,埃尔·塔伊布(El Tayeb)博士担任苏丹红海省的研究员,研究领域包括红海省中部的海洋地震波反射、航空重力、地磁测量以及浅水区地震勘探技术至深海研究的发展和变化

El Tayeb 博士加入联合国教科文组织,作为项目专家负责阿拉伯地区的科学研究和高等教育发展。1986 年,他出任教科文组织阿拉伯区域负责人,随后同时负责阿拉伯区域和南非区域事务。1989 年至 1996 年期间,埃尔·塔

伊布(El Tayeb)博士担任发展分析和运营部主管,负责联合国教科文组织摩洛哥、阿尔及利亚、利比亚、布隆迪、纳米比亚、伊拉克、也门、黎巴嫩等国家的工程人员。他也负责管理国家科学政策与战略的制定、大学和产业界的合作发展、非洲和阿拉伯国家高等教育机构和大学的评估。

1996 年至 2009 年期间,埃尔·塔伊布(El Tayeb)博士担任联合国教科文组织科技政策部部长,根据教科文组织要求,增强组织在该领域的的能力。他也在非洲、阿拉伯地区、亚洲、拉丁美洲和东欧地区 30 多个国家,领导政策制定工作。

El Tayeb 博士是苏丹国家科学院院士、阿拉伯国家科学院的创办院士、比利时皇家科学院外籍院士、负责生命保障系统百科全书的 UNESCO-EOLSS 联合委员会秘书。他也曾担任《UNESCO 世界科学报告》主编长达 10 年。

El Tayeb 博士也是中国国际研究与培训中心管理委员会成员、马来西亚吉隆坡科学、技术与创新领域南南合作国际中心管理委员会成员以及韩国大田市全球创新论坛组织委员会的成员。

Dr. El Tayeb Mustafa, Sudan

Dr. El Tayeb Mustafa, President of the Future University-Sudan since 2011, is the former Director of the Division for Science Policy & Sustainable Development at the United Nations Educational Scientific and Cultural Organization (UNESCO).

Dr. El Tayeb holds an Engineering Degree (B.Sc. Honors) from St. Petersburg (Leningrad) Mining Institute, a Master and a PhD from Bordeaux I University in France. He started his career in 1974 as a mining engineer/geophysicist at the Geological Survey Department of the Sudan. His work covered the utilization of geophysics to civil engineering works, engineering geology and the exploration of mineral resources in the various regions of the country. Between 1976 - 1980 he worked as a researcher in the Red Sea. His research covered areas such as marine seismic reflection, airborne gravity and magnetic surveys of the central Red Sea, development and adaptation of the shallow water seismic techniques to deep-sea research.

Dr. El Tayeb joined UNESCO in 1981 as a programme specialist in charge of the development of scientific research and higher education in the Arab region. 1986, Dr. El Tayeb assumed the post of the Chief of Section responsible for Arab States and then became responsible for both Arab States and Africa Sections. Between 1989 and 1996 he worked as the Chief of Development Analysis and Operations including faculties of engineering in countries such as: Morocco, Algeria, Libya, Burundi, Namibia, Iraq, Yemen, Lebanon, etc. he also supervised the formulating national science policies, strategies as well as the development of partnerships between universities and industries and the evaluation of higher education institutions and universities in Africa and the Arab States.

Between 1996 and 2009, Dr. El Tayeb was the Director of the Division of Science Policy and given the task of building UNESCO's capacity in this area. He also led the policy formulation exercises in more than 30 countries in Africa, Arab states, Asia, Latin America and Eastern Europe.

He is a member of the Sudanese National Academy of Sciences, a Founding Member of the Arab Academy of Sciences, a Corresponding Member of the Royal Academy of Science (Belgium), the Secretary of the UNESCO-EOLSS Joint Scientific Committee in Charge of the Encyclopedia of Life Support Systems. He also served for 10

years as Editor-in-Chief of the UNESCO World Science Report.

Dr. El Tayeb is also a member of the Governing Board of the International Research and Training Centre in China, a member of the Governing Board of the International Center for South-South Cooperation in Science, Technology and Innovation in Kuala Lumpur, Malaysia, and a member of the organizing committee for the Daejeon Global Innovation Forum, Korea..



Nor Zamani Binti Abdol Hamid 拿督, 马来西亚

马来西亚教育部学校管理部副主任。
课程开发与设计专业硕士学位 (2005 年)
教育专业学士学位：历史与英语方向 (1986 年)
东南历史系文学荣誉学士学位 (1985 年)

Datin Sri. Nor Zamani Binti Abdol Hamid, Malaysian

Deputy Director (Policy), School Management Division, Federal Government Administrative Centre Persekutuan.

Master Degree in Curriculum Design and Development (2005)

Diploma in Education, Option: History & English (1986)

First Degree in B.A (Hons) Department of South East History (1985)



Athar Osama 博士, 巴基斯坦

阿塔尔·乌萨马 (Athar Osama), 是科学与创新政策顾问、研究员, 巴基斯坦政府现任主要科学技术顾问之一, 同时也是规划委员会成员; 该委员会负责科学技术、信息通信技术及高等教育方面各项政策事宜。他创立了巴基斯坦创新基金会、世界科学合作有限责任公司 (World Science Collaborative Ltd) 及技术经济国际有限责任公司 (Technomics International Ltd), 并同时兼任首席执行官; 该公司总部设在英国, 从事政策研究与咨询工作。2010 年, 阿塔尔担任英国皇家学会顾问、穆斯林世界科学与创新研究巴基斯坦方面国家领导人。

