Global Research Funding and Development

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Abstract

Research is a deliberate and systematic inquiry or investigation to establish a fact. Research could focus on any desired discipline like science, education, economy, administration, etc. Resources (e.g., humans, funds, equipment etc) are essential in any research, especially impactful research. Research forms an essential part of development for interdisciplinary or multidisciplinary application of new technologies and procedures. Progress and comfort of human beings are due to success in research outcomes in the society. In the modern world, every sector, like medical, engineering, and basic sciences improves daily and has achieved new horizons because of support from research funding. For comprehensive research and its utility for better progress and output, proper funding is required. This article highlights various research funding opportunities, sources, agencies, and their significance. The fundamental objective is to create awareness through the global involvement of a collaborative team of experts across the world to foster interdisciplinary research collaboration and joint funding applications for economic development. The authors in this paper are open to joint research and collaboration.

Keywords: Grant, Research and Development, Funding, Funding Agency, Grant Proposal, Research Proposal.

Introduction

Research is a deliberate and systematic inquiry or investigation to establish a fact. It could find expression in any discipline or area of the society. Research could focus on any desired discipline like science, education, economy, administration, etc. But sometimes, the outcome of scientific research are unreliable because they suffer biases and conservatism (Severin and Egger, 2021). To surmount these challenges, resources, human/investigator(s), research funds, etc are necessary for impactful research.

A research fund is a grant or financial assistance provided to an investigator or researcher to enable him or her meet certain research expenses (Fig. 1) to ensure that the aim of the research is attained for the progress of the society (Glaser and Serrano-Velarde, 2018; Heyard and Hottenrott, 2021; Severin and Egger, 2021). Since the 19th century, after the 2nd world war, the research system has been regulated by universities and research organizations (Heyard and Hottenrott, 2021). The encouragement of policies of funding agencies, scientific theory, and methodology improvements results in the intellectual development of science. The intellectual progress of science is not only elevated in technological progress but scientists' motivations and the infrastructural, organizational, and financial atmosphere of research production.

Figure 1: Needs for research funds or grants.

Research on cancer, diabetes mellitus and newly emerging diseases by microbes (especially viruses e.g. COVID-19) are the major focus of science in the present decade. The treatment of these diseases would not advance without funds and fellowships from the government. If funds are responsibly utilized for research, the society may sooner find its cure. Furthermore, scientists are needed to solve climate change problems like global warming, ozone depletion, etc. Research solutions can make people live without fear, and these researchers need funding that governments and organizations provide. The amount of funding and its resources directly affect the services, development, and quality of the study. For example, academic achievement and quality of education are directly linked to funding. Similarly, the quality of drugs, care given in the hospitals, and the environment can be improved by increasing research funding. However, some areas show different outcomes, as only an increase in research funds may not be the solution but requires skilled scientists. Funding is required to improve technologies, products, services, and scientific research, which is only helpful if the funds if used appropriately and regulations are in place to maximize their value.

Research Proposal and its Purpose

A research proposal is mostly a convincing letter to a funding agency by an investigator for securing grants. The purpose of the proposal is to share an idea with a funding agency while presenting convincing evidence that the research

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in which the investigator is interested in is remarkable and worthy of study. A research proposal also indicates the novelty of the methodology and approach with testaments that the investigator is the right person to accomplish the task. Every research investigation starts with the conceptualization of an idea before work commences in developing a research proposal (Fig. 2).

The components of a research proposal include (Abdulai and Owusu-Ansah, 2014):
- Research topic.
- Background and gap(s).
- Aim and objectives.
- Methodology.
- Research significance/importance.
- Research program (budget, Gantt chart etc.).
- References.

Essentially, the first page is usually the cover page which should contain the title of the research, names of investigators (including the principal (compulsory) and co-investigators), institutional affiliations (including their degrees) and contact details (e-mail id’s and phone numbers) (Sudheesh et al., 2016).

Research Methodology

In research methodology, the researcher will have to discuss the methods to be used in order to achieve the goals of the project. The research methodology should explain what type of research it is, how the work should be carried out and analyzed. Also, it should indicate any tool or material to be used, then justify the use of the methods. This enables the funding agency to evaluate and validate the reliability of the research in order to provide funds for it.

