There is no boundary between basic and applied science

Yoshiyasu Takefuji

L. Fleming et al. wrote an article entitled "Government-funded research increasingly fuels innovation" (1). Their article described "despite this increase in industrial spending, firms appear to be pursuing—or at least publishing—less basic science" (1). According to James K. Feibleman, he mentioned that the line between pure and applied science is a thin one; they are distinct in their differences, but one fades into the other (2). Because of their ambiguous definitions, nobody knows the boundary between basic and applied science. We don't know what will cause breakthrough innovation in the world. As long as we know, the large long-term fundings cannot cause innovation and discourage active researchers (3). From the past, we have learned several lessons from the large long-term government investments to supercomputers around 1990 (4) and biotechnology (5). Not only government and industry fund, but also alternative finance can play a key role in funding researches (6).

References:

- L. Fleming et al., "Government-funded research increasingly fuels innovation," Science 21 Jun 2019: Vol. 364, Issue 6446, pp. 1139-1141
- James K. Feibleman, "Pure Science, Applied Science, Technology, Engineering: An Attempt at Definitions," Technology and Culture, Vol. 2, No. 4 (Autumn, 1961), pp. 305-317
- 3. https://science.sciencemag.org/content/356/6334/123/tab-e-letters
- 4. John Markoff, Thinking Machines To File for Bankruptcy, The New York Times August 16, 1994
- Sascha Karberg, Biotech's Perfect Storm, Cell Volume 138, Issue 3, p413-415, 7 August 2009
- 6. https://science.sciencemag.org/content/361/6402/538/tab-e-letters