阿塔尔率先为巴基斯坦政府编写了信息通信技术产业研究报告。在此之前, 他还担任 Angle Plc 中东与亚洲部门主管; 该公司总部位于英国, 是一家技术商业化咨询、管理与风险投资公司, 专门从事创新项目、人才育成以及欧洲、北美、中东等地研究园区建设工作。阿塔尔曾就巴基斯坦国内高等教育改革及穆斯林世界大学建设情况等问题撰文, 其著述两次被学界享有巨大声誉的《自然》杂志收录。他曾为亚洲、中东、欧洲、北美各地的数个国家政府提供顾问与建议咨询, 服务过的机构包括英国国际发展署 (DfiD)、亚洲开发银行 (ADB)、联合国 (UN)、伊斯兰会议组织 (The OIC)、碳信托基金 (The Carbon Trust)、英国皇家学会 (The Royal Society) 等。他还是纽约全球技术网络协会 (WTN) 成员、世界经济论坛 (WEF) 全球年轻领袖 (2013-2018)。阿塔尔持有加利福尼亚州圣莫妮卡帕迪兰德研究生院公共政策博士学位、及巴基斯坦空军学院航空工程学士学位, 并于巴基斯坦空军学院获得“荣誉之剑”奖。

Dr. Athar Osama, Pakistan

Science and innovation policy adviser and researcher and is currently of the leading S&T Policy Advisors to the Government of Pakistan as Member of the Planning Commission responsible for Science and Technology, ICT, and Higher Education. Athar is also the Founder and Chief Executive of Pakistan Innovation Foundation, World Science Collaborative Ltd, and Technomics International Ltd - a UK-based public policy research and consulting firm. In 2010, Athar was also Consultant to The Royal Society (United Kingdom) as the Country Lead for Pakistan for a Study of Science and Innovation in the Muslim World. Athar also wrote the first ICT Industry Study for Government of Pakistan. Prior to this, Athar was the Director of Middle East and Asia for Angle Plc. - a UK-based technology commercialization consulting, management, and venture capital firm that specialized innovation programmes, incubators, and research parks in Europe, North America, and the Middle East. He has published twice in the prestigious science journal Nature on Higher Education Reforms in Pakistan and the State of Universities in the Muslim World. Athar has advised and consulted for several state and national governments across Asia, Middle East, Europe, and North America and institutions like DfiD, ADB, UN, The OIC, The Carbon Trust, and The Royal Society, among others. Athar is the Fellow of the New York-based World Technology Network (WTN) and a Young Global Leader (2013-18) for the World Economic Forum (WEF). Athar graduated with a PhD in public policy from the Pardee RAND Graduate School in Santa Monica, CA and has a Bachelors degree in Aeronautical Engineering from Pakistan Airforce Academy where he won the coveted 'Sword of Honor'.



欧建成，中国

欧建成，1983年毕业于北京第二外国语学院，毕业后供职于中国科学技术馆至今，先后担任外事秘书、办公室主任、特效影视处处长、展览开发处处长、展览教育中心主任等职。目前任中国科技馆副馆长、中国自然科学博物馆协会秘书长（兼）和中国青少年辅导员协会副理事长（兼）。

入职之初，恰逢中国科技馆处于筹建的关键时期，先后参与了一、二期工程建设，主要负责国际交流和联络方面的工作。2006-2009年中国科技馆异地建设新馆期间，负责对接新馆内容建设国际顾问委员会工作，协助委员会以全球视野，积极贯彻实施中国科协领导提出的“放眼全球思维，立足本地行动”建设

理念。

1980年代中期，曾在山西吕梁地区教育学院任教一年；2005年，赴美国芝加哥大学，参加为期25周的公共管理专题培训；2009-2012年，参加中央党校在职研究生（中直班）行政法专业学习。

得益于长年深度参与中国科技馆“中国古代传统技术展览”在国外的巡展工作，并经常出席各类国际学术会议，欧建成在国际合作交流方面积累了丰富的经验，这些经验为其在诸如北美科技中心协会、亚太科技中心协会和世界科学中心峰会等国际科技传播领域发挥积极作用，奠定了坚实的基础。目前，还担任北美科技中心协会主要专业期刊《维度》杂志（中文版）主编。

Mr. Ou Jiancheng, China

Mr. Ou Jiancheng graduated from the Beijing International Studies University in 1983 and has since worked for China Science and Technology Museum (CSTM) in different capacities, i.e. foreign affairs secretary, director of the general office, manager of special-effect theaters, director of exhibition development, and director of exhibition education center etc. He now serves as deputy director-general of CSTM, secretary-general of the Chinese Association of Natural Science Museum and vice president of the China Association of Children's Science Instructors (CACSI).

Joining the museum when it was at a critical moment of its planning and preparations stage, he was involved in the museum's first phase and second phase construction, primarily in the area of international exchanges and liaison. When CSTM undertook the construction of its New Museum between 2006 and 2009, he worked as coordinator of ISAIC, the International Scientific Advisory Committee, which was in charge of the New Museum's exhibition content development from the global perspective and helped in a concrete way to translate the China Association for Science and Technology (CAST) leadership's conception of "thinking globally and acting locally" into reality.

In the mid-1980s, Mr. Ou Jiancheng also worked for one year as a lecturer at the Educational College of Luliang Prefecture in Shanxi Province; in 2005, he participated in a 25-week training course in public administration at

the University of Chicago, USA; between 2009 and 2012, he studied as a postgraduate student at the Party School of the Central Committee of the Communist Party of China, majoring in the science of administrative law.

Having been involved in depth and during a long period of time in the overseas tours of China: 7,000 Years of Discovery, one of CSTM's premium traveling exhibitions, as well as being a frequent participant in international academic conferences of various fields, Mr. Ou Jiancheng has accumulated enormous experience in terms of international exchanges and cooperation, which in turn has helped lay a solid foundation for his active role in the arena of international science communication, e.g. the Association of Science-Technology Centers (ASTC), the Asia Pacific Network of Science and Technology Centers (ASPAC) and the Science Center World Summit (SCWS). He is currently the editor-in-chief of the Chinese edition of ASTC's premier professional magazine Dimensions.