Sources and Types of Research Funding

Research funding is primarily provided by government or dedicated organizations. There are numerous sources of grants. We have provided links to some sources below:

| National Science Foundation | https://www.nsf.gov/funding/ |
|-----------------------------|-----------------------------|
| Grants.gov                  | https://www.grants.gov/     |
| The Fulbright Program       | https://us.fulbrightonline.org/about/types-of-awards/study-research |
| Alexander von Humboldt      | foundation.de/web/sponsorship.html |
| Foundation                  | https://www.naace.org/Login.aspx?view=submissions&Redirect=8446 |
| National Academy of         | https://grants.nih.gov/grants/oer.htm     |
| Engineering                 | U.S. National Library of Medicine | https://www.nlm.nih.gov/grants.html |
| Health                      | National Cancer Institute | https://www.cancer.gov/grants-training/grants |
| The World Academy of        | Sigma Xi | https://www.signaxi.org/programs/grants-in-ad |
| Sciences (TWAS)             | Wellcome Trust | https://wellcome.org/ |
| International Development   | International Development Research Centre | https://wrc.org/ |
| Research Centre             | Biotechnology Industry     | https://www.idrc.ca/en/funding |
| Research Assistance Council (BIRAC) | https://www.birac.nic.in/ |

Below is also a shortlist of some funding or award agencies that provide funds for scientific communities
- Pakistan Academy of Sciences
- Human Frontier Science Program
- Pakistan Science Foundation
- Research and Advocacy Funds
- COMSTECH ISESCO
- Japan International Cooperation Agencies
- The Scientific Research Society-Sigma Xi
- United Nations ESCAP
- Pakistan Agricultural Research Council
- NAGAO Funds for Environment
- Academy of Finland
- Global Innovation Fund
- East-west center
- Commonwealth Academic Fellowships

Table 1 presents a list of some funding agencies mentioned in Bentham articles. Generally, research funding can be classified based on the commercial application of research: It either falls within non-commercial research funding or commercial research funding.

| 1. Non-commercial |
|-------------------|
| a) Charities       |
| Charities provide research funding that accompanies the objectives of departments from government and research councils. Charities aim to create knowledge for the sake of the benefits to the society. There are many research funding charities with a broad range of objectives and are managed by charity laws because there are some obligations and limitations to using charity funds for research. Prohibition in commercializing research outcome is usually a rule within such charity. |
| Medical Research Association Charities leads the UK's charities, which falls within medical and health research funding charities. Presently, there are about a hundred members in "Wellcome Trust", a global charitable foundation and the world’s largest charity, whose aim is to enhance human health by disease-specific research funding. It supports the discovery of effective treatments and cures for different serious diseases. The medical research charities are given to researchers to improve human health through research and education by focusing on a specific disease that falls within the charitable objectives. |
| b) National Academies |
| The four national academies that are foreign-based with similar objectives were discussed. |
| Academy of Medical Science |
| The academy of medical science is an organization established in 1998 in the UK and represents the diversity of medical science. Academy of medical science aims to promote excellence, influence research and policy, and develop brilliant research. Through a collection of scholarship schemes, it supports the careers of health and biomedical researchers, career policy work, monitoring programmes and career development events (Savill, 1999). |
| British Academy |
| British Academy is the national academy of the UK which was created in 1902 and in the same year received its royal charter that serves humanities and social sciences, which is the academic discipline concerned with society and their relationship with individuals. British Academy main objective is to study and conduct research for societies, people, and cultures. The academy provides various fellowships and scholarships to support career development and academic research (Apputhami and Bhuyan, 2015; Astigarraga et al., 2019). |
• **Royal Society**
  Royal Society is an independent scientific academy of the UK that supports scientists to promote excellence in science through the giving of donations for various purposes, from modernization of laboratories to conference level.

