

# Attached Table 3 Generative Research Fields Review Division

This table applies only to the “Challenging Research (Pioneering/Exploratory)”.

## ○Divisions Designated for FY2020 Recruitment

Division	Detail	Division Number	Proposal Solicitation
<p>A New Phase of Our Advanced Science and Technology Society</p>	<p>While the advance of science and technology has brought numerous benefits to humankind, it has also given rise to such problems as ecosystem destruction and pollution. Initially it was believed that these problems arose from the basic framework of society and could be overcome or avoided in the future. Today, however, astonishing advances in science and technology are opening the path toward processes that modify human beings themselves, throwing into question the standing of humans as rational beings in control of science and technology. Thus, as the basic framework of society itself becomes unsteady, we can conclude that our advanced science and technology society is entering a new phase.</p> <p>The elucidation of brain mechanisms, for example, along with its practical applications, will induce us to reconsider our notions of human autonomy and dignity, conceptual skills and creativity which are related to scholarly pursuits, and the meaning of societal concepts such as responsibility, justice, and fairness, and economic and political behavior. The development of reproductive techniques has contributed greatly to infertility treatment, but the possibility of pre-birth diagnosis, birth without parent-child relationship, genome editing, designer babies and the like has changed our concept of family and love, marriage, and gender, calling on us to re-examine the societal and legal systems involved in these matters.</p> <p>Transformations in human understanding and society brought about by advanced science and technology are observed in various areas. Artificial intelligence, which is starting to become a reality in daily life and the workplace, is expected not only to alter the quality of labor and the work environment but to lead to major structural changes in the social hierarchy. Information and communications technologies are changing existing media structures, thereby affecting the nature of economy, politics, society, and nations. Further, the impact of advanced science and technology is spreading to literature, the arts and other cultural activities as well as to the front lines of education, sports, medicine, and nursing and long-term care. Such areas as slow life, sustainability, ecology movements, anti-globalism, nationalism, and reactionism can also be seen as closely related to developments in advanced science and technology.</p> <p>This research field examines the relationship of human beings and society to science and technology — now indispensable to human existence — by identifying the current state and problems of the new phase being entered by our advanced science and technology society.</p>	<p>CN01</p>	
<p>Studies on the Super-Aging Society</p>	<p>Japan, with 26.7 percent of its population aged 65 or above as of 2015, is rapidly becoming a super-aging society. Among the factors contributing to the emergence of the super-aging society in Japan are high educational levels, provision of public sanitation, good nutrition, and wide availability of effective measures for treating diseases. The declining birth rate is another reason for the rapid increase in the percentage of the elderly in the population. The ways each individual lives in this new kind of society are many and varied, and to grasp the full picture is difficult.</p> <p>In Japan today, the gap between “healthy life span”—the time in which individuals can self-dependently live in society—and actual life span—the time until the end of life—is around ten years. One factor behind this gap is the state of medical care in Japan, which fully utilizes the most advanced medical techniques produced by modern life sciences and applied beyond treatments, endeavoring to avoid the extinction of life to the greatest extent possible. The super-aging society raises new questions concerning the human dignity of each individual, such as how to cope with the increase in dementia patients, the propriety of life-extension treatments with no endpoint, and death with dignity. Not only the mental, physical, and economic burden on the elderly themselves and the families caring for them, but also the burden on the whole society are increasing. In the United States, the “Choosing Wisely” campaign has been initiated, with the aim of withholding excessive medical treatment with thin evidence of its worth. Research is applying science and thanatology to comprehensively study appropriate measures for selecting optimal treatments, by predicting from various aspects how well a person can continue life.</p> <p>The World Health Organization defines health as including not only physical well-being but also mental and social well-being. In reality, a healthy life span is related to multiple factors throughout life; for the elderly, along with treatment oriented to prevention and recovery from illness, the significant factors are the “joy of living,” maintenance of living abilities, desire to work and contribute to society, connection with society, and existence of family or other people to communicate with. Various forms of preemptive intervention have been proposed for building up early in life a physical and mental constitution not prone to diseases. For the people in society as a whole, several matters such as countermeasures against the declining birth rate, child-rearing support, human resources for the elderly, and health insurance systems, are crucial for achieving the sustainability of society. With the increasing proportion of the elderly, the harmonious sharing of social resources based on tolerance and empathy, which we have never possessed in the past, will be vital for realizing symbiosis in society.</p> <p>While accepting the super-aging society, the new challenge facing all contemporary people is how to make our society sustainable and achieve a balance of well-being among all its members. In this research field, from the viewpoint of not only natural sciences but also humanities and social sciences, medical science and healthcare are studied with the view to maintaining well-being throughout the lifetime of each member of the super-aging society, analysis is conducted on how the existence of the elderly influences the people around them and society, and several topics including issues relating to social institutions are comprehensively studied.</p>	<p>CN02</p>	<p>FY2018 — FY2020</p>