Khalil Raza 工程师，巴基斯坦

卡里尔·拉扎（Khalil Raza），工程师兼ECO科学基金会（ECOSF）科学主任，负责管理多项ECOSF项目，包括科学技术研究、特别是能源、水资源与气候变化领域研究的资金支持等。其负责的其他任务还包括管理ECOSF各资金支持项目的相关文件，以及确保资助决策与资助行为符合组织的资助政策原则等。

在加入ECO科学基金会前，卡里尔·拉扎先生曾担任联合国开发计划署顾问、协调员，负责巴基斯坦国内各项目的可持续能源使用事宜。在联合国开发计划署任职期间，卡里尔·拉扎先生曾与他人合著《关于可持续能源广泛使用的国家行动计划》一文。在此之前，他曾在巴基斯坦规划委员会担任职务，协助规

划委员会能源部门为巴基斯坦政府开发整合能源使用模式及规划工具。卡里尔先生曾被授予富布赖特奖学金，并获得美国俄亥俄州莱斯特州立大学可再生与清洁能源硕士学位。

Engr. Khalil Raza, Pakistan

Engr. Khalil Raza is working as a Scientific Officer at the ECO Science Foundation (ECOSF). He is managing multiple programs of the ECOSF that includes funding of scientific and technological research, especially in the area of energy, water and climate change. Other tasks include managing the portfolio of grants funded by the ECOSF and ensuring that funding decisions and actions are consistent with ECO Science Foundation policy.

Prior to joining the ECO Science Foundation, he worked at the United Nations Development Program (UNDP) as a Consultant & Coordinator for Sustainable Energy for All Program in Pakistan. During his attachment at the UNDP, Mr. Khalil co-authored the Country Action Plan on Sustainable Energy for All. Previously, he has worked

at the Planning Commission of Pakistan, where he assisted the Energy Wing of Planning Commission in the development of Integrated Energy Model and Planning tool for the Government of Pakistan. Mr. Khalil is a recipient of prestigious Fulbright Scholarship, and holds Masters in Renewable and Clean Energy from Wright State University, Ohio USA.



单亭, 中国

中国科学技术出版社（科学普及出版社）副总编辑，编审，中国科普作家协会会员、中国辞书协会编辑委员会委员。

单亭从事图书出版及国际版权贸易近 20 年，2001 年入职中国科学技术出版社，任国际版权部主任，2013 年任副总编辑兼国际出版合作部主任。多年来，单亭和他的团队策划编辑了数百种科普读物和学术专著，如“21 世纪科学教育书系”“全民科学素质行动计划纲要书系”“国外科学传播理论译丛”等。特别是从国外著名出版机构引进了《科学素养的导航图》、《美国新一代科学教育标准》《科学教育的原则和大概念》等 20 余种科学教育图书，深受读者喜爱。近

年来，单亭一直专注于国际间的出版合作和融合，与众多国外著名出版社建立了广泛的联系，在引进国外优秀图书的同时，积极向国外出版机构推介中国优秀科普读物和学术专著。

Mr. Shan Ting, China

Shan Ting, Deputy Editor-in-chief of China science and Technology Press (Popular Science Press), Senior Editor, the member of Chinese Science Writers Association, the member of Editorial Committee of China Dictionary Society.

Mr. Shan has been going in for books publishing and copyrights trade for nearly 20 years, and he and his team published hundreds of books on academic and popular science, such as Science Education Series for the 21st Century, Series of National Action Outline for Scientific Literacy, Translation Series of Foreign Science Communication Theories, etc. Mr Shan translated and published the valuable books on science education books, such as Atlas of Science Literacy, Next Generation Science Standards, Principles and Big Ideas of Science Education. In recent years, Mr. Shan has been concentrated on international publishing cooperation and amalgamation, and established wide contacts with many foreign counterparts. While looking for the outstanding books from foreign countries, he actively promote Chinese popular science and academic publications worldwide.



Manzoor Hussain Soomro 教授, 巴基斯坦

Manzoor Hussain Soomro 博士，法国教育棕榈军官勋章获得者，经济合作组织科学基金会主席。Soomro 博士曾获得金质奖章，巴基斯坦总统也向他授予过伟大领袖穆罕默德·阿里·真纳奖学金（Quaid-i-Azam Scholarship）。1987 年 Soomro 博士获得英国雷丁大学植物保护专业博士学位，在此期间连续三年蝉联英国 ORS 奖。

在长达三十几年的时间里，Soomro 博士担任过研究人员、教师、科学 & 研究管理人员，拥有极其丰富的经验。他也是两种主要植物病害诊断的先驱者，即

巴基斯坦九十年代早期遇到的马铃薯粉痂病和香蕉束顶病毒（BBTV）。此外，Soomro 博士当时还担任了国际香蕉改良网络（INIBAP）的亚太区域咨询委员会成员。1995 年，他曾参与巴基斯坦科学基金会（PSF）领导的基金会项目，为巴基斯坦学校的科学研究和科学普及提供资金支持。2000 年，Soomro 博士加入联合国粮食及农业组织，分别担任过农药政策分析和有害生物综合治理（IPM）项目的国家协调人 / 国家官员。2004 年 10 月，他实施了农民田间学校（FFS）计划。

Soomro 博士曾担任过 PSF 的首席科学家，作为创始人发起了美国支持的自然科学联动计划（NSLP），为农业研究提供资金支持。随后于 2008 年，他前往信德省 TandoJam 农业大学，担任植物保护专业教授。2009 年，他进入巴基斯坦自然历史博物馆，出任该博物馆总干事以及伊斯兰堡巴基斯坦科学技术信息中心总干事。2010 年 3 月，巴基斯坦政府任命他为 PSF 的校长，并一直担任该校校长至 2013 年 10 月。随后，Soomro 博士出任 ECO 科学基金会的创始主席。

