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编者按：2024浦江创新论坛于9月7日-10日在上海召开。本次论坛以“共享创新 共塑未来：构建科技创新开放环境”为主题，共设1场开幕式及主论坛、24场专题论坛、2场展示对接（InnoMatch全球技术转移大会、WeStart全球创业投资大会）、2场特别对话（青年科学家座谈会、女科学家座谈会），以及青年创新讲坛（Y-HUBs）、成果发布等。《浦江创新观察》将分期汇集论坛嘉宾的

精彩观点和重要论述，分享论坛成果。本期专报对论坛开幕式及主论坛的嘉宾[1]观点进行梳理，供参考。

Editor's note: The 2024 Pujiang Innovation Forum was held in Shanghai during September 7-10.[2]With the theme of "Sharing Innovation and Shaping the Future: Towards an Open Environment for Scientific and Technological Innovation", the forum includes one opening ceremony and main forum, 24 sub-forums, two exhibition and matchmaking sessions (Global Tech-Matching Fair (InnoMatch EXPO) and Global Entrepreneurial Investment Conference (WeStart)), two special dialogues (Young Scientist Symposium and Women Scientists Symposium), the Youth Innovation HUB (Y-HUBs), achievement release, etc. *Pujiang Innovation Observation* will bring together wonderful viewpoints and important discussions of forum guests, and share achievements of the forum in multiple issues. This special report summarizes the viewpoints of the guests at the opening ceremony and main forum for your reference.

2024 浦江创新论坛专报之一

Special Report 1 of the 2024 Pujiang Innovation Forum

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[1] **与会中方嘉宾包括**：中共上海市委书记陈吉宁，第十三届全国政协副主席、中国科学技术协会主席万钢，科学技术部部长、党组书记阴和俊，上海市市长龚正，国务院新闻办公室原主任赵启正，中国科学院院士、中国科学院原院长白春礼，中国科学院院士、南方科技大学校长薛其坤，山东省副省长宋军继；上海交通大学李政道学者许金祥，西湖大学生命科学学院副研究员白蕊等；**外方嘉宾包括**：匈牙利文化与创新部副国务秘书拉斯洛·博迪什，匈牙利国家研发创新署署长亚当·基什，联合国科学和技术促进发展委员会执行主席彼得·梅杰；巴西科技创新部秘书长丹尼尔· 阿尔梅达；英国皇家学会副会长马克·沃尔波特；世界工业技术研究组织协会主席哈森·曼达尔；美国四院院士、中国科学院外籍院士莱诺·胡德等。

[1]**The Chinese guests present include** Chen Jining, Secretary of the CPC Shanghai Municipal Committee; Wan Gang, Vice Chairman of the 13th National Committee of the CPPCC and President of the China Association for Science and Technology; Yin Hejun, Minister and Secretary of the CPC Leading Group of the Ministry of Science and Technology of China; Gong Zheng, Mayor of Shanghai Municipality; Zhao Qizheng, former Director-General of the State Council Information Office; Bai Chunli, academician of the Chinese Academy of Sciences and former President of the Chinese Academy of Sciences; Xue Qikun, academician of the Chinese Academy of Sciences and President of the Southern University of Science and Technology; Song Junji, Deputy Governor of Shandong Province; Xu Jinxiang, scholar at the Tsung-Dao Lee Institute, Shanghai Jiao Tong University; Bai Rui, associate research fellow at the School of Life Sciences, Westlake University, etc.; **foreign guests** include László Bódis, Deputy Secretary of State for Culture and Innovation of Hungary; Ádám Istvan Kiss, President of the National Research, Development and Innovation Office of Hungary; Peter Major, Executive Chairman of the UN Commission on Science and Technology for Development; Daniel Almeida, Secretary-General of the Ministry of Science, Technology and Innovation of Brazil; Mark Walport, Vice President of the Royal Society; Hasan Mandal, Chairman of the World Association of Industrial and Technological Research Organizations; Leroy Hood, academician of the National Academy of Sciences, National Academy of Engineering, National Academy of Medicine, and Academy of Arts and Sciences of the U.S., and foreign academician of the Chinese Academy of Sciences, etc.

