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ACADEMY NEWS

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NO. 3



Three New Academicians Elected, Take Oath

UP Head Talks on Serious Shortage of Scientists (Page 2)

Hold Third Annual Scientific Meeting at PICC Academicians Present Papers

The Academy's 3rd Annual Scientific Meeting was held July 9, at the PICC. Briefly, the scientific sessions on chemical, biological and social sciences follow:

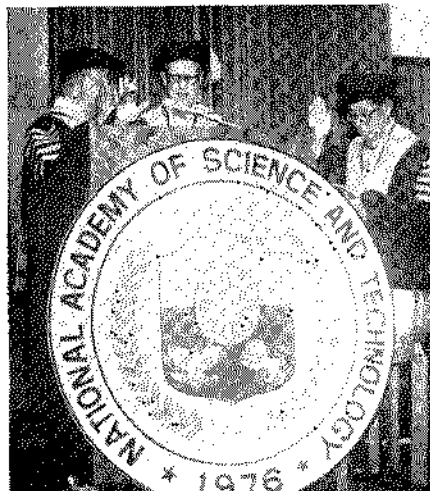
- Newly-elected Academician Dr. Julian Banzon talked on the coconut as a renewable source of energy. He related how an energy inventory of the coconut tree was conducted. The test, he said, showed that the coconut tree can provide both food and fuel and need no replanting for over fifty years.

- Dr. Alfredo V. Lagmay discussed "Experimental Disensitization to Anger-Producing Stimuli" According to him the test undertaken revealed that deep relaxation can control anger, even hatred and greed. The subjects used instruments to monitor responses to various anger stimuli. These include biofeedback enccephalograph and autogen feedback demograph and digital integrator and waveform analyzer.

The Chromosomal Divergence in Three Natural Populations of *Corchorus Olitorius* Linn was read by Dr. Joventino D. Soriano.

- Social Sciences. Dr. Jose Encarnacion discussed the Relative Contribution of Mixed Variables to the Variation of a Regressand.

Later that afternoon, the Dairy of Olivia Salamanca, M.D. 1889-1913 was presented by Dr. Encarnacion Alzona.



Dr. Julian Banzon, Ph.D. (middle) and Amando Dalisay, Ph.D., at right as they take their oath as Academician before Minister Melecio S. Magno, Ph.D., Academician.

The Academicians in their academic gowns moved in to another room, after the scientific meet, for the investiture of the new Academicians at the PICC in the evening of July 9. UP President Edgardo Angara keynoted the affair. (His address is published elsewhere in this issue — ed.)

The new Academicians took their oath before the Science Minister Melecio S. Magno, himself an Academician. They are:

1. Julian A. Banzon, a holder of B.S. in Biophysical Chemistry, Iowa State University, USA in 1940.

2. Amando M. Dalisay who obtained his B.S.A. from UP College of Agriculture, an M.A. in Economics, in 1942 and his Ph.D. in Economics — both at Harvard University, U.S.A.

3. Clare R. Baltazar, who holds a B.S.A. Entomology from the UP
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NAST Visitor Gives Lecture Series on Agricultural Chemistry

Prof. Ralph Louis Wain, an agricultural chemistry expert, will give a series of lecture in U.P. Diliman and Los Banos and at the P. J. Garcia Memorial Hall, on Pedro Gil and Taft Ave. the new home of the National Academy of Science and Technology, the sponsoring agency.

Dr. Wain is a fellow of the Royal Society of London, with which the NAST inked an agreement on collaboration in December last year. His visit is in effect a part of said agreement. Agricultural chemistry is his expertise, including chemical control of plant growth and chemical aspects of crop protection.

The NAST visitor is an honorary professor of chemistry at the University of Kent and emeritus professor in the University of London. He is one time director of the Agricultural Research Council Unit on Plant Growth Substances and Systematic Fungicides.

The lecture series program —

- o The Hormonal Control of Plant Growth at NSRC Conference Room, U.P. Diliman, Quezon City September 4, 3 p.m.
- o Chemical Aspects of Crop Protection at the Entomology Lecture Hall, U.P. Los Banos, La-

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RP Needs 400 Research Scientists and Technologists Per Million People

Address delivered at the National Academy of Science and Technology's Investiture of the Academicians at the PICC July 9 by President Edgardo Angara (at right) of the University of the Philippines.