在法国机构的合作与帮助下，Soomro 博士在巴基斯坦的学校发起了探究式科学教育（IBSE）计划和科学巡回博览会。鉴于他在促进巴基斯坦科学教育发展方面的突出贡献以及与法国的合作经历，2013 年法兰西共和国授予他“法国教育棕榈军官勋章”。巴基斯坦信德大学也为了表彰他对巴基斯坦特别是信德省科学、技术和教育发展作出的突出贡献，于 2013 年 12 月，授予他金质奖章。2014 年，Soomro 博士受命担任马来西亚 ISTIC 管理委员会成员以及国际科学院组织科学教育项目（IAP SEP）全球委员会成员。他拥有 6 项工业专利，并发表过 100 多篇作品，包括书籍、专著章节，这些作品都广泛用作巴基斯坦大学的教学材料。

Prof. Dr. Manzoor Hussain Soomro, Pakistan

Prof. Dr. Manzoor Hussain Soomro (Officer- Order of Academic Palms, France) is President of ECO Science Foundation (ECOSF), an Inter-governmental Specialized Agency of Economic Cooperation Organization (ECO) of 10 countries. He has a brilliant academic career with first positions & scholarships from primary school till PhD. He is Gold Medalist & winner of Quaid-i-Azam Scholarship for PhD from the President of Pakistan. He did Ph.D. in Crop Protection from the University of Reading- England in 1987 with UK's ORS Award for 3 consecutive

years.

Dr. Soomro has an experience of over 30 years as researcher, teacher and science & research manager. He pioneered the diagnosis of two major diseases viz., Powdery Scab of potato and Banana Bunchy Top Virus (BBTV) during early 1990s in Pakistan. He also served the then International Banana Network (INIBAP) as member of Advisory Committee for Asia & Pacific region. In 1995, he joined Pakistan Science Foundation (PSF) led Foundation's programmes for funding of scientific research and science popularization in schools across Pakistan. In 2000, he joined FAO of UN as National Coordinator/Country Officer for Pesticide policy Analysis and Integrated Pest Management (IPM) projects respectively, that he continued till Oct 2004 implementing the Farmer Field School (FFS) approach.

He has served PSF as Chief Scientific Officer and initiated the US-supported Natural Sciences Linkage Programme (NSLP) for research funding in Agriculture before joining Sindh Agriculture University Tandojam as Professor of Plant Protection in 2008. In 2009, he joined Pakistan Museum of Natural History as its Director General as well as DG Pakistan Scientific and Technological Information Centre Islamabad. In March 2010, Govt. of Pakistan assigned him the responsibility of Chairman, PSF which he continued till Oct. 2013. Since then he is serving ECO Science Foundation as its Founder President.

Dr. Soomro launched Inquiry Based Science Education (IBSE) program for schools in Pakistan in 2010 & Travelling Science Expos in collaboration with French Institutions. In recognition of his contributions for promotion of science education in Pakistan and cooperation with France, the French Republic bestowed upon him their erstwhile Award "Order of Academic Palms" and appointed him as "Officier" in 2013. It was in recognition of his contributions for promotion of science, technology and education in Pakistan, especially Sindh, that the University of Sindh awarded him a Gold Medal in Dec 2013. Dr. Soomro in 2014 has been appointed as Member of Governing Board of ISTIC Malaysia and member of Global Council of Science Education Programme (SEP) of the Inter-Academy Panel (IAP). He has to his credit, 6 industrial patents & over 100 publications including books & book chapters being taught in the Universities of Pakistan.



Muhammad Rafique Tahir, 巴基斯坦

Muhammad Rafique Tahir 先生是伊斯兰堡巴基斯坦政府联邦教育和专业培训部的高级官员，现担任联合教育顾问 / 联合秘书（教育领域）。他于 1987 年开始在教育领域从事相关工作，致力于提高巴基斯坦的教育水平和人们对教育的重视程度。目前，Muhammad Rafique Tahir 先生正在研究制定巴基斯坦国民教育课程 / 课程开发和国家教育政策。

Muhammad Rafique Tahir 先生曾经担任国民普通教务总监、科学和技术教育综合国家机构负责人、教务总监、联邦教育学院负责人等职位。他是国家幼儿教育

育协调负责人，目前担任 ECED 国家核心委员会主席。

Muhammad Rafique Tahir 先生接受过不同国家诸如泰国、马来西亚、印度尼西亚、挪威、白俄罗斯、德国、英国和美国等国家的幼儿教育发展（ECED）领域培训。他出席参加了国内外的不同课程和研讨会，包括在毛里求斯举办的“第 18 届联邦教育部长会议”以及在孟加拉国达卡举办的“第 11 届 E-9 部长级评审会”。

Mr. Muhammad Rafique Tahir, Pakistan

Mr. Muhammad Rafique Tahir is a senior officer of Ministry of Federal Education and Professional Training, Government of Pakistan, Islamabad and presently serving as Joint Educational Advisor / Joint Secretary (Education). He started his career in 1987 in education field and has passionate to prevail and improve education in the country. Presently, he is working on National Curriculum / Curriculum Development and National Education Policy.

2. During his career he served as Director General Education, Director General National Institute of Science and Technical Education, Director Education, Director Federal College of Education etc. He is a National Focal Point for Early Child Hood Education and at present he is Head of National Core Committee on ECED.

3. He received foreign trainings in the field of Early Child-hood Education Development (ECED) from different countries including Thailand, Malaysia, Indonesia, Norway, Belarus, Germany, U.K. and U.S.A. He attended several courses and seminars inland and abroad including 18th Conference of Commonwealth Education Ministers held in Mauritius, 11th E-9 Ministerial Review Meeting held at Dhaka, Bangladesh.