共享创新 共塑未来：构建科技创新开放环境

Sharing Innovation and Shaping the Future: Towards an Open Environment for Scientific and Technological Innovation

当今，新一轮科技革命和产业变革蓬勃发展，科学研究范式发生重大变化，全球科技创新进入空前密集活跃期。与此同时，人类发展面临地缘冲突、增长乏力、气候变化等越来越多的重大挑战，迫切需要加强国际科技合作和开放共享，用科技的办法共同应对解决全球性问题。2024 年浦江创新论坛深入贯彻落实习近平总书记贺信精神，以“启迪创新思想、传播创新理念、激励创新精神”为使命，努力成为开展国际科技合作交流的重要窗口。与会嘉宾一致认为，**要继续秉持开放包容、互惠共享的国际科技合作理念，坚定不移推动国际科技开放合作，推进前瞻谋划和前沿布局，拓展多元化国际科技合作渠道，打造高能级国际科技合作平台载体，积极融入全球创新网络，深度参与全球科技治理，以开放促改革、促发展、促创新，打造更具全球竞争力的开放创新环境，更好服务世界科技强国和中国式现代化建设。**

Today, a new round of technological revolution and industry transformation is flourishing, the paradigm of scientific research has undergone major changes, and global scientific and technological innovation has entered an unprecedented intensively active period. In the meantime, human development is facing increasing severe challenges such as geopolitical conflicts, weak growth and climate change, and there is an urgent need to strengthen global scientific

and technological cooperation and open sharing, and address global problems jointly using a technological approach. The 2024 Pujiang Innovation Forum will implement the guidelines of the congratulatory letter of General Secretary Xi Jinping thoroughly, and strive to become an important window for global scientific and technological cooperation and exchanges with the mission of "enlightening innovative ideas, communicating the innovation concept, and motivating the innovation spirit". The guests present agreed that we **should continue to adhere to the global scientific and technological cooperation philosophy of opening-up, inclusiveness, mutual benefit and sharing, promote global scientific and technological opening-up and cooperation unswervingly, forward-looking planning, and frontier deployment, expand diversified global scientific and technological cooperation channels, create high-level platforms and carriers for global scientific and technological cooperation, integrate actively into the global innovation network, participate deeply in global scientific and technological governance, promote reform, development and innovation through opening-up, create a more globally competitive open innovation environment, and further serve the goal of building China's globally leading scientific and technological strength, and realizing Chinese modernization.**

一、开放合作：时代发展的必然趋势

1. Opening-up and cooperation: An inevitable trend of the times

一方面，科技创新开放环境是顺应时代规律的必然选择。上海市委书记陈吉宁指出，科技进步是世界性、时代性课题，开放合作是必由之路。中国将进一步践行国际科技合作倡议，与各国携手打造开放、公平、公正的创新环境，让科技更好造福人类。**匈牙利总统舒尤克·道马什**在贺信表示，中匈两国通过多途径支持创新，合作交流是本能所驱，我们需要开放和交流，通过合作共同造福两国人民和全人类。**中国科学技术部部长、党组书记阴和俊**强调，全球科技进步源于各国科学家互相学习、彼此借鉴、共同创造。当前科学知识多层面覆盖、学科多领域融合、技术多相位链接的特点日益凸显，科学研究的综合性、复杂性、融合性日益增强，构建科技创新开放环境比以往任何时候都更加重要和必要。**联合国科学和技术促进发展委员会执行主席彼得·梅杰**提到，国家创新体系需要融入到更广泛的国际框架，各国应设定与全球趋势保持一致的具体目标，确保所有国家充分参与全球科技创新生态体系。**匈牙利文化与创新部副国务秘书拉斯洛·博迪什**表示，全球主要科技创新成果都不是单打独斗实现的，而是跨国界的合作。

On the one hand, an open environment for scientific and technological innovation is an inevitable choice called for by the times. Chen Jining, Secretary of the CPC Shanghai Municipal Committee, pointed out that scientific and technological progress is a global and epochal task, and opening-up and cooperation is an

inevitable choice. China will further implement the international science and technology cooperation initiative, and create an open, fair and just innovation environment that further benefits humanity through technology together with other countries. In his congratulatory letter, **Hungarian President Tamas Sulyok** said that China and Hungary support innovation through multiple channels, cooperation and exchanges are driven by instinct, and we should benefit the two peoples and humanity jointly through opening-up, exchanges and cooperation. **Yin Hejun, Minister and Secretary of the CPC Leading Group of the Ministry of Science and Technology of China**, emphasized that global scientific and technological progress stems from mutual learning and joint creation among scientists from different countries. The trend of multi-level coverage, multidisciplinary integration and multi-phase technology interconnection of scientific knowledge is increasingly prominent, scientific research is increasingly comprehensive, complex and integrated, and creating an open environment for scientific and technological innovation is more important and necessary than ever. **Peter Major, Executive Chairman of the UN Commission on Science and Technology for Development**, mentioned that national innovation systems should be integrated into the broader international framework, and all countries should set specific goals that are aligned with global trends to ensure that they participate fully in the global scientific and technological innovation ecosystem. **László Bódis, Deputy Secretary of State of the Ministry of**

Culture and Innovation of Hungary, said that major global scientific and technological innovation achievements are not realized alone, but through cross-border cooperation.

