

Themes for first year of issue-solving-type “New LRI” research activities have been adopted

Support for developing risk assessment methods, a universal theme, Is strengthened further

Japan Chemical Industry Association (Chairman: Kyohei Takahashi, currently chairman of Showa Denko K.K.) has recently adopted the first-year research themes of the “New LRI” (Long-range Research Initiative or long-term activity to support research on the possible effects of chemicals on human health and environment) to be conducted by outside researchers, which was announced last March.

At JCIA, the LRI activity has undergone a drastic review after 10 years of activity, which started in 2000. The “New LRI,” which focuses mainly on the response to social needs and resolution of urgent industry issues, began this fiscal year. Under the “New LRI,” areas for specific research have been established as (1) development and evaluation of new risk assessment methods, (2) research on the safety of nanomaterials and new chemicals, (3) research on the effects of chemicals on children, the elderly, and genetic diseases, (4) assessment of the effects of chemicals on the ecosystem and environment, and (5) other issues which require urgent responses.

In addition to the past “public recruitment of research themes”, JCIA has established “designated themes” to which JCIA provides financial support by designating the research themes. Themes selected for adoption were based on discussions with outside experts. JCIA has recently adopted five designated research themes and nine publicly recruited research themes out of 61 applications. Research will start this month.

“New LRI” will strengthen its support of themes for which establishment of assessment and test methods are socially required

From the newly started “designated themes,” three research themes from (1) development and evaluation of new risk assessment methods, one research theme from (2) research on safety of nanomaterials and new chemicals, and one research theme from (4) assessment of the effects of chemicals on the ecosystem and the environment have been selected.

For research theme (1), research will be conducted on the development of new

exposure assessment model, which is designed to be used as practical tool that reflects the actual exposure conditions in Japan; the construction of a novel pharmacokinetic model using a human liver chimeric mice; and the establishment of an assessment method for respiratory system allergy caused by chemicals where no internationally established screening method currently exists.

As to the nanomaterials research theme (2), nanotechnology is expected to drive Japan's economic growth. However, the relationship between the physical properties and biological behavior has not been properly understood yet. This LRI research will be conducted to gather systematic data concerning the physical properties/quality and biological behavior of nanomaterials. The results of the research are expected to become a prototype of safety assessment of nanomaterials as the research initiative of Japan.

In the area of (4) assessment of effects on ecosystem/environment, the research will focus on constructing a computer modeling for prediction of photolysis and hydrolysis reaction of chemicals in the environment. Although various models have been developed for biodegradability research field and the accumulation of chemicals in the environment, there has not been any substantial progress in development of prediction models for non-biodegradable chemical reactions such as photolysis and hydrolysis despite the fact that they affect much on the behavior of chemicals in the environment. Therefore, the research will be aimed at constructing a model which can be widely used in society.

For further information on the LRI, please refer to its website:

<http://www.j-lri.org/english/index.php>

An English leaflet on the "New LRI" can be seen at:

http://www.j-lri.org/english/pdf/LRI_eg_low_2012.pdf