肖云教授，中国



肖云，正研级高工，享受国务院政府特殊津贴专家，中国科学院网络科普联盟秘书长，中科院计算机网络信息中心新媒体技术与应用发展部主任，国家新闻出版广电总局重点实验室“基于 AR/VR 呈现方式的知识服务科技重点实验室”主任，中国青少年科技辅导员协会常务理事，中国教育学会青少年创新思维教育研究中心副理事长，联合国教科文组织“数字创新、传输和出版”教席中国区委员等职务。

主要研究方向为基于信息技术的科学传播与教育的理念与实践研究，包括新媒体技术、科普资源共建共享理论机制研究、网络环境下的探究式学习系统原理和技术、虚拟博物馆建设技术与实践和交互式科学体验环境构建等。

Prof. Xiao Yun, China

XIAO Yun, professor, Awarded the 2016 Special Government Allowances of the State Council; Secretary General of Federation for Internet-based Public Science Education, CAS; Senior Engineer of Director of Division of New Media Technology & Application, CNIC, CAS; Director, S&T Key Laboratory of AR/VR-based Knowledge Service (key S&T laboratory of the press and publication industry of State Administration of Press, Publication, Radio, Film and Television); China Regional Committee of United Nations Educational; Scientific Vice President of Research Center of Teenager Innovative Thinking Education, The Chinese Society of Education and Cultural Organization “Digital Innovation, Transmission and Publishing”.

Main Research Direction: The Idea and Practice of Science Communication and Education Based on Information Technology, including new media technology, study on the theoretical mechanism of co-construction and sharing of popular science resources, the principle and technology of inquiry learning system in network environment, construction technology and practice of virtual museum and interactive science experience environment construction.



杨海燕副教授，中国

杨海燕的专业背景是生命科学、科学史与科学哲学，主要研究领域是全球史和跨国史视角下的生殖医学史和演化论史。已发表文章多篇，曾在剑桥大学、斯坦福大学访学。担任美国技术史学会的国际学者、英国科学史学会国际顾问委员会的成员、中国自然辩证法研究会医学哲学专业委员会青委会主委。

Dr. Yang Haiyan, China

With backgrounds in the life sciences and in history and philosophy of science, Dr. Yang's research focuses on the history of reproductive medicine and history of evolution, seen in global and transnational perspectives. She has published on the history of evolution in Victorian Britain and China, and on medical humanities education and history of medicine in China. She has held grants for research in Cambridge University, the University of Oklahoma and Stanford University. She is the International Scholar of SHOT, the member of International Advisory Board of BSHS, and the Chair of the Youth Committee for Chinese Society for Philosophy of Medicine.



叶兆宁副教授，中国

东南大学生物科学与医学工程学院副教授，中国科协“做中学”科学教育改革实验项目教学中心副主任，江苏汉博教育培训中心主任，中国教育学会科学教育分会理事。主要从事“做中学”科学教育改革实验项目、课内外探究式科学教育、STEM教育的推广和研究。主编人民教育出版社出版的《“做中学”项目系列案例集》，江苏凤凰科学技术出版社出版的《青少年STEM教育丛书》之《可穿戴的LED》和《炫酷小车制作》。2011年，作为研究成员（排名第二）获得教育部基础教育教学研究成果一等奖。主持并参与多项探究式科学教育研究课题，参与教育部小学科学学科课程标准的修订工作，国培计划小学科学学科课

程标准的制定。2010年以来连续6年作为项目负责人承担教育部师范司“国培计划”中科学学科的国家级教师培训，是教育部“国培计划”专家库成员。

Prof. Ye Zhaoning, China

Ye Zhaoning (B.S., Nanjing Normal University, China; M.Ed. Southeast University, China) is the associated professor of School of Biological Science & Medical Engineering in Southeast University, who also works in Key Laboratory of Child Development and Learning Science, Ministry of Education (MOE). Since 2006, she has engaged in “Learning by Doing” (LBD) Science Education Reform Pilot Program, a government supported program which promotes Hands-on Inquiry Based Learning and Teaching on Science and Technology in kindergartens and primary schools (age 5-12) in China. She is the vice director of Education Center for LBD Program (CAST) and the director of Thinktank: Handsbrain Education, a non-profit science education training institute. Being a curriculum developer, she is also the editor-in-chief of the book series, Teaching Guide of “Learning by Doing” Science Education Reform Program, which includes ten books on Inquiry-based Science Education for K-6, published by The People's Education Press. Besides, the Southeast University Press published her three teachers' guide books for kindergarten teachers and three science books for kids. From 2009 to present, she is the leader of the National Science Teacher Training Program, which is an integral part of the MOE directed National Teacher Training Program, a national level, large-scale, in-service training program for high level teachers and education trainers. She is also enlisted in the Expert Database of National Teacher Training Program (MOE). As a key member of the LBD program, she won the First Prize of National Curriculum Innovation Achievement Award in Basic Education, which was conferred by Ministry of Education in 2010.



