

AIMBN Beginning, Present and the Future.**By Chris Tan, Founding & Former Director of Singapore IMCB.****Beginning and Now**

AIMBN (Asia-Pacific Molecular Biology Network) was founded in 1997/1998. It began ~1996 when Drs. Ken-ichi Arai Director of IMSUT Japan, Jeongbin Yim of the Seoul National University and Kiyoshi Kurokawa of the University of Tokai and me discussed the idea of promoting good science in Asia. By then centers of excellence for molecular and cell biology were coming up in Taipei, Seoul, Singapore and Hong Kong, places not known for making scientific discoveries before. It took about a decade for these centers to begin competing with the best in their chosen focus of research. Awareness of this begun when Singapore IMCB research was extensively discussed in Nature by its Chief Editor, John Maddox, in a feature in Science by June Kinoshita, in Time by Madeline Nash about a reverse brain drain, in Fortune on the world first Transgenic rat breakthrough, in Business Week, and the Economist Intelligence Unit feature on the rise of Science in Asia. The news was that Asia is making a historical transition of shedding the mentality of copying from the West into a mindset for making scientific discoveries. Nonetheless, was this a gradual transformation or a seismic event that will transform the Asian continent? Will Asia become a substantial player, and contend for world leadership in biology in the 21st century? This was the question in 1996/1997 when Drs Arai and Yim visited me in Singapore to discuss the formation of an organization to be modeled after the successful European Molecular Biology Organization. My concern was, in order for this organization to take off it cannot be dominated by one single center of power, which then was Japan because science in Japan was in dire need for reform or stagnate from a distant third place in the world to gradual irrelevance. This was the stage of scientific development in Asia when AIMBN was born in 1997. AIMBN started off with 14 countries. Ken-ichi Arai was elected the First and Founding Chairman and each country was represented by a Governing Council Member. The first meeting to discuss the formation of AIMBN took place at IMSUT in 1997. Science leaders from 14 countries came. A second meeting was held shortly thereafter at SNU, Seoul when AIMBN was officially established in 1998. The feeling for AIMBN was enthusiastic and infectious. The sense was that the wave of good science was on the cusp sweeping over Asia. Overnight this represented a historical opportunity for the different countries in Asia to work, for a common goal, as science does not recognize national borders. This was exciting because the Asia is more Balkanized than the Balkans. AIMBN rapidly raised a sum totaling \$US 225,000 from the research institutes of Singapore, Hong Kong, Korea, the Republic of China, Australia and Thailand. One private donor Dr Naoko Aria made several donations amounting to \$ US 226,000 without fanfare. The second and last private donor was equally touching when Professor Keith Stanley of Australia donated \$US 675 to AIMBN. A number of private companies from Japan and Korea donated a total of \$US 90,000. Starting in 2002, the Korean Ministry of Science and Technology underwrote an annual sum of \$ 68,000 per year to support the activities of AIBMN. To date the Korean government has contributed \$US 340,000 to AIMBN. From its inception AIMBN raised at least \$US 881,000 in cash. It spent \$US 657,000. It should be noted that when AIMBN HQ was in Tokyo, Japan's Ministry of Education contributed funds to

help the AIMBN operations in Japan while Singapore's IMCB, Biochemistry Dept of HKST University headed by Nancy Ip and Warren Tates's office, provided the operations for the AIMBN Office in Singapore, AIMBN Finance control in Hong Kong and AIMBN Membership co-ordination in New Zealand respectively. Currently as of June 2006 AIMBN has \$US 224,000 left in the bank.

AIMBN started with 14 countries. They were, the People Republic of China, India, the Republic of China, Japan, Korea, Hong Kong, Indonesia, Thailand, Singapore, Australia, New Zealand, Israel, Philippines and Malaysia with 148 members. No single country dominated its membership. Today its membership has doubled to 304 members. Each member had to be nominated based on the nominee's research record. At that time, Japan, Israel and Australia could have easily dominated AIMBN membership because they had more scientists and a longer history of research than the other member countries. But the First and Founding Chairman Ken-ichi Arai and the AIMBN Governing Council decided to have broader representations from the region without compromising the standards for membership requirement. To date as numerous world-class centers of excellence are becoming commonplace in the Asia Pacific region and with many Asian countries outspending many of the G8 countries on a per capita basis for life science research, the AIMBN membership is projected to increase dramatically. AIMBN is a multinational science organization. It does not recognize national borders. Since its inception in 1997, AIMBN held numerous conferences bringing its members from across the Asian continent to meet at least once a year, each time in a different city in Asia. At each meeting an average of 800 participants attended. The local committee working with the AIMBN HQ organized each meeting. Below is a list of such annual conferences held.

