

# RCAI Advisory Council 2008

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The RCAI Advisory Council meeting was held December 4 and 5, 2008 at the RCAI research facility in the RIKEN Yokohama campus. The meeting was attended by Drs. Max Cooper (Emory University, USA, Chair), Rudolf Aebersold (ETH, Switzerland), Antonio Coutinho (IGC, Portugal), Alain Fischer (INSERM, France), Paul Kincade (OMRF, USA), Bernard Malissen (CIML, France), Diane Mathis (Harvard University, USA), Ruslan Medzhitov (Yale University, USA), Masayuki Miyasaka (Osaka University, Japan), Susan Pierce (NIH, USA), Klaus Rajewsky (Harvard University, USA), Takehiko Sasazuki (IMCJ, Japan), Ralph Steinman (Rockefeller University, USA), Kiyoshi Takatsu (University of Tokyo, Japan), Dale Umetsu (Harvard University, USA), and Arthur Weiss (UCSF, USA). Advisory Council members Drs. Hiromitsu Nakauchi (University of Tokyo, Japan), William Paul (NIH, USA), and Tadamitsu Kishimoto (Osaka University, Japan) were unable to attend. However, Dr. Kishimoto held a private meeting with Director Taniguchi prior to the Advisory Council meeting. He provided the Director with written comments and approved the RCAI reorganization plan (see below).

## **BACKGROUND**

This document is a summary of the report of the RCAI Advisory Council 2008 meeting. This was an important evaluation session for three reasons. First, most of the Team Leaders were appointed 5 years ago and, in accordance with RIKEN policy, had to be critically evaluated for their achievements as well as contributions to RCAI and society. The Advisory Council focused its evaluation on scientific achievements. Second, the RCAI is in the process of formulating its plan for the IAI Tertiary Term and is thus required to establish long term research directions. Third, due to significant budget reductions, the Center must develop a reorganization plan for the long and short term in order to continue as a productive entity.

## **RCAI RESPONSE TO ADVISORY COUNCIL RECOMMENDATIONS**

The Advisory Council has been evaluating RCAI on an annual basis since its inception and was very pleased with the way RCAI responded to their previous recommendations. They commented that the RCAI has been using the scientific appraisals and advice by the Advisory Council in a productive manner, continually improving the research quality and operational policies of the Center.

## **EVALUATION PROCESS**

Prior to the Advisory Council in Yokohama, the council members each received detailed descriptions of the research activities of the individual laboratories, including responses

by each laboratory head to previous Advisory Council comments/critiques. They also received documents describing the Centers current activities and future plans.

The first day's session (Team Evaluations) was a review of the individual laboratories and their progress over the last five years. The laboratories were grouped into "Blocks", based on common research interest, and each block was reviewed by two or three Advisory Council members with appropriate expertise. During this phase of the review, the heads of individual laboratories gave oral presentations and answered questions about their current and future research plans. Later, the Advisory Council members reconvened as a group to discuss the evaluations of each Block and then summarized these evaluations in a meeting with the RCAI Director.

The second day's session (Term Evaluations) was a review of the Center's overall activities and future plans. After comments and advice to the Center Director, there was a summary meeting and report to the President of RIKEN.

## **RCAI RESEARCH ASSESSMENT – TEAM EVALUATIONS**

The Advisory Council was impressed by the outstanding science that is being done at RCAI, which is reflected by the quality of the publications from both senior and young investigators.

The Advisory Council noted that most of the research groups led by senior investigators are doing very extremely well and the productivity of most is very impressive. More importantly, in terms of the reputation and future of the Center, many of the younger investigators have blossomed in the past five years

The Advisory Council summarized that with rare exceptions, the quality of research being performed at RCAI is outstanding and internationally recognized and competitive. It is especially impressive given that the Center has only been in existence for five years.

## **RCAI ASSESSMENT – TERM EVALUATIONS**

### **Reorganization Plan**

The Advisory Council noted that the RCAI is in an unfortunate and difficult financial situation. This and shifting research priorities will necessitate closing of some labs, immediately in some cases and in the next two to three years in other cases. The evaluations of the Advisory Council and internal evaluations conducted by the Director and two deputy directors had a different focus. The Advisory Council concentrated on ongoing research activity and potential, whereas the internal evaluations focused on research performance, with a particular emphasis on quality and numbers of publications, as well as contributions to RCAI and society. This appears akin to the tenure system at American universities, where faculty are evaluated in three areas,

research, teaching, and community service. After considering the Advisory Council scientific evaluations, the RCAI leadership performed a reevaluation and finalized a comprehensive evaluation of all team leaders.

#### *Recommendation*

The Advisory Council was in general agreement with the reorganization plan. Realizing that decisions about individual researchers must be taken by the Director, the Advisory Council provided him with their views on ongoing research activities and their potential. Based on his leadership in the development of a world class immunology center, the Advisory Council expressed full confidence in Dr. Taniguchi's ability to guide the RCAI through this difficult period and to make necessary personnel changes.