另一方面，科技创新开放环境是应对全球性挑战的关键之举。科技创新是人类共同应对风险挑战、促进和平发展的重要力量。**彼德·梅杰**指出，国际合作对于弥合发达国家与发展中国家差距至关重要，必须确保所有国家充分参与全球科技创新生态体系。**阴和俊**表示，气候变化、粮食安全、能源安全等全球性问题亟待科技提供新的解决方案。新兴技术的发展带来科技伦理和安全风险，亟待建立全球科技创新合作治理体系。**上海市市长龚正**提到，人类发展面临地缘冲突、增长乏力、气候变化等重大挑战，迫切需要加强国际科技合作与开放共享，用科技手段共同应对解决全球性问题。**英国皇家学会副会长马克·沃尔波特**认为，科技创新步伐加快，应对气候变化、新型病毒传播、生物多样性丧失、老龄化等挑战，需要依靠新能源、人工智能、量子科学、空间科学等领域的全球合作。**中国科学技术协会主席万钢**指出，气候变化是全球科技创新共同面临的重大挑战，应以以开放包容的胸怀引进来，以合作互利的智慧走出去，打造开放、公平、非歧视的国际环境，合力应对人类共同挑战。

On the other hand, an open environment for scientific and technological innovation is a key move to address global challenges. Scientific and technological innovation is an important force for humanity to address risks and challenges, and promote peaceful development jointly. **Peter Major** pointed out that

international cooperation is crucial for bridging gaps between developed and developing countries, and it is necessary to ensure that all countries participate fully in the global scientific and technological innovation ecosystem. **Yin Hejun** said that global problems such as climate change, food security and energy security need new solutions from technology urgently. The development of emerging technologies brings about ethical and security risks, so there is an urgent need to establish a global governance system for scientific and technological innovation cooperation. **Gong Zheng, Mayor of Shanghai Municipality**, mentioned that human development is facing major challenges such as geopolitical conflicts, weak growth and climate change, and there is an urgent need to strengthen global scientific and technological cooperation and open sharing, and address global problems jointly using a technological approach. **Mark Walport, Vice President of the Royal Society**, thought that to accelerate scientific and technological innovation, and address challenges such as climate change, new virus transmission, biodiversity loss and population aging, global cooperation in fields such as new energy, artificial intelligence, quantum science and space science is necessary. **Wan Gang, President of the China Association for Science and Technology**, pointed out that climate change is a major common challenge for global scientific and technological innovation, and we should introduce technologies with an open and inclusive mind, and go global with the wisdom of cooperation and mutual benefit to create

an open, fair, and non-discriminatory international environment, and address the common challenges of humanity jointly.

二、共享创新：合作共赢的必然之举

2. Sharing innovation: An inevitable move towards win-win cooperation

一是打造创新合作平台成为全球共识。阴和俊指出，中国目前已与 161 个国家、地区建立了科技合作关系，签署了 118 个双多边政府间科技合作协定，加入 200 多个国际组织和多边机制。**哈森·曼达尔**所在的机构是 1970 年成立的一个国际科技组织，由来自 70 个国家和 160 个成员组成的合作网络，主要目的就是要打造一个全球创新大家庭，共同应对全球挑战。**山东省副省长宋军继**表示，一批高能级平台加速落地山东，海洋领域、国家实验室落户青岛，形成了 21 家全国重点实验室、9 家省实验室、277 家省重点实验室体制，这些基地平台是山东开展科技合作的核心主体。**中国科学技术协会主席万钢**指出，中国在清洁能源、新能源汽车方面打造开放产业平台，合资伙伴深化开放合作，加大对华投资，产业链对外合作走向发展。

First, creating an innovation cooperation platform has become a global consensus. Yin Hejun pointed out that China has established scientific and technological cooperation relationships with 161 countries and regions, entered into 118 bilateral and multilateral intergovernmental agreements on scientific and technological cooperation, and joined over 200 international organizations and multilateral mechanisms. **Hasan Mandal**'s

organization is an international technological organization established in 1970, and a cooperative network composed of 70 countries and 160 members, with the mission of building a global innovation family to address global challenges jointly. **Song Junji**, **Deputy Governor of Shandong Province**, said that a number of high-level platforms are being established in Shandong at a faster pace, some national marine laboratories have been established in Qingdao, forming a system of 21 national key laboratories, 9 provincial laboratories and 277 provincial key laboratories, and these bases and platforms are the core entities for Shandong's scientific and technological cooperation. **Wan Gang, President of the China Association for Science and Technology**, pointed out that China is creating an open industry platform in clean energy and new energy vehicles, and joint venture partners are deepening opening-up and cooperation, and increasing investment in China to promote the foreign cooperation of the industry chain.