• **Royal Academy of Engineering** (Walkenhorst et al., 2015).
  Royal Academy of Engineering is the National Academy of UK for engineering and technology. The academy is made to promote brilliant and successful engineers for the benefit of the society. The academy pursues the activities of engineering and supports the engineers. The academy provides scholarships and prizes that allows closer contact between industry and academy. Some of the Departments of the UK Government that provides funding are as follows:
  - Department of Defense Science and Technology Laboratory.
  - Department of Health.
  - Department of Food, Environment and Rural Affairs.
  - Department of Transport.

The key roles of these national academies are:
- A forum for debate and engagement.
- Funding bodies support new nationally and internationally research.
- For world-leading researchers and scholars in independent fellowship, and
- Legal support for their respective.

c) **UK Research and Innovation**
  UK Research and Innovation is a quasi-autonomous non-governmental organization, also known as Quango. The organization is funded by government sectors yet independent of government and creates the most pleasing environment for research. Funds for research are awarded to researchers in different areas ranging from biological and medical sciences to engineering, arts and humanities, physics, social sciences, astronomy, chemistry, and economics. The following are funding councils that support universities for translation activities and research programs:
  - Science and Technology Facilities Council.
  - Medical Research Council.
  - Economic and Social Research Council.
  - Arts and Humanities Research Council.
  - National Environment Research Council.
  - Engineering and Physical Science Research Council.
  - Biotechnology and Biological Sciences Research Councils.
  - Research England.
  - Innovate the UK.

d) **European Commission**
  In Europe, European Commission (EC) gives funding opportunities for research and innovation to UK HEIs (higher education institutions) through Horizon 2020. EC aim to promote the participation of the UK in Higher Education programs, funded research programs of the European Commission and other activities related to which includes:
  - Timely spread the information on funding opportunities of the European Commission.
  - Supports the sponsors and subscribers.
  - To European Commission Projects, it advises guidance and high-quality training.

2. **Commercial Funding**

Private funding sources are an excellent choice for the scientific project because the approval time is shorter. Here, private companies or industries fund a wide variety of activities, an alternative to securing bank loans. Several companies and institutes give valuable services by having more relaxed lending necessities and providing fast funding for small businesses. For example, Honda (fuel cells and robotics), Laurel (care product), DuPont (broadly defined polymer science) provides better funding for scientific communities. Hence, mid-range universities require funding to conduct world-class research with university-industry linkages worldwide (Wright, Clarysse et al. 2008).

