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编者按：2024浦江创新论坛——青年科学家座谈会上，10位来自不同领域的优秀青年科学家围绕“赓续科学家精神、勇担强国建设使命”主题展开深入研讨。本期专报对青年科学家座谈会的嘉宾观点进行梳理，供参考。

Editor's note: At Young Scientist Symposium under the 2024 Pujiang Innovation Forum, ten outstanding young scientists from different fields conducted in-depth discussions around the theme of "carrying on the scientist spirit and shouldering the mission of building a strong country bravely". This special report summarizes the viewpoints of the guests at Young Innovation HUB for your reference.

2024 浦江创新论坛专报之十六

Special Report 16 of the 2024 Pujiang Innovation Forum

赓续科学家精神　勇担强国建设使命

Carrying on the scientist spirit and shouldering the mission of building a strong country bravely

科学家精神是科技工作者在长期科学实践中积累的宝贵精神财富，青年科学家身处以中国式现代化全面推进社会主义现代化强国建设和民族复兴伟业的关键时期，要赓续以爱国主义为底色的科学家精神，坚定报国理想，勇攀科技高峰。围绕营造良好学术生态，**与会青年科学家们一致表示，要坚持开展使命导向、问题导向、长期主义的科学研究，并建议从差异化人才培养、优化资源配置、改革科研评价、改善创新环境等方面，为青年人才成就梦想创造更好条件。**

The scientist spirit is valuable spiritual wealth gained by scientific and technological workers through long-term science practice. In this critical period of promoting the building of a socialist modern powerful country and the great cause of national rejuvenation through Chinese modernization, young scientists should uphold the patriotism-based scientist spirit, dedicate themselves to our country, and overcome challenges in science and technology bravely. **Around how to create favorable academic**

ecology, the young scientists present agreed unanimously that they should keep conducting mission-oriented, problem-oriented and long-term scientific research, and suggested creating better conditions for young talents to realize their dreams through differentiated talent training, optimized resource allocation, reform of scientific research evaluation, and innovation environment improvement.

一、赓续新时代科学家精神的实践要求

1. Practical requirements for carrying on the scientist spirit in the new era

1、求真务实、问题导向是科学家精神的基本内涵。同济大学校长郑庆华指出，作为科学研究工作者，要寻找真问题、探索真问题、研究真问题，并在过程中探究真方法、产出真成果、做出真贡献，真正实现自我价值。**复旦大学青年研究员龚鸣**提出，当前学术研究同质化现象越来越明显，一些真正有潜力的创新性研究被埋没，寻找、支持非同质化的真正创新研究是未来所需。

(1) Being down-to-earth and problem-oriented is the basic connotation of the scientist spirit. Zheng Qinghua, President of Tongji University, pointed out that as scientific researchers, we should seek, explore and study real problems, and in this process, explore real methods, produce real results, make real contributions, and realize real self-value. **Gong Ming, young research fellow at**

Fudan University, pointed out that homogenization in academic research is increasingly prominent, some innovative studies with real potential are drown out, and finding and supporting heterogeneous and truly innovative studies is necessary for the future.

2、勇攀高峰、长期主义是科学家精神的内在要求。科技部副部长龙腾指出，科学研究要秉承长期主义，绝不能以短平快为导向，有的院士并没有入选过杰青、长江学者等人才计划，甚至连国家奖项都没有获得过，但依然凭借过硬的科研实力和杰出贡献成功当选。**清华大学副教授李坤**提出，在科研资金分配上，还应当重视对原创性、长期性研究和多元化研究的支持。**东方晶源微电子科技（北京）股份有限公司总裁蒋俊海**提出，需持续发挥主流媒体影响力，在社会上形成对科学家的认可和追捧氛围。

(2) Meeting challenges and long-termism are inherent requirements of the scientist spirit. Long Teng, Vice Minister of Science and Technology, pointed out that scientific research should be oriented to long-termism rather than a fast-track approach. Some academicians have not been included in any talent program such as the National Science Fund for Distinguished Young Scholars and the Changjiang Scholars Program, and have even not received any national award, but still have been elected successfully for their strong scientific research capabilities and outstanding contributions. **Associate professor Li Kun from Tsinghua University** proposed that in the allocation of research funds, greater support should be

given to original, long-term and diversified studies. **Jiang Junhai, President of Dongfang Jingyuan Electron Limited,** proposed that it is necessary to keep exerting the influence of mainstream media to create an atmosphere that recognizes and pursues scientists in society.

3、敢挑大梁、使命导向是科学家精神的核心要义。浦江实验室青年科学家白磊提出，要鼓励青年人才毛遂自荐，“让听得见炮声的人提出问题”，给予机会支持更多青年科研人员担任项目负责人。**龚鸣**提出，目前青年学者更多还是承担青年项目或者在大项目中扮演落实科研的角色，离在大项目中发挥关键核心作用还有距离，要提升大项目中的青年人才参与度，给予青年人主导大项目的机会。**中国科学院微小卫星创新研究院导航卫星总体研究所副所长李绍前**提出，邀请青年科学家“揭榜挂帅”，在重点难点技术领域并行支持多个青年团队大胆创新。

(3) The core essence of the scientist spirit is to assume responsibility bravely and be mission-oriented. Bai Lei, young scientist at Pujiang Lab, proposed that young talents should be encouraged to volunteer, and more young researchers working at the frontline should be given an opportunity to serve as project leaders. **Gong Ming** proposed that currently, more young scholars are still undertaking youth projects or playing the role of implementing scientific research practically in major projects, but not playing a core role in major projects yet. It is necessary to further engage

young talents in major projects, and give young people an opportunity to lead such projects. **Li Shaoqian, Deputy Director of the Institute of Navigation Satellites, Innovation Academy for Microsatellites, Chinese Academy of Sciences,** proposed that young scientists should be invited to take the lead, and multiple young teams be supported to innovate boldly in parallel in key and difficult technology fields.

二、制约科学家精神培养传承的关键问题

2. Key restraints on the development and succession of the scientist spirit

一是基础研究支持不足影响青年人才潜心研究的积极性。中国海洋大学教授高珊提出，现在很多项目申请越来越注重成果的应用和转化，但并非所有成果都可以立刻转化，也不是所有科学家都既擅长做研究又擅长做转化，要为基础研究留出一片自留地，给予专注基础研究的工作者更多耐心。**深圳国际量子研究院青年科学家徐源**提出，基础研究是科技创新的基石，只有根基稳固，大厦才能屹立不倒，应加强科研基础设施的建设和投入力度，提升科研装备水平。

First, insufficient support for basic research affects the enthusiasm of young talents for devoting themselves to research. Prof. Gao Shan from Ocean University of China proposed that many project applications are increasingly focused on the

application and transformation of results, but not all achievements can be transformed immediately, and not all scientists are good at both research and transformation. It is necessary to leave a reserved space for basic research and give more patience to researchers who focus on basic research. **Xu Yuan, young scientist at Shenzhen International Quantum Academy**, proposed that basic research is the cornerstone of scientific and technological innovation, and only with a solid foundation can a building stand firm. We should strengthen the construction of and investment in scientific research infrastructure, and improve the level of scientific research equipment.

二是科研管理范式滞后损耗青年人才大量精力。白磊指出，科研项目申请存在冗长繁琐的八股文趋势，严重影响项目申请效率和质量，也增加了申请者和评审者的负担。**徐源**提出，科研项目管理中仍然存在审批流程繁琐、资金使用不透明等问题，建议进一步简化科研管理流程，减少不必要的行政干预和繁琐流程，让科研人员能够有更多的时间和精力投入到科研工作中。**龚鸣**提出，很多学术会议慢慢趋向形式主义，甚至成为学术社交负担，需优化会议遴选机制，合并部分同类会议，提升会议质量。

Second, the lagging paradigm of scientific research management consumes much energy for young talents. Bai Lei pointed out that application for scientific research projects tends to be lengthy and complex, which affects the efficiency and quality of

project application seriously, and also increases the burden on applicants and reviewers. **Xu Yuan** pointed out that there are still problems such as complex approval processes and non-transparent use of funds in scientific research project management, and suggested further simplifying scientific research management processes, reducing unnecessary administrative intervention and excessive steps, and allowing researchers to spend more time and energy on scientific research. **Gong Ming** proposed that many academic conferences are tending formalistic, and even becoming a burden in academic social interactions. It is necessary to optimize the conference selection mechanism, merge some similar conferences, and improve the quality of conferences.

三是创新资源错配不利于青年人才快速成长。白磊指出，目前国内外的成果分配、贡献评价、科研生态等，对于跨学科交叉研究和跨团队有组织科研都不太有利，许多评奖只看第一作者，博士生毕业要看第一单位或博士期间发表论文数量。**徐源**提出，当前部分领域的研究方向和科研资源过于集中，而一些新兴领域和基础领域又相对缺乏，“跟班式”、“追热门”研究泛滥，容易造成资源浪费。

Third, the mismatch of innovation resources is adverse to the rapid growth of young talents. Bai Lei pointed out that the current allocation of achievements, contribution evaluation, scientific research ecology, etc. both at home and abroad are

unfavorable for interdisciplinary and cross-team organized research. Many awards only consider first authors, and for doctoral graduates, their first employers or the number of papers published during their doctoral studies are considered. **Xu Yuan** pointed out that current research directions and resources in some fields are too concentrated, while research in some emerging and basic fields is relatively insufficient. "Follow-suit" and "hotspot-pursuing" research prevails, which is likely to result in a waste of resources.

三、持续为青年科学家营造自由包容的创新环境

3. Keeping creating a free and inclusive innovation environment for young scientists

一是重视科学研究分类评价体系建设。南京航空航天大学教授殷俊指出，目前科研评价活动仍以帽子、论文、奖励等显性指标为牵引，尚未建立起新的符合科研活动规律的分类评价体系和考核机制。**高珊**提出，需从科研工作的价值去评价和分配科研资源，让青年人怀揣热爱与期待，做出真正有突破性和创造性的成果。**白磊**提出，应从更多维度对科研人员进行评价，参照“奥斯卡奖”探索差异化评价方式，如从“最佳导演”、“最佳群演”、“最佳音乐”等不同技术维度开展评价。

First, attach importance to the building of a classified evaluation system for scientific research. Prof. Yin Jun from Nanjing University of Aeronautics and Astronautics pointed out

that currently, scientific research evaluation activities are still guided by explicit indicators such as hats, papers and rewards, and a new classified evaluation system suited to the pattern of scientific research activities has not been established yet. **Gao Shan** proposed that scientific research resources should be evaluated and allocated based on the value of scientific research, so that young talents can make truly innovative and creative achievements with passion and expectations. **Bai Lei** proposed that researchers should be evaluated in more dimensions, and differentiated evaluation methods should be explored by reference to the Oscars, such as "Best Director", "Best Group Performance", and "Best Music".

二是完善符合青年人才成长规律的长周期人才评价体系。李坤建议，构建针对青年科学家的可持续评价体系，调整“指挥棒”鼓励科研工作者面向长期发展开展研究。**复旦大学党委常委、副校长姜育刚**提出，学校设置了相辉青年学者学术荣誉岗位，对优秀青年人才以表现性评价取代传统考核，在长周期内开展 1-2 次阶段性学术总结，主要评价青年人才的工作状态和研究进展。

Second, improve the long-term talent evaluation system suited to the growth pattern of young talents. Li Kun suggested establishing a sustainable evaluation system for young scientists, and using the "baton" to encourage scientific researchers to conduct research oriented to long-term development. **Jiang Yugang, Executive Member of the CPC Committee and Vice President of**

Fudan University, proposed that the university has set up the honorary academic position of "Xianghui Young Scholar", and replaced conventional evaluation with performance-based evaluation for outstanding young talents, where interim academic summarization is conducted once or twice over a long period, with focus on the working status and research progress of young talents.

三是构建差异化的人才培养路径。郑庆华提出，要区别“长剑型”和“航空母舰型”两种人才培养方式，“长剑型”人才的剑锋能够触及别人触及不到的深度、高度、厚度。“航空母舰型”人才具有大格局、大胸怀的特点，能够起到团结组织各类人才的平台作用。**高珊**提出，机构平台建设要注重配套专业技术人员的培养，给予稳定的职位和高薪，否则一线科研工作者被迫成为多面手，难以集中精力到科研主责上。

Third, create differentiated talent training paths. Zheng Qinghua proposed to distinguish between the two talent training methods of the "long sword type" and the "aircraft carrier type", where the sword edge of "long sword type" talents can reach depths, heights and thicknesses that are impossible for others." Aircraft carrier type" talents are characterized by a broad vision and a broad mind, and can play the platform role of uniting and organizing all types of talents. **Gao Shan** proposed that in the building of organizational platforms, attention should be paid to the training of associated professional technicians, who should be offered stable

positions and high salaries, otherwise frontline researchers would have to become versatile and cannot concentrate on their main research tasks.

四是保障创新资源配置的公平合理。徐源提出，要为青年人才提供更多的项目申请机会、职业发展指导和国际交流机会。**上海交通大学特聘教授谷国迎**提出，要给予本土培养的青年人才与海外人才同等的机会待遇，更好地留住本土顶尖人才。**上海交通大学党委副书记周承**提出，高校目前正不断优化人才培育金字塔体系，通过梯次性人才计划为不同发展阶段的人才提供支持。**徐源**提出，要加强科研人员心理健康管理，改善科研人员的工作生活条件和福利待遇。

Fourth, ensure the fair and reasonable allocation of innovation resources. Xu Yuan proposed to provide young talents with more project application opportunities, career development guidance, and international exchange opportunities. **Gu Guoying, distinguished professor at Shanghai Jiao Tong University**, proposed that local young talents should be given the same opportunities and treatment as overseas talents in order to better retain top local talents. **Zhou Cheng, Deputy Secretary of the CPC Committee of Shanghai Jiao Tong University,** proposed that the university is optimizing the talent training pyramid, and providing support to talents at different development stages through a hierarchical talent program. **Xu Yuan** proposed to strengthen the

management of the mental health of scientific researchers, and improve their working and living conditions, and benefits.

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