- 1997 Tokyo (the first meeting to discuss AIMBN at IMSUT, 14 countries represented.)
- 1998 Seoul (AIMBN was formed at this meeting)
- 1999 Singapore
- 2000 Brisbane
- 2001 Taipei
- 2002 Shanghai and Beijing
- 2003 Tokyo
- 2004 Bangkok
- 2005 Hanoi, Ho Chi Ming City
- 2006 Kuala Lumpur
- 2007 to be held in New Delhi

Since its inception, AIMBN also supported 4 specialized cutting edge conferences, the Gordon Research Conferences. They are:

- 2000 Gordon Research conference on small G proteins in Singapore
- 2002 Gordon Research Conferences on Neurobiology in Hong Kong.
- 2004ibid.....
- 2006ibid.....

Since its inception, AIMBN fully or partially funded:

1. an AIMBN/EMBO workshop in Advanced Microscopy for Molecular and Cell biology in 2000 conducted in and by the Weizmann Institute for

- students and postdoctoral fellows from the region represented by AIMBN.
2. the 7th Asia Transcription Conference held in Kuala Lumpur.
 3. the Okinawa Conference to build the Best in the World research Institute in System Biology and Neuroscience in the Asia Pacific with the aim of bringing in the best recruits from the rest of the world to do their work in Okinawa. This Institute was formed after the conference, with Sydney Brenner as its First President. To date the AIMBN through two of its Founders, Dr Kiyoshi Kurokawa and I are helping to internationalize good science in Asia at Okinawa as well.
 4. meetings organized by Dr Ken-ichi Arai of IMSUT and Singapore between select group of scientists from Singapore and Japan with the view of convincing the Japanese Government to join Singapore's EDB to fund AIMBN.
 5. the creation of a 2 virtual unit laboratories of AIMBN (eIMBL) at Seoul National University in 2002/2003 on System Biology and on DNA replication. Three more unit laboratories viz, Molecular Oriental Medicine, Genomic Medicine and Infectious Diseases are in the works.
 6. the setting up of a two AIMBN research laboratories in 2005/2006, one in the Institute of Biochemistry and Cell Biology of the Shanghai Institutes for Biological Sciences and another at the Vaccine Institutes located in Seoul National University with donated space and access to equipment from the participating centers funded by a one time payment* of 1 million USD from a private venture capital, Tsunami On The Road of New Yokohama.
 7. the setting up of an electronic publication after the model of PLOS Biology with Nature at the cost of \$250,000 per annum with AIMBN with an emphasis to cover Asian science. The contributors will jointly own this project and importantly the editors of this publication will act independently of the fund contributors. The initial members of AIMBN committed to funding this project are eIMBL of AIMBN, Academia Sinica, National Center for Genetic Engineering and Biotechnology of Thailand, Institute of Biochemistry and Cell Biology of China (IBCB). In addition the venture capital group Tsunami Network Partners of Yokohama (the one that paid 1 million USD to fund the first AIMBN Professorships) and Servier Co. of France. Singapore's BMRC has announced an initial interest to fund the project.
 8. the setting up of an East Asia Symposium involving the participation of IBCB of Shanghai, the National Taiwan University. The Institute for Virus Research of Kyoto, and the Samsung Biomedical Institute of Seoul. All of who are founding members of AIMBN. This Symposium series started by AIMBN is inclusive of AIMBN member participation and another example of AIMBN proactive stance to promote research collaboration amongst scientists in Asia.
 9. the joint AMBO/AIMBN training course, in which 20 -30 scientists from Asian countries participated. Since AIMBN inception there were ~ 10 such courses.
 10. the setting up of a mini lecture series in the less developed economies of Asia to raise the awareness of modern biology in these countries. This idea came from and was implemented by two AIMBN members, Drs. Sumiko Watanabe of IMSUT and Kiyoshi Kurokawa, President of the Science Council of Asia (SCA).

The first lecture series was jointly organized by the SCA, the AIMBN and the local academic centers of Hanoi and Ho Chi Minh in 2005. Shortly thereafter Vietnam became the 15th country to join AIMBN. The next lecture series will be held in Nepal in 2007.