| **Table 1: Funding agencies mentioned by Bentham articles** |
|------------------------------------------------------------|
| **Source:** Available: [http://benthamscience.com/funding-agencies.php](http://benthamscience.com/funding-agencies.php) | **Accessed:** 29 Jan 2022. (N = Article number) |
| **Funder Name** | **N** | **Funder Name** | **N** |
| National Natural Science Foundation of China (NSFC) | 641 | Islamic Azad University | 3 |
| Consejo Nacional de Desenvolvimento Cientifico e Tecnologico | 72 | Alborz University of Medical Sciences | 3 |
| Coordinacao de Aperfeicoamento de Pessoal de Nivel Superior | 64 | Universidade Federal de Juiz de Fora | 3 |
| China Postdoctoral Science Foundation | 51 | Nanjing Medical University | 3 |
| Science and Engineering Research Board | 42 | Education Department of Human Province | 3 |
| National Natural Science Foundation of China- Yunnan Joint Fund | 41 | Nano Mission Council, Department of Science and Technology | 3 |
| University Grants Commission | 39 | Ontario Mental Health Foundation | 3 |
| Shiraz University of Medical Sciences | 34 | National Research Council of Thailand | 3 |
| Fundamental Research Funds for the Central Universities | 32 | International Islamic University Malaysia | 3 |
| Department of Biotechnology, Ministry of Science and Technology | 26 | Fundação de Amparo à Pesquisa e ao Desenvolvimento Cientifico e Tecnológico do Maranhão | 3 |
| National Institutes of Health | 26 | Natural Science Foundation of Beijing Municipality | 3 |
| Indian Council of Medical Research | 24 | National High-tech Research and Development Program | 3 |
| Fundação de Amparo à Pesquisa do Estado de São Paulo | 23 | Ministry of Health and Welfare | 3 |
| Department of Science and Technology | 22 | Urmia University | 3 |
| Consejo Nacional de Ciencia y Tecnología | 22 | Università degli Studi di Siena | 3 |
| National Science Foundation | 22 | Jiangsu Provincial Department of Education | 3 |
| Consejo Nacional de Ciencia y Tecnología | 22 | Department of Education of Liaoning Province | 3 |
| National Science Foundation | 22 | National Medicinal Plants Board, Ministry of AYUSH, Government of India | 3 |
| Mashhad University of Medical Sciences | 22 | Universidade Federal de Goiás | 3 |
| Fundação Carlos Chagas Filho de Amparo à Pesquisa do Estado do Rio de Janeiro | 20 | U.S. Department of Defense | 3 |
| National Research Foundation of Korea | 19 | Ministry of Health and Welfare | 3 |
| Department of Science and Technology, Ministry of Science and Technology(DST) | 18 | Shansi Scholarship Council of China | 3 |
| Tehran University of Medical Sciences and Health Services | 18 | Soochow University | 2 |
| National Research Foundation | 17 | Kuwait Foundation for the Advancement of Sciences | 2 |
| National Research Foundation | 17 | Ministry of Higher Education and Scientific Research | 2 |
| Natural Science Foundation of Jiangsu Province | 17 | Jilin University | 2 |
| Russian Science Foundation | 16 | Pok Ying Tong Education Foundation | 2 |
| Natural Science Foundation of Guangdong Province | 15 | Karnataka State Council for Science and Technology, Indian Institute of Science | 2 | Consejo Nacional de Investigaciones Científicas y Técnicas | 8 | Japan Agency for Medical Research and Development | 2 |
|-----------------------------------------------|----|--------------------------------------------------------------------------------|----|--------------------------------|----|--------------------------------|----|
| Tabriz University of Medical Sciences         | 14 | Foundation for the National Institutes of Health                              | 2 | Natural Science Foundation of Heilongjiang Province | 8 | Universiti Putra Malaysia | 2 |
| Ministry of Science and Technology of the People's Republic of China | 14 | National Science Council                                                       | 2 | Agencia Nacional de Promoción Científica y Tecnológica | 8 | Northwestern Polytechnical University | 2 |
| Fundação para a Ciência e Tecnologia          | 14 | Çanakkale Onsekiz Mart Üniversitesi                                            | 2 | All India Council for Technical Education                   | 8 | Basic Research Programs of Sichuan Province | 2 |