A. Nuri Yurdusev 教授，土耳其

曾于土耳其和英国接受教育，目前是土耳其安卡拉中东技术大学国际关系学院教授。他曾经是英国牛津大学和日本关西大学的访问学者，主要研究方向包括国际关系学理论和历史、欧洲认同发展以及土耳其外交政策。2012年6月，Yurdusev教授被选举为土耳其科学院的正式成员，目前则担任该学院的副院长。他著有《国际关系与历史哲学：一种文明方式》（2003年，帕尔格雷夫麦克米伦出版社）一书，并担任《土耳其外交政策：常规手段或非正规手段？》（2004年，帕尔格雷夫麦克米伦出版社）的主编。Yurdusev教授曾撰写过许多会议报告、书籍和期刊文章。他在《千禧年：国际研究期刊》、《主要中东地区研究》、

《澳大利亚国际事务期刊》、《韩国防务分析杂志》、《经济外刊》、《Nomos》（日本）、《南亚和中东研究期刊》等刊物上都发表过文章。他也是世界艺术与科学学会的资深成员。

Prof. Dr. A. Nuri Yurdusev, Turkey

Educated in Turkey and England, Dr. Yurdusev is presently Professor of International Relations at the Middle East Technical University, Ankara, Turkey. He has been a Visiting Fellow at University of Oxford (United Kingdom) and University of Kansai (Japan). His research interests include the theory and history of international relations, the making of European identity and Ottoman diplomacy. Elected as a full member to the Turkish Academy of Sciences (TÜBA) in June 2012, Professor Yurdusev now serves as the Vice-President of the Academy. He is the author of *International Relations and the Philosophy of History: A Civilizational Approach* (Palgrave Macmillan, 2003) and the editor of *Ottoman Diplomacy: Conventional or Unconventional?* (Palgrave Macmillan, 2004). He has many conference presentations and publications as book contributions and journal articles. His articles have been published in international journals such as *Millennium: Journal of International Studies*, *Critical Middle Eastern Studies*, *Australian Journal of International Affairs*, *Korean Journal of Defense Analysis*, *Economia Exterior*, *Nomos* (Japan), *Journal of South Asian and Middle Eastern Studies*. Professor Yurdusev is a Fellow of the World Academy of Art and Science.



周建中，中国

中国科协“做中学”科学教育改革实验项目教学中心（东南大学）常务副主任，中国青少年科技辅导员协会常务理事，江苏省教育学会小学科学教学专业委员会副理事长。主要从事课内外探究式科学教育研究、实践和推广工作，主要包括：神经教育学视角下的科学教育评估研究、课内外科学教育教师培训和教育资源开发等。2005年开始参加教育部和中国科协的“做中学”科学教育改革实验项目的教师培训、课程资源开发和国际交流与合作等工作，参加“做中学”科学教育实验项目“内容标准”的研制工作，作为研究人员参加了国家义务教育阶段小学科学课程标准的修订工作。2009年开始持续参加教育部

国家级小学科学骨干培训者和骨干教师培训项目（国培计划）和12个省和自治区的小学科学教师培训工作。承担多项中国科协青少中心、科普部设立的科普教育活动资源开发项目。主持开发完成“设计与发现”、“青少年STEM教育项目”和“青少年科技竞赛活动”等三套科技教师培训课程，发表和翻译了30多篇科学教育的研究论文和译著。2014年12月，由于在青少年科技教育方面的工作和取得的成绩，当选全国优秀科技工作者。

Mr. Zhou Jianzhong, China

Deputy Director of Education Center (Southeast University) for LBD Science Education Reform Pilot Program, CAST, Executive Member of China Association of Children's Science Instructors, Vice President of Elementary School Science Teaching Committee, Jiangsu Society of Education. Mainly engaged formal and informal inquiry-based science education research, practice and promotion, including: the research on science education assessment under neuro-education perspective, the science education teacher training and educational resources development for formal and informal education. In 2005, participated in Learning by Doing Science Education Reform Pilot Program, initiated by MOE and CAST, took charge of teachers' training, teaching resources development and international exchange and cooperation, and attended the development of the "Content Standard" of LBD. As a researcher, took part in the revision of national science curriculum standards for primary school. From 2009, participated in the national training programs for primary school science teachers supported by MOE and MOF, and took a number of science activities development programs from CYSCC, CAST. Presided over the development of three sets of science instructor training courses, such as "Design and Discovery", "Teenager STEM Education Project" and "Teenager Science and Technology Competition Activities". Published and translated more than 30 science education research papers and books. On December 2014, due to the work in science education, was elected National Outstanding Scientific and Technological Workers.



祝贺，中国

祝贺女士是中国青少年科技辅导员协会副秘书长、中国科协青少年科技中心辅导员工作处副处长，也是《中国科技教育》杂志主编。她曾担任中国科协青少年科技中心项目主管，负责过多项全国青少年科技教育项目。2003年，她参加了“全民科学素质行动计划”制定工作领导小组办公室，作为前期研究项目的主要协调人。《全民科学素质行动计划纲要》于2006年由国务院正式颁布，为提高全民科学素质工作设定了目标。2010年，她加入中国青少年科技辅导员协会，开始致力于教师培训和为教师开发科学教育资源的工作。她从2013年开始成为国际科学院组织科学教育项目（IAP SEP）国际委员会成员。她从北京

大学获得法学硕士学位，从伦敦政治经济学院获得政治社会学硕士学位，并正在东南大学攻读神经信息工程的博士学位。

Ms. Zhu He, China

Ms. He ZHU is the Deputy Secretary General of China Association of Children's Science Instructors (CACSI) and also the Editor-in-Chief of China Science and Technology Education Journal which is published by CACSI. She started her career in Science Education as a project manager in Children and Youth Science Center of China Association for Science and Technology (CAST) and in charge of many national science education programs of CAST. In 2003, she joined the Leading Group for Drafting the National Scheme for Scientific Literacy as the chief coordinator of the research program for making the State policy document. The Outline of the Scheme was issued by the China State Council in 2006 which set the objectives to the improvement of scientific literacy for all Chinese citizens. In 2010, she joined the CACSI and has been devoting herself to the field of vocational training and development of science education teaching resources. She has been a member of the Global Council of IAP Science Education Programme (IAP SEP) since 2013. She got Master Degree in Law from Peking University and MSc in Political Sociology of London School of Economics and Political Science. And she is studying for her doctorate in Neural Information Engineering in Southeast University.