The Filipino scientific community is our country's foothold on the 21st century. It is also the foundation of our efforts just to catch up with the present age. It is quite evident that in this technological era, our country's economic progress and national stability must rely on technological advance. That simply means an adequate number and type of trained scientists available for the industrial and other needs of the Philippines.

Figures shown to me indicate that there are less than a hundred/active research scientists with doctoral degrees who are involved in the Natural Sciences and Mathematics. That means less than 2 Ph. D's for every million Filipinos in the country today. If we multiply that figure 4 — to take in scientists and technologists in other fields — that gives us only 8 Ph. D's for every million Filipinos.

The UNESCO, I understand has recommended that for viable and self-sustaining scientific undertakings for countries like the Philippines, we need about 400 research scientists and technologists for every /million of the population.

That we do not have that number of scientific manpower at present and that there seems to be no central direction and unified program to attain that desired pool of scientists and technologists, poses a clear and present danger to the

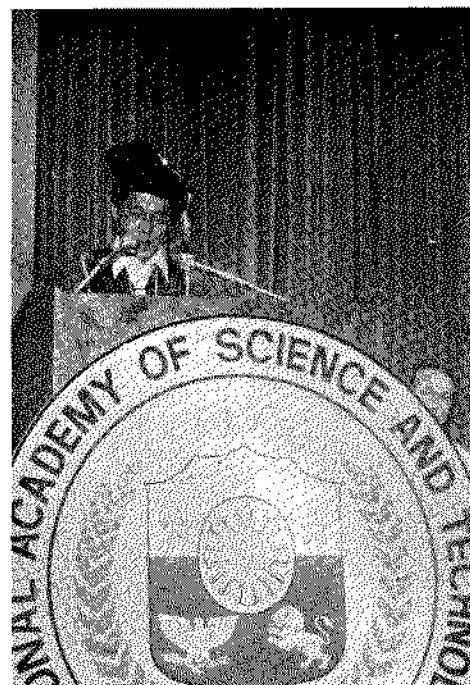
New Republic.

I need not remind you how essential the support of science is. And how overriding is our need for power capable of applying science and its methods to practical problems.

The development of science and its practical application in technology are the first and foremost concern of government everywhere. To a developing country like the Philippines, scientific development and technological advance are even urgent. They are crucial, not only to national growth, but to our capacity to grow. Technology has demonstrated its ability to telescope economic progress and leap-frog over certain painful stages in economic development.

The Report of the Independent Commission on International Development Issues concludes that a country can benefit from additional technology only if it can absorb and adapt what it has already received. More, it is also necessary that it provides "the 'welcoming' structure which can connect up new technology to old societies".

But when we speak of the ability to absorb and adapt new technology or of establishing a "welcoming structure", we are really referring to the scientific manpower that is trained to understand the theoretical basis of the latest technology and capable of adapting



that technology to our needs and resources, and for the solution of our problems.

When we refer to science in relation to national development, we are referring to people and not just to disembodied theories. We are stressing the need for a quantity and type of scientific manpower sufficient for scientists to take root in our society. If we want to join the ranks of the developing countries, the training of the required number of scientists and technologists is the first goal we must achieve, resolutely and at once. To attain that objective, however, requires a singular force and central direction which science in our country presently lacks. There is also no concerted effort to glamorize public opinion behind the need for sciences so that government and private industry can be influenced to allocate adequate funds for a rational science policy. There is therefore a need to educate the public on the importance of science.

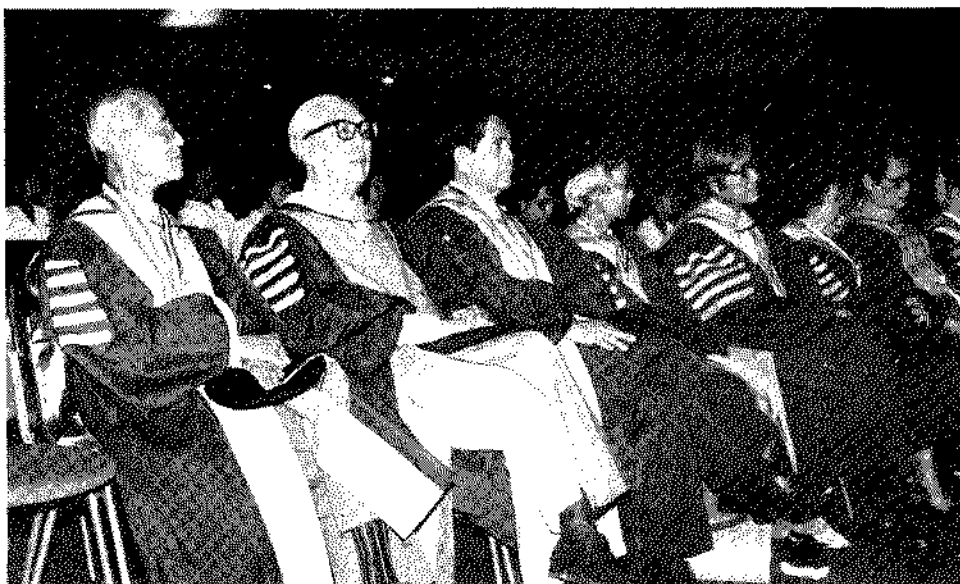
A public indifference that borders on ignorance has made science,

