

# Department of Natural Sciences and Sustainable Development Program for Cultivation of High-level Basic Research Personnel by Industry

Revised 3/16/2020

## **Background:**

Basic science is a pillar of the innovation economy. Industry's long-term investment of resources in basic R&D should be an important element in Taiwan's overall R&D budget. After many years of promoting key mission-oriented basic research, many projects funded by the MOST Department of Natural Sciences and Sustainable Development have yielded impressive academic and industrial application results.

During the next stage, this Department hopes to gradually usher in a new phase of cooperation between industry and academia in the form of reliance on basic research creating industrial value to cultivate high-level human resources.

## **Operating model:**

Depending on the nature of a mission-oriented basic research program, industry and MOST will decide key fields and directions, and industry will provide funds for the hiring of several "junior high-tech industry scientists." (candidates are not limited to citizens).

## **Review procedures:**

The Department of Natural Sciences and Sustainable Development will perform review.

(1) Second review committee: The Department head will invite experts, scientists, and industry representatives to serve as the committee members.

(2) Review mechanism:

Preliminary review: The second review committee shall recommend candidates to perform a preliminary review of documents.

Second review: A list of recommended candidates shall be compiled after summarizing preliminary review comments in a review

session; when necessary, applicants may be asked to give briefings.

**Amount of funding:**

Individuals' annual salaries shall be determined by their level of education and research performance. The upper limit on annual salary shall be NT\$1.8 million; hiring contracts shall be for 2-3 years. Researchers' titles shall be prefixed by the name of the sponsoring company, such as (company name) Junior Fellow.

**Consensus concerning intellectual property rights (IPR):**

The implementing organizations of recommended applicants and host research teams must reach a consensus concerning IPR with the funding corporation, and the two parties may proceed with implementation only after reaching an agreement.

**Interchange model and duties:**

Apart from participating in research, e.g., developing essential materials or key measurement technologies, the junior high-tech industrial scientists should also receive relevant training classes, and should have opportunities for collaboration with the funding company and its research team. The company may also send personnel to participate in annual project conferences, relevant forums, and workshops, where they will have chances to engage in interchange concerning advanced breakthroughs in relevant fields. If "junior high-tech industry scientists" are able to achieve good applied research results, the principal investigator may further implement an industry-academic collaborative project involving more concrete collaboration with the company.

**Expected results:**

Leveraging industry resources to promote long-term, forward-looking basic research will provide corporate R&D departments a mechanism for the in-depth understanding/use of advanced academic technologies and key instruments. This will not only allow industry to benefit tangibly from

the talents of high-level basic research personnel, but also provide a new model by which industry, government, and academia can work together to lay the groundwork for basic research, cultivate high-level scientific research manpower, and help industry to take advantage of opportunities for upgrading.

Attachment: Explanation of TSMC junior scientist application criteria and fields (English)