| Ministry of Science and Technology, Taiwan   | 13 | National Institute of Alcohol Abuse and Alcoholism                             | 2 | Fundamental Research Funds for Central Universities of the Central South University | 8 | Foundation of Henan Educational Committee | 2 |
| Higher Education Commission, Pakistan         | 13 | University Grants Commission- Nepal                                            | 2 | CSIR - Indian Institute of Chemical Biology                  | 8 | Roberts Enterprise Development Fund | 2 |
| Australian Research Council                  | 13 | Ege University                                                                 | 2 | Deanship of Academic Research, University of Jordan          | 8 | Campus France                       | 2 |
| Natural Science Foundation of Shandong Province | 13 | University Natural Science Research Project of Anhui Province                  | 2 | European Cooperation in Science and Technology               | 8 | Kementerian Sains, Teknologi dan Inovasi | 2 |
| Ministry of Education and Science of the Russian Federation | 13 | Department of Health of Shandong Province                                      | 2 | National Institute for Medical Research Development          | 8 | Fourth Military Medical University | 2 |
| Ministrstvo Prosвете, Nauke i Tehnološkog Razvoja | 12 | Ministry of Higher Education and Scientific Research                          | 2 | Natural Science Foundation of Fujian Province                | 8 | Pharmaceutical Research and Manufacturers of America Foundation | 2 |
| Japan Society for the Promotion of Science   | 12 | Promotion and Mutual Aid Corporation for Private Schools of Japan               | 2 | National Institute of General Medical Sciences               | 8 | Department of Biotechnology, Savitribai Phule Pune University | 2 |
| Alhaz Jundishapur University of Medical Sciences | 12 | Shanghai Municipal Education Commission                                       | 2 | King Khalid University                                       | 8 | Zhejiang Province Public Welfare Technology Application Research Project | 2 |
| Hamadan University of Medical Sciences        | 12 | Shanghai Municipal Education Commission                                       | 2 | Natural Science Foundation of Yunnan Province                 | 8 | Yeungnam University                     | 2 |
| Natural Science Foundation of Guangxi Province | 11 | School of Medicine, Shanghai Jiao Tong University                             | 2 | Higher Education Commission, Canterbury University            | 8 | Universiti Malaya                     | 2 |
| UGC-DAE Consortium for Scientific Research, University Grants Commission | 11 | Fundação de Amparo à Pesquisa do Estado do Piauí                              | 2 | Kashan University of Medical Sciences                         | 7 | Suzhou University of Science and Technology | 2 |
| Natural Science Foundation of Zhejiang Province | 11 | Liver and Gastrointestinal Diseases Research Center, Tabriz University of Medical Sciences | 2 | National Science Foundation of China, Shandong Province of China | 7 | Guangzhou Science and Technology Program key projects | 2 |
| National Science Centre, Poland              | 10 | Dirección General de Asuntos del Personal Académico, Universidad Nacional Autónoma de México | 2 | Jordan University of Science and Technology                  | 7 | Universidad de Antioquia               | 2 |
| Ferdows University of Mashhad                 | 10 | Tertiary Education Trust Fund                                                  | 2 | European Regional Development Fund                           | 7 | Universidad Nacional de Luján         | 2 |
| Russian Foundation for Basic Research         | 10 | Islamic Azad University Central Tehran Branch                                  | 2 | Ministry of Education of the People's Republic of China      | 7 | South-Central University of Nationalities | 2 |
| Iran University of Medical Sciences           | 10 | Anhui University                                                              | 2 | National Science Centre, Poland                              | 7 | Guangzhou Medical University          | 2 |
| National Heart, Lung, and Blood Institute     | 10 | Fundação de Apoio à Pesquisa, Universidade Federal de Goiás                   | 2 | Six Talent Peaks Project in Jiangsu Province                 | 7 | National Cancer Institute             | 2 |