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INVESTITURE OF NEW
ACADEMICIANS



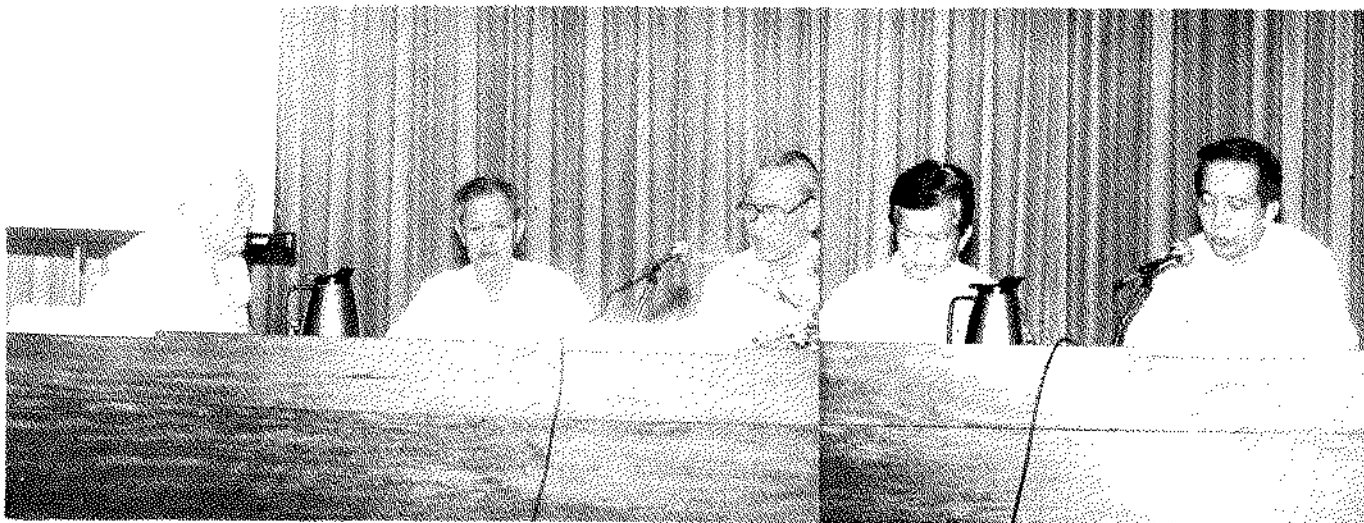
From left are: Fr. Miguel Valera, S.J., Ph.D., who gave the invocation; Dr. Alfredo C. Santos, Dr. phil., National Scientist; President Edgardo Angara, UP; Paulo C. Campos, M.D., Academician; Minister Melecio S. Magno, Ph.D., Academician; Fe del Mundo, M.D., National Scientist; Alfredo V. Lagmay, Ph.D. Academician and Carmen Velasquez, Ph.D., Academician.



The rest of the Academicians in their colorful uniform academic gowns at the Investiture of the New Academicians held July 9 at the PICC.

• at the
investiture
of the
new Academicians





Chemical Sciences. From left are: Dr. Alfredo C. Santos, Dr. phil. national scientist, chaired the chemical sciences body: Julian Banzon, Ph.D., newly-elected Academician who read his piece on 'The Coconut As a Renewable Energy Source', Gen. Florencio Medina, Ph.D. (honoris causa); Ibarra Cruz, Ph.D. and Elias Canapi all discussants.

The Scientific Sessions in Pictures