The Future

AIMBN future is best viewed from its past and present performances, its accomplishments and its shortcomings. It is clear from the above, AIMBN is the only broad based organization in Asia dedicated to the promotion of modern biology in the region with the rest of the world. This lofty goal captured the imagination of the scientists not only from Asia but many in the West. But the challenges are formidable; Asia is a very diverse group of nations, of different levels of economic development, of diverse historical, religious and political background, of diverse ethnicity. It took 2000 years and 2 World Wars for the European nations to become the European Community. It may probably take Asia longer to form a common Asian equivalent. AIMBN encountered this division when it attempted to raise funds for its operation from the national funding agencies of its respective member countries. The problem is funds from these agencies cannot readily cross national borders. To date this remains AIMBN's funding challenges. Against this background AIMBN's ability to raise nearly two million dollars (including the AIMBN professorships * contributed by Tsunami On The Road Ventures) in the first 10 years is an outstanding accomplishment essential to its existence. As funds from national funding agencies do not cross borders, many member states contributed in kind, in sweat and in space. It is not uncommon to find that one member state of AIMBN contributing research reagents and lab supplies to another lab within the network. AIMBN Chairman and its Governing Council members creatively piggybacked several of its annual conferences to coincide with major international conferences to reduce the cost of inviting speakers but also to increase participation at its conference and hence advertising revenues. As a result, AIMBN had been able to sustain its annual conferences in different cities in Asia including Australia. It has learned to develop and exercise its soft power justifying to the government of its member countries to increase funding for research. For example, when the AIMBN conference was held in Singapore in 1999, the world scientific community knew Singapore's IMCB better than IMCB funding agency which was ran by civil servants. At that time, they do not fully understand bioscience research. It was easy to hold the view that Asia cannot possibly compete in scientific discoveries unless its scientists go to America. Important research discoveries made in Singapore were largely under appreciated and met with skepticism. The 1999 AIMBN conference in Singapore brought in 800 world-class scientists from 20 countries filling the auditorium on its opening by a key Minister accompanied by his entourage of senior civil servants. The presence of 800 international participants sent a positive signal endorsing Singapore's scientific excellence to its domestic funding agency. This in combination with the attention we were getting from the international media alerted the local politicians that an epochal movement towards a knowledge society is happening in their own backyard and gaining momentum in Asia. An even more compelling message

is “**not to miss out**”. This given example is repeated each time an AIMBN conference is held in a different city in Asia. This is the subtle exercise of soft power by AIMBN that has helped each one of us raise the political consciousness of our politicians to fund scientific research when the interest to fund science was until recently non-existent. The AIMBN meeting in Ho Chi Minh City is another case in point when the government of Vietnam realized the time is nigh for Vietnam to join the biotech wagon. Similarly the 2006 AIMBN in Kuala Lumpur supported our Malaysian colleagues gain attention from their government to fund bioscience research.

At another level, AIMBN partially supported the four Gordon Research Conferences, held in Asia. The first was held in Singapore in 2000 and three more in 2002, 2004 and 2006 in Hong Kong. This is another example of how AIMBN promoted good science but this time to the science community in Asia. It encourages the internationalization of the Gordon Conferences from the prep-school settings of New England to Asia. It is confidence building for the rise of science in Asia.

However, all these events drain the meager financial and human resources of AIMBN and often AIMBN had to cut the running of a full time AIMBN office to its bare bones. This reduced AIMBN’s ability to regularly communicate with its Governing Council except at its annual meeting where many but not all Governing Council members attended. To correct this, a new AIMBN website was built and with updates when AIMBN HQ moved to Seoul. The website took time and precious resources to build. It made at least two impacts. One was the dissemination of more information to the rest of the world including its members. The other was the realization that AIMBN communication needed to improve, as events from websites tend to describe events after the fact and sometimes not updated. Examples of this are the creation of eIMBL, IMBN Professorships through IMBNV and the recent discussions with Nature to jointly set up an electronic publication. A few Council members at the 2006 AIMBN meeting in Kuala Lumpur began asking for better communications between the Council and the AIMBN HQ and the recruitment of an Executive Director (ED). It would be unrealistic to depend on the hiring of an ED to single handedly solve and deal with all the demands on AIMBN considering the range of activities listed herein. In any case, there is general agreement that an ED be hired to help run AIMBN. But not to evade the issue, is also time for the AIMBN Governing Council members make a commitment to help AIMBN raise funds for it to operate better. The rise of science in Asia is here to stay and AIMBN is an organization that promotes an inclusive approach. Is the rise of science in Asia, an exclusive domain of a few economies or should we collectively at the scientific grass root level strive to make the rise of science in Asia an inclusive affair for its member states? Whatever the choice, AIMBN has taken the path to raise funds from private sources as experience teaches that the funding agencies in the Asia Pacific countries will not readily send funds out of its own border, even though its governments will accept the inflow of research funds as well as to provide generous funds to work with known US universities. This attitude of each man for himself is not in Asia’s long-term interest. It behooves on AIMBN Governing Council members to make their respective commitment to look for an ED who will help them raise the required funds as well as to improve communications to make AIMBN’s mandate come alive. AIMBN has come to a critical juncture; the ball is in the court for the next step forward. The smaller the country, the more important it is that AIMBN becomes a strong organization. Other than the two large AIMBN countries,

India and China, the rest of AIMBN in comparison are small or at best medium size, hence the value of building an inclusive strategy for the rise of science in Asia for all.

Footnotes:

I apologize to any parties or member countries had I missed or understated their contributions to AIMBN.

* Note, Tsunami Venture Capital is not permitted to make donations but is allowed to make a payment to AIMBN through its investment vehicle the IMBN Ventures to fund the AIMBN Professorships.