| Ministry of Higher Education, Malaysia        | 10 | Cathay General Hospital                                                       | 2 | Shahid Beheshti University of Medical Sciences               | 7 | Universidad Nacional de Luján         | 2 |
| Centre National pour la Recherche Scientifique et Technique | 10 | Generalitat de Catalunya                                                     | 2 | Ministry of Education of the People's Republic of China      | 7 | South-Central University of Nationalities | 2 |
| Iran National Science Foundation              | 9  | Beijing Municipal Science and Technology Commission                           | 2 | National Council for Scientific Research                     | 7 | Direktorat Jenderal Pendidikan Tinggi | 2 |
| Mazandaran University of Medical Sciences     | 9  | Zayed University                                                              | 2 | Universitas Indonesia                                       | 7 | Dokuz Eylül Üniversitesi            | 2 |
| Kerman University of Medical Sciences         | 9  | Umm Al-Qura University                                                       | 2 | Ministry of Science and Technology                            | 7 | Cairo University                       | 2 |
| Deanship of Scientific Research, King Faisal University | 8 | University Grants Committee                                                  | 2 | Guizhou Science and Technology Department                    | 6 | Henan University                      | 2 |
| Research Grants Council, University Grants Committee | Natural Science Foundation of Hebei Province | Natural Science Foundation of Hainan Province | Russian Academy of Sciences | 2 |
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| Natural Science Foundation of Liaoning Province | Department of Science and Technology of Sichuan Province | Guangdong Science and Technology Department | Hirosaki University | 2 |
| Deanship of Scientific Research, King Saud University | National Key Laboratory of Science and Technology on Communications | Key Technologies Research and Development Program | Ahrar Branch, Islamic Azad University | 2 |
| Secretaria de Investigación y Posgrado, Instituto Politécnico Nacional | University College, Oxford | Department of Science and Technology, Government of West Bengal | 551 Science and Technology Innovation Talent Project of Jiangxi Province | 2 |
| Ministry of Economy and Competitividad | National Key Scientific Instrument and Equipment Development Projects of China | Department of Science and Technology, Government of West Bengal | 551 Science and Technology Innovation Talent Project of Jiangxi Province | 2 |
| Fundação de Amparo à Pesquisa do Estado de Minas Gerais | National Key Laboratory of Science and Technology on Communications | Department of Science and Technology, Government of West Bengal | 551 Science and Technology Innovation Talent Project of Jiangxi Province | 2 |
| Takeda Pharmaceutical Company | Natural Science Foundation of Jiangxi Province | National Science Foundation of Jiangxi Province | 2 |
| Natural Science Foundation of Jiangxi Province | Natural Science Foundation of Jiangxi Province | National Science Foundation of Jiangxi Province | 2 |
| National Health and Medical Research Council | National Science Foundation of Jiangxi Province | Natural Science Foundation of Jiangxi Province | 2 |
| Türkiye Bilimsel ve Teknolojik Araştırma Kurumu | National Science Foundation of Jiangxi Province | Natural Science Foundation of Jiangxi Province | 2 |
| Vietnam Academy of Science and Technology | National Science Foundation of Jiangxi Province | Natural Science Foundation of Jiangxi Province | 2 |
| Bulgarian National Science Fund | National Science Foundation of Jiangxi Province | Natural Science Foundation of Jiangxi Province | 2 |
| Ministry of Electronics and Information Technology | Shaxi Province Science Foundation for Youths | National Science Foundation of Jiangxi Province | 2 |
| National Institute on Drug Abuse | National Science Foundation of Jiangxi Province | National Science Foundation of Jiangxi Province | 2 |
| Hunan Provincial Science and Technology Department | National Science Foundation of Jiangxi Province | National Science Foundation of Jiangxi Province | 2 |