#### **Future Self-Renewal System**

Dr. Taniguchi indicated that RIKEN will require RCAI to put a system in place to ensure the continuous turnover of new as well as senior investigators. The precise plan is still evolving and will require approval by the RIKEN board. In its present form, there would be a rolling tenure system for group directors, and team leaders would have a five year appointment with a possible extension, after a critical evaluation, of not more than one more five year period. The candidates for team leader positions must be less than 45 years old. There would be no particular restrictions on the Unit Leaders because these are strategic appointments vital to the center's operations.

#### *Recommendation*

The Advisory Council was in general agreement with the plan outlined by the Director. They felt that conditions of employment should be elaborated clearly for each recruited individual, and that the system should be fair and the review criteria should be transparent to new and existing team leaders. During the 5 year period, they felt that there should be periodic evaluations with feedback to the investigators, as is now provided by the Advisory Council. The investigators should be told specifically if there are shortcomings in their performance, and advised on what can be done to improve.

#### **Budget**

The Advisory Council felt that the ongoing and future budget cuts threaten the survival of RCAI. It was not clear to them why drastic budget cuts are being imposed on this fledgling Institute that has rapidly reached a world class level of performance. The science of immunoregulation is fundamental to understanding allergy.

#### *Recommendation*

Due to the current economic crisis, research budgets are being strained worldwide. However, the Advisory Council felt that every effort should be made to stabilize the RCAI budget. The government and RIKEN should perform a cost/benefit analysis comparing the cost of allergy to the society and the amount of funds being allocated to allergy research. The Advisory Council felt that the current budget is actually quite low for such a well performing institute and that the planned severe cut in financing for an institution that is doing remarkably well after only 5 years will have a very negative effect on morale and perception inside Japan and internationally. The Director noted an increase in the number of patent applications being filed by RCAI scientists. The Advisory Council felt that if any of these are financially successful, some percentage of the income should be reinvested in RCAI activities.

### **Tentative future plans**

#### Platform for Human Application

Plans here included further studies of humanized mice, artificial lymphoid tissues and immunologic vaccines. These are areas where RCAI scientists have already established a foothold. A new area is the development of human immune iPS cells.

#### *Recommendation*

The Advisory Council noted that RCAI is very strong in the first three areas mentioned above. Human iPS is currently a very hot area, and may provide opportunities for additional, non-RIKEN funding. In general the Advisory Council felt that RCAI should emphasize allergy, which is a major health concern in Japan and an area where they may have a big impact. In this area the RCAI should interact with other RIKEN Yokohama institutes as well as with clinics.

#### Basic Mechanisms of Immune Regulation

This will include single cell movement, cross talk in the immune system, immunological memory and immune regulation. A collaboration system with the Osaka WIP and establishment of open laboratories with universities are a component of this part of the plan.

#### *Recommendation*

The Advisory Council noted that this part of the future plan includes the core strength of RCAI in basic immunologic research. Interactions with Osaka WIP and other universities should also be fruitful. The Advisory Council enthusiastically supported this section of the future plan.

#### Technology Development

This will include improvements in existing technologies such as the single molecule microscope, as well as new programs in multicolor molecular movement, single cell profiling, and deep imaging microscopy.

#### *Recommendation*

The Advisory Council noted that the RCAI has been very successful in developing these types of technologies. The Advisory Council enthusiastically supported this section of the future plan.

#### Immune Systems Biology

This will include spatio-temporal dynamics of the immune system, simulation of immune regulations, and modeling of the immune system and simulation of disease control.

#### *Recommendation*

The Advisory Council recommended prudence here, focusing on specific questions in immune systems biology, such as the analysis of single molecule imaging. There was concern that a diffuse, non-biologically oriented approach to systems biology would result in two camps, the systems biologists and the conventional immunologists, and that these two camps would not be able to interact effectively.

#### Integrated Immune Database

#### *Recommendation*

The Advisory Council noted that the Primary Immunodeficiency Diseases in Japan and associated Resource of Asian Primary Immunodeficiency Diseases databases are well planned and an excellent prototype for RCAI as it expands in this area. A specific recommendation was that existing and future databases be coordinated with other international databases.

### **Other Recommendations**

#### Mentorship

To ensure and facilitate the success of young scientists, the Advisory Council recommended that a formal system of mentoring should be established.

#### Collaboration

It appeared to the Advisory Council that collaboration among RCAI scientists is limited, even when there is clear overlap in scientific expertise and interests. They recommended financial incentives to promote collaboration. Specifically, some of the RIKEN President's Fund could be earmarked for collaborative projects initiated by

young investigators. This initiative could apply to all of RIKEN Yokohama, not specifically to RCAI.

### Postdoctoral training

The Advisory Council felt that it would be of great value if physicians interested in allergic diseases could train at RCAI, where the best science for allergy is being done. The same is true for physicians in other fields, e.g. primary immunodeficiency.

## **CONCLUSIONS**

The Advisory Council conclusions are as follows:

During its short existence, RCAI has developed into an internationally renowned Center for top level immunology research. The Director is to be congratulated for managing this successful effort. This goal has been achieved by recruiting outstanding researchers to RCAI, as well as by establishing novel international programs such as the summer program and international collaborative research grant award system. The RIKEN and the Japanese government are to be congratulated for their support of this outstanding Center. We strongly recommend continuation of that support at the highest level possible, with the unanimous opinion that RCAI will provide exceptionally valuable return on the investment in terms of improved human health and well being.