二是重大合作项目取得切实成效。阴和俊指出，中国参与近60 项国际大科学计划和大科学工程，牵头组织“深时数字地球”“海洋负排放”等国际大科学计划，深入实施“一带一路”科技创新行动计划，成功举办首届“一带一路”科技交流大会，面向全球发布《国际科技合作倡议》，以重大项目为牵引的国际作用成果丰硕。**白春礼**提出，中科院合肥固体物理研究所开展了超导托卡马克的联合研究，也参与了国家大科学计划——国际热核计划（ITER 计划），重大项目合作已成为中科院开展国际科技合作

的主要抓手。**上海交通大学李政道学者副教授许金祥**指出，缪子领域的研究需要来自全球各国的研究机构开展跨专业、跨领域的务实合作，才能克服挑战实现高精度测量。

Second, practical achievements are made in major cooperation projects. Yin Hejun pointed out that China has participated in nearly 60 international major science programs and major science projects, organized international major science programs such as “Deep-time Digital Earth” and “Ocean Negative Carbon Emissions”, implemented the Belt and Road Science, Technology and Innovation Cooperation Action Plan deeply, held the first Belt and Road Conference on Science and Technology successfully, released a world-oriented international science and technology cooperation initiative, and made fruitful achievements in international cooperation driven by major projects. **Bai Chunli** proposed that the Institute of Solid State Physics, Chinese Academy of Sciences in Hefei has conducted joint research on the superconducting tokamak and participated in the International Thermonuclear Experimental Reactor (ITER) project – a national major science project, and cooperation in major projects has become a main lever for the Chinese Academy of Sciences to conduct global scientific and technological cooperation. **Xu Jinxiang, scholar and associate professor at the Tsung-Dao Lee Institute, Shanghai Jiao Tong University**, pointed out that research in the muon field requires practical cooperation across disciplines and fields from

research institutions around the world in order to overcome challenges and realize high-precision measurement.

三是创新要素全球流动是关键保障。阴和俊指出，构建科技创新开放环境，实现创新要素高效流动，高质量利用全球创新资源，比以往任何时候都更加重要，也更加必要。**彼得·梅杰**指出，科技创新发展要素包括创新所需要的实体和数字基础设施，以及推动技术进步的人力和知识资源，通过促进国际研发合作，集中资源共享知识，创新鼓励技术和知识转移，推动解决从气候变化到疫情等最紧迫的全球挑战。**宋军继**提到，山东聚力打造“政产学研金服用”创新创业共同体，持续健全支撑有力的政策体系，深入推进科技奖励、成果评价、人才评价的三项国家级改革试点，开放包容互惠共享创新的生态圈蓬勃发展。

Third, the global flow of innovation factors is the key support. Yin Hejun pointed out that creating an open environment for scientific and technological innovation, realizing the efficient flow of innovation factors, and utilizing global innovation resources with high quality is more important and necessary than ever. **Peter Major** pointed out that scientific and technological innovation and development factors include physical and digital infrastructure required for innovation, as well as human and knowledge resources that drive scientific and technological progress. Promoting international R&D cooperation, pooling resources, sharing knowledge, and encouraging technology and knowledge transfer can promote the solving of the most urgent global challenges from

climate change to pandemics. **Song Junji** mentioned that Shandong is building an innovation and entrepreneurship community of "government, industry, academia, research, finance and application", keeping improving the policy system with strong support, and deeply promoting the three national level reform pilots of science and technology rewards, achievement evaluation, and talent evaluation. The ecosystem featuring opening-up, inclusiveness, mutual benefit and shared innovation is flourishing.

三、深度参与：融入全球创新网络的必由之路

3. Deep participation: The only way to integrate into the global innovation network

一是推进前瞻谋划和前沿布局。陈吉宁强调，要坚持长期主义、深化科技布局、保持战略敏捷，大力推进高风险、高价值基础研究，积极探索科技创新的新型组织形式，激活创新主体力量，尤其是强化企业科技创新主体地位，加大关键技术共性技术攻关，深化前沿性、颠覆性技术研发，努力产出重大原创性、颠覆性成果。**白春礼**认为，要强化前瞻性、基础性研究的全面布局，尤其要强化一些非共识的前沿布局，形成自由探索的创新土壤，让重大的创新成果在开放、宽容的环境中源源不断地生长出来。**薛其坤**指出，我们面临的超大数据信息时代需要更强大算力，量子计算机具有非常好的前途，需要物理学、电子器件、计算机等学科交叉融合，需要全世界科学家、工程师、创业家共同努力。

First, promote forward-looking planning and frontier deployment. Chen Jining emphasized the need to adhere to

long-termism, deepen technological deployment, maintain strategic agility, promote high-risk and high-value basic research vigorously, explore new organizational forms of scientific and technological innovation actively, and activate innovation entities. In particular, it is necessary to strengthen the principal role of enterprises in scientific and technological innovation, and the development of key and common technologies, deepen the R&D of frontier and disruptive technologies, and strive for significant original and disruptive achievements. **Bai Chunli** thought that it is necessary to strengthen the comprehensive deployment of forward-looking and fundamental research, especially the deployment of some non-consensus frontier fields, and create an innovation environment for free exploration, so that major innovative achievements can emerge constantly in an open and inclusive environment. **Xue Qikun** pointed out that the current era of mega data and information requires stronger computing power. Quantum computers have a very promising prospect, and require the interdisciplinary integration of physics, electronic devices, computer science, etc., and the joint efforts of scientists, engineers and entrepreneurs around the world.

二是打造高能级国际科技合作交流载体。拉斯洛·博迪什指出，教育和人才交流至关重要，应协同创新合作伙伴，为年轻工程师、企业家和科学家提供交流合作平台，构筑推动未来的创新网络，培养下一代创新者。**莱诺·胡德**提出，通过组建人类基因组计划等长期攻关项目，借助全球科技合作，推动数据驱动提升

医疗健康水平，大幅降低降医疗成本，将表型组技术为代表的高质量医疗技术推广至发展中国家，让全人类共享开放创新成果。**宋军继**强调，山东将着力构建科技创新开放环境，在平台建设、机制突破、成果转化等方面深化与全球科学家和企业家的全方位合作，共同汇聚创新驱动和高质量发展的澎湃动能。

Second, create high-level carriers for global scientific and technological cooperation and exchanges. László Bódis pointed out that education and talent exchanges are crucial, and we should provide exchange and cooperation platforms for young engineers, entrepreneurs and scientists, build a future-oriented innovation network, and train next-generation innovators together with innovation partners. **Leroy Hood** proposed to improve medical and healthcare levels in a data-driven manner, minimize medical treatment costs, extend high-quality medical technologies represented by phenome technology to developing countries, and enable humanity to share open innovation achievements by initiating long-term research projects such as the Human Genome Project, and leveraging global technological cooperation. **Song Junji** emphasized that Shandong will strive to create an open environment for scientific and technological innovation, deepen all-round cooperation with worldwide scientists and entrepreneurs in platform building, mechanism breakthroughs and achievement transformation, and gain surging momentum for innovation-driven high-quality development jointly.

三是构筑多元化国际科技合作渠道。阴和俊指出，要持续深化政府间和民间国际科技合作，全力推动“一带一路”科技创新合作走深走实，聚焦全国性问题挑战深化联合研究，积极参与全球创新治理。**拉斯洛·博迪什**表示，匈牙利为实现研发和创新体系更加国际化设立了三个主要目标，分别是加强和扩大国际科技合作和共创，帮助企业更多进入到外国市场，使创新型出口导向型企业获得成功，把研究和创新的活动能够带入到匈牙利。另外，**马克·沃尔波特**指出，加强国际科技合作需要一个强有力的科研资助支持框架，以及支持未来科学联席的监管制度。

Third, build diversified channels for global scientific and technological cooperation. Yin Hejun pointed out that we should keep deepening global intergovernmental and nongovernmental scientific and technological cooperation, promote cooperation in scientific and technological innovation among countries along the Belt and Road deeply and practically, focus on joint research on nationwide problems and challenges, and participate actively in global innovation governance. **László Bódis** said that Hungary has set three major goals to build a more globalized R&D and innovation system, namely strengthening and expanding global scientific and technological cooperation and co-creation, helping more enterprises enter foreign markets to help innovative export-oriented enterprises succeed, and introducing research and innovation activities into Hungary. In addition, **Mark Walport** pointed out that strengthening international technological

cooperation requires a strong research funding support framework and a regulatory system that supports future scientific alliances.

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