会务信息
Logistic Information

酒店信息：中国科技会堂

地址：北京市海淀区复兴路3号（木樨地桥西北角）

电话：

乘坐地铁1号线，木樨地站下，A出口

Hotel: China Hall of Science and Technology

Address: No.3 Fuxing Road, Haidian district

Telephone: 68518822

Transportation: Subway Line 1 to the Muxidi station, get out from Exit A



会议用餐安排

7月2日	晚餐	清真	一楼
		自助餐	一楼宴会厅
7月3日	午餐	清真	一楼
		自助餐	一楼宴会厅
	晚餐	招待晚宴	统一乘车前往鸿宾楼
7月4日	午餐	清真	一楼
		自助餐	一楼宴会厅
7月4日	晚餐	清真	一楼
		自助餐	一楼宴会厅

Dining Arrangement

Date		Type	Location
July 2	Supper	Muslim	1 st floor
		Buffet	Banquet Hall on the First Floor
July 3	Lunch	Muslim	1 st floor
		Buffet	Banquet Hall on the First Floor
	Supper	Reception Banquet	Outside the hotel
July 4	Lunch	Muslim	1 st floor
		Buffet	Banquet Hall on the First Floor
	Supper	Muslim	1 st floor
		Buffet	Banquet Hall on the First Floor

会务组联系人

会务联系人：中国国际科技会议中心 王蓉 15810847866
中国青少年科技辅导员协会 曾箴 13693595363

Contact Persons

Wang Rong 15810847866 from International Conference Center
Zeng Zheng 13693595363 from China Association of Children's Science Instructors

Tour

The Imperial Palace

Situated in the heart of Beijing, the Palace Museum is approached through the Gate of Heavenly Peace (Tian'an men). Immediately to the north of the Palace Museum is Prospect Hill (also called Coal Hill), while on the east and west are the Wangfujing and Zhongnanhai neighborhoods. Ancient China's astronomers endowed the location with cosmic significance. They correlated the emperor's abode, which they considered the pivot of the terrestrial world, with the Pole Star (Ziwei yuan)—believed to be the center of the heavens. Because of its centrality and restricted access, the palace was called the Forbidden City. It was built from 1406 to 1420 by the third emperor of the Ming dynasty, the Yongle Emperor (r. 1403-1420) who, upon usurping the throne, determined to move his capital northward from Nanjing to Beijing. Over 200 years later, the Ming dynasty fell to the Manchu Qing dynasty in 1644. Then, in 1911, the Qing were subsequently overthrown by republican revolutionaries. The last emperor, Puyi (who ruled from 1909 to 1911 under the reign name Xuantong), continued to live in the palace after his abdication until he was expelled in 1924. During nearly six hundred years of imperial operation, the palace served as the residence and court of twenty-four emperors.



The Summer Palace

The Summer Palace landscape, dominated mainly by Longevity Hill and Kunming Lake, covers an area of 3.08 square kilometers, three quarters of which is under water. Its 70,000 square meters of building space features a variety of palaces, gardens and other ancient-style architectural structures. Well known for its large and priceless collection of cultural relics, it was among the first group of historical and cultural heritage sites in China to be placed under special state protection.



The Summer Palace, originally named Qingyi Yuan or the Garden of Clear Ripples, was first constructed in 1750. It was razed to the ground by the Anglo-French Allied Forces in 1860. The Government of the Qing Dynasty

started to rebuild it in 1886 with funds that it had misappropriated from the Imperial Navy and other sources. Renamed two years later as Yihe Yuan or the Garden of Health and Harmony, it was supposed to serve as a summer resort for the Empress Dowager Cixi. Known also as the Summer Palace, it was ravaged by the Allied Forces of the Eight Powers that invaded China in 1900. The damage was repaired in 1902. Since the founding of the People's Republic of China, the Summer Palace has undergone several major renovations. Its major attractions such as the Four Great Regions, Suzhou Street, the Pavilion of Bright Scenery, the Hall of Serenity, the Wenchang Galleries and the Plowing and Weaving Scenery Area have been successively restored.

The Summer Palace is a monument to classical Chinese architecture, in terms of both garden design and construction. Borrowing scenes from surrounding landscapes, it radiates not only the grandeur of an imperial garden but also the beauty of nature in a seamless combination that best illustrates the guiding principle of traditional Chinese garden design: "The works of men should match the works of Heaven". In December 1998, UNESCO included the Summer Palace on its World Heritage List with the following comments: 1) The Summer Palace in Beijing is an outstanding expression of the creative art of Chinese landscape garden design, incorporating the works of humankind and nature in a harmonious whole; 2) The Summer Palace epitomizes the philosophy and practice of Chinese garden design, which played a key role in the development of this cultural form throughout the east; 3) The imperial Chinese garden, illustrated by the Summer Palace, is a potent symbol of one of the major world civilizations.

National Museum of China

The National Museum of China (NMC) is located at the east side of Tiananmen Square, opposite the Great Hall of the People. It was founded in February 2003, based on the merging of two previous museums, namely the National Museum of Chinese History and the National Museum of Chinese Revolution. NMC, an integrated national museum under the Ministry of Culture of China, draws equally from both history and art and is dedicated to its collections, exhibitions, research, archeology, public education and cultural communication. Its basic functions are collections of cultural relics and artworks, exhibitions, public education, history and art research and cultural communication.



The predecessor of the Museum of Chinese History was the Preparatory Office of the Museum of Chinese History, founded on July 9, 1912. Upon the founding of the People's Republic of China on Oct 1st, 1949, the museum was renamed the Beijing Museum of History, only to be renamed once again as the National Museum of Chinese History in 1959. The predecessor of the Museum of Chinese Revolution was the Preparatory Office of the National Revolution Museum, which was founded in March, 1950 and was given its current name ten years later. In August 1959, with the completion of a new building on the east side of Tiananmen Square, and

this housed both museums; it was acclaimed as one of the Ten Great Constructions built to celebrate the tenth anniversary of the People's Republic of China. On Oct 1st of that same year, the two museums opened to the public.