| Science and Technology Planning Project of Guangdong Province | National Science Foundation of Jiangxi Province | National Science Foundation of Jiangxi Province | 2 |
| Sichuan Province Science and Technology Support Program | Health and Family Planning Commission of Jiangxi Province | National Science Foundation of Jiangxi Province | 2 |
| Zhejiang Chinese Medical University | Department of Education of Guizhou University | 5200631 Marie Skłodowska-Curie Actions | 2 |
| China Scholarship Council | Lebanese American University | NIH Office of the Director | 2 |
| Natural Science Foundation of Liaoning Province | Department of Science and Technology of Sichuan Province | Guangdong Science and Technology Department | Hirosaki University | 2 |
| Russian Foundation for Fundamental Investigations | National Science Foundation of Jiangxi Province | National Science Foundation of Jiangxi Province | 2 |
| University of Technology | University of Technology | National Science Foundation of Jiangxi Province | 2 |
| Universiti Teknologi Malaysia | Universiti Teknologi Malaysia | National Science Foundation of Jiangxi Province | 2 |
| Ministro dell’Istruzione, dell’Università e della Ricerca | Universiti Malaysia Pahang | Universiti Malaysia Pahang | 2 |
| Shanghai Jiao Tong University | Universiti Malaysia Pahang | Universiti Malaysia Pahang | 2 |
| National Science Foundation of Henan Province | Deutscher Akademischer Austauschdienst | Natural Science Foundation of Henan Province | 2 |
| Kementerian Riset Teknologi Dan Pendidikan Tinggi Republik Indonesia | National Key Laboratory of Science and Technology on Communications | Key Technologies Research and Development Program | Ahrar Branch, Islamic Azad University | 2 |
| Ministerio de Economía y Competitividad | University College, Oxford | Department of Science and Technology, Government of West Bengal | 551 Science and Technology Innovation Talent Project of Jiangxi Province | 2 |
| Fundação de Amparo à Pesquisa do Estado de Minas Gerais | National Key Scientific Instrument and Equipment Development Projects of China | Department of Science and Technology, Government of West Bengal | 551 Science and Technology Innovation Talent Project of Jiangxi Province | 2 |
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| National Health and Medical Research Council | Natural Science Foundation of Jiangxi Province | Natural Science Foundation of Jiangxi Province | 2 |
| Türkiye Bilimsel ve Teknolojik Araştırma Kurumu | Natural Science Foundation of Jiangxi Province | Natural Science Foundation of Jiangxi Province | 2 |
| Vietnam Academy of Science and Technology | National Science Foundation of Jiangxi Province | Natural Science Foundation of Jiangxi Province | 2 |
| Bulgarian National Science Fund | National Science Foundation of Jiangxi Province | Natural Science Foundation of Jiangxi Province | 2 |
| Ministry of Electronics and Information Technology | Shaxi Province Science Foundation for Youths | National Science Foundation of Jiangxi Province | 2 |
| National Institute on Drug Abuse | National Science Foundation of Jiangxi Province | National Science Foundation of Jiangxi Province | 2 |
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| Fundação de Amparo à Pesquisa do Estado de Minas Gerais | National Key Scientific Instrument and Equipment Development Projects of China | Department of Science and Technology, Government of West Bengal | 551 Science and Technology Innovation Talent Project of Jiangxi Province | 2 |
| Takeda Pharmaceutical Company | Natural Science Foundation of Jiangxi Province | Natural Science Foundation of Jiangxi Province | 2 |
| Natural Science Foundation of Jiangxi Province | Natural Science Foundation of Jiangxi Province | Natural Science Foundation of Jiangxi Province | 2 |
| National Health and Medical Research Council | Natural Science Foundation of Jiangxi Province | Natural Science Foundation of Jiangxi Province | 2 |
| Türkiye Bilimsel ve Teknolojik Araştırma Kurumu | Natural Science Foundation of Jiangxi Province | Natural Science Foundation of Jiangxi Province | 2 |
| Vietnam Academy of Science and Technology | National Science Foundation of Jiangxi Province | Natural Science Foundation of Jiangxi Province | 2 |
| Bulgarian National Science Fund | National Science Foundation of Jiangxi Province | Natural Science Foundation of Jiangxi Province | 2 |