We hold leading within China, first-class externally as our main objective, people foremost as a principle of development, honest to reality, close to life, friendly to the people as a value, and talent, collection, academics and services as the key points in running the museum. It is of great importance to preserve, inherit, display, and develop the magnificent Chinese culture. Meanwhile, as the most important cultural and art institution in China, NMC not only displays China's outstanding civilization achievements, but also those of other parts of the world.

To support the public cultural service system and satisfy the learning needs of the community, we strive to promote the historical and cultural knowledge of the general public, in particular young people, while working to nurture civilization and facilitate life-long learning in the cultural sphere and in the classroom.

NMC plays an important role in displaying Chinese culture, cultivating national spirit; as such it is a world leader amongst museums in developing the field of cultural relics.

From March, 2007 to December, 2010, NMC carried out a project to expand the museum so that it now covers 192,000 square meters. Today NMC is the largest museum in the world, with first class facilities and capabilities. With more than forty halls, we have exhibitions of Ancient China and The Road to Rejuvenation on regular display and more than a dozen categories of display related to special exhibitions and international exchange exhibitions. Not only has the museum amassed five thousand years of Chinese art and cultural heritage, the museum itself attests to the long road to revival and provides high-quality exhibitions which reflect the fruits of this world civilization.

The Great Wall

The Great Wall, one of the greatest wonders of the world, was listed as a World Heritage by UNESCO in 1987. Just like a gigantic dragon, it winds up and down across deserts, grasslands, mountains and plateaus, stretching approximately 13,170 miles (21,196 kilometers) from east to west of China.

With a history of more than 2,000 years, some of the Great Wall sections are now in ruins or have disappeared. However, the Great Wall of China is still one of the most appealing attractions all around the world owing to its architectural grandeur and historical significance.



Beijing Ancient Observatory



Beijing Ancient Observatory lies beside the Jian Guo Men cloverleaf junction and was first built in 1442 in the Ming Dynasty (1368 - 1644). It holds 570 years history and was the national observatory in the Ming and Qing Dynasty. It is one of the oldest astronomical observatory in the world and was the national observatory at that time.

The main parts of Beijing Ancient Observatory are the platform, the astronomical instruments and the beautiful yard. It is about 14 meters high with 8 astronomical instruments made in Qing Dynasty. It is also famous for its intact and integrated instruments. The 8 instruments were equipped with western technology and Chinese local art design, and they can show us the exchange between the western and eastern. The designs of the instruments are the symbol of Chinese civilization showing in books and movies.

The yard of Beijing Ancient Observatory is a local Chinese “Si He Yuan”. To the north there is the purple hall. A tablet written by emperor “Qian Long” in the Qing dynasty showed in side the building: “Guan Xiang Show Shi”, means observing the movement of the stars and planets and then make the calendar. You will have imagination of concinnity and concision here.

The building and the yard of Beijing Ancient Observatory were built in Ming dynasty. After the Qing Dynasty moved its capital to Beijing in 1644, the observatory continued observing work. Following western missionary Johann Adam Schall von Bell’s advice, the Chinese began to use western computation standard and measuring system. Then during 1669-1674, following the order of Emperor Kang Xi, Ferdinand Verbiest designed 6 new astronomical instruments: Equatorial Armilla, Ecliptic Armilla, Quadrant, Celestial Globe, etc. Later in 1715, Kilian Stumpf designed another instrument--- Azimuth Theodolite. In 1744, Emperor Qian Long ordered to build another instrument--- the New Armilla. Thus all the instruments came into being.

In 1900, the aggressors from the 8 countries came into Beijing. German and Frenchmen robbed the instruments of the Observatory. Frenchmen took the 5 instruments to their embassy and gave them back the next year, while Germans took the others to their country and showed them in the Potsdam Hall. After the World War I, German gave them back in 1921.

In 1911, the name Observatory was changed to “Central Observatory”, and ended his observation life in 1921 because of the foundation of the Purple Mountain Observatory in Nanjing. In 1929, the name “Central Observatory” was changed again



and became an astronomical museum. After the 1949, the observatory changed its name to “Beijing ancient astronomical instruments museum” Beijing ancient observatory opened to public in may,1956 and closed later. Beijing Ancient Observatory became the key national relics protection unit in 1982, and reopened to the world in 1983.

In purple hall, east wing-room and west wing-room, exhibition “Chinese sky”,

“History of observatory”, and “European astronomy spread to China ” show us the achievements of Chinese ancient astronomy, the history of Chinese ancient astronomy and the soul of Chinese culture: heaven and man syncretism. Multiplex exhibition methods are used to impress audience on their memory.

Beijing Ancient Observatory holds the record of observation time: 487 years (from 1442 to 1929) .And it became the key national relics protection unit in may,1982.After reopened to the world in 1983,it enjoys high reputation from the foreign countries. Many foreign presidents, foreign key government officials and famous scientists have visited Beijing Ancient Observatory, such as Tony Blair (British Prime Minister), Guy Verhofstadt (Belgium Prime Minister), etc.

主办单位:

中国青少年科技辅导员协会
中国科协青少年科技中心

支持单位:

国际科学院组织科学教育项目
经济合作组织科学基金会

Organizers:

China Association of Children's Science Instructors (CACSI)
Children and Youth Science Centre of CAST (CYSCC)

Sponsors:

IAP Science Education Programme (IAP SEP)
Economic Cooperation Organization Science Foundation (ECOSF)