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Review article
| Shandong Province | Shanghai Municipal Population and Family Planning Commission | 2 |
|------------------|---------------------------------------------------------------|---|
| Universitas Indonesia | National Youth Science Foundation | 2 |
| Fundação Cearense de Apoio ao Desenvolvimento Científico e Tecnológico | Department of Science and Technology, Government of Ceará | 2 |
| Kermanshah University of Medical Sciences | Tarbiat Modares University | 2 |
| Zhejiang Provincial Key Laboratory of Wood Science and Technology | National Institute for Genetic Engineering and Biotechnology | 2 |
| Universidad de Guanajuato | Belarusian Republican Foundation for Fundamental Research | 2 |
| Centre for Addiction and Mental Health | Doctoral Scientific Research Start-up Foundation from Hunan University of Technology | 2 |
| Tianjin University of Science and Technology | Yunan Provincial Science and Technology Department | 2 |
| Beijing Postdoctoral Research Foundation | Universidade do Estado de Santa Catarina | 2 |
| Major State Basic Research Development Program of China | Fujian University of Technology | 2 |
| Ministry of Education - Singapore | Ministry of Science, ICT and Future Planning | 2 |
| Natural Science Foundation of Gansu Province | Shanghai Key Discipline Construction Project | 2 |
| Department of Atomic Energy, Government of India | Jiangsu Key Laboratory of New Drug Research and Clinical Pharmacy | 2 |
| Inner Mongolia Autonomous Region | Sapientia Universitatis di Roma | 2 |
| National University of Singapore | Natural Science Foundation of Ningbo | 2 |
| Ministry of Oceans and Fisheries | Chengdu Science and Technology Bureau | 2 |
| Natural Science Foundation of Tianjin City | Ministry of National Education and Religious Affairs | 2 |
| Golestan University of Medical Sciences | Mae Fah Luang University | 2 |
| Beijing Municipal Natural Science Foundation | Office of Extramural Research, National Institutes of Health | 2 |
| Universiti Kebangsaan Malaysia | QingHai Department of Science and Technology | 2 |
| Babol Noshirvani University of Technology | Bangladesh Council of Scientific and Industrial Research | 2 |
| Chang Gung Memorial Hospital | University of South China | 2 |
| Shanghai Science and Technology Development Foundation | Centre for Addiction and Mental Health Foundation | 2 |
| Natural Science Foundation of Inner Mongolia | Natural Science Foundation of Shanxi Province | 2 |
| Zanjan University of Medical Sciences | Indian Institute of Technology Madras | 2 |
| Birjand University of Medical Sciences | Astarbijan Shahid Madani University | 2 |
| Shenzhen Science and Technology Innovation Commission | York St John University | 2 |
| National Institute for Health Research | Fondazione Umberto Veronesi | 2 |
| Guilan University of Medical Sciences | Medical Science and Technology Development Foundation, Nanjing Municipality Health Bureau | 2 |
| Beijing Municipal Administration of Hospitals | Ministry of Higher Education and Scientific Research | 2 |
| Narodowy Centrum Nauki Polskiej | National Science Foundation of Yunnan Province | 2 |
| Science and Technology Department of Henan Province | Capital Medical University | 2 |
| Thailand Research Fund | Guangdong University of Technology | 2 |
| Ataturk Universitesi | Council on grants of the President of the Russian Federation | 1 |
| Egyptian Petroleum Research Institute | Cancerfonden | 1 |
| Indian Council of Agricultural Research | W. Garfield Weston Foundation | 1 |
| Universitetet Jagiellonski Collegium Medicum | National Defense Pre-Research Foundation of China | 1 |
| Konkuk University | G. Harold and Leila Y. Mathers Foundation | 1 |
| University of Tabuk | Nanjing University | 1 |
| Natural Science Foundation of Shaanxi Provincial Department of Education | Nederlandse Organisatie voor Wetenschappelijk Onderzoek | 1 |
| Shiraz Institute for Cancer Research, Shiraz University of Medical Sciences | Excellent Young Talents Fund Program of Higher Education Institutions of Ahvaz Province | 1 |
| Office of Vice Chancellor for Research and Technology, University of Isfahan | Interdisciplinary Research Fund for Young Scholars in Zhejiang University | 1 |
| Natural Science Foundation of Jiangsu Provincial Natural Science Foundation | Female Center for Scientific and Medical Colleges, King Saud University | 1 |
| University of Tennessee | University of Southern California | 1 |
| Central Mechanical Engineering Research Institute, Council of Scientific and Industrial Research | RSF Social Finance | 1 |
| Shiraz Transplant Research Center, Shiraz University of Medical Sciences | Kyoto University | 1 |
| University of Education, Science and Technology | Ministry of Education, Science and Technology | 1 |
| Universidad Nacional Autónoma de México | Ministry of Education, Government of the People's Republic of Bangladesh | 1 |
| Chang Gung Institute of Technology | Guangxi Medical University | 1 |
| University of the Punjab | University of Johannesburg | 1 |
| The Wellcome Trust DBT India Alliance | Health and Family Planning Commission of Helongjiang Province | 1 |
| Hungarian Scientific Research Fund | Stavanger Universitetssjukhuset | 1 |
| AJS Foundation for Metabolic Diseases | Ministrerstvo Zdravstva Srbije | 1 |
| Caixa Foundation | Ministry of Health and Social Development | 1 |
| Office of AIDS Research | Instituto Nacional de Ciencias de la Salud | 1 |
| VIT University | South African Medical Research Council | 1 |
| King Abdulaziz University | Arab Health University | 1 |
| Horizon 2020 Framework Programme | National Institute of Child Health and Human Development | 1 |
| Malaysia Toray Science Foundation | Sichuan Provincial Youth Science and Technology Fund | 1 |
| National Institute of Diabetes and Digestive and Kidney Diseases | Capital Foundation of Medical Development | 1 |
| Çukurova Üniversitesi | Bill and Melinda Gates Foundation | 1 |
| Defence Research and Development Organisation | Tianjin Science and Technology Committee | 1 |
Concl   usion

Funds or research grants are always a part of quality research. There is always a financial angle to a well-designed research plan and its outcomes. The importance of a grant cannot be overlooked for quality research. The research grant is critical and plays a pivotal role in the quality outcome that can stand the test of the scientific world. Today, several funding agencies support research proposals for the betterment of human lives. Virtually all countries with booming economic growth have strong agencies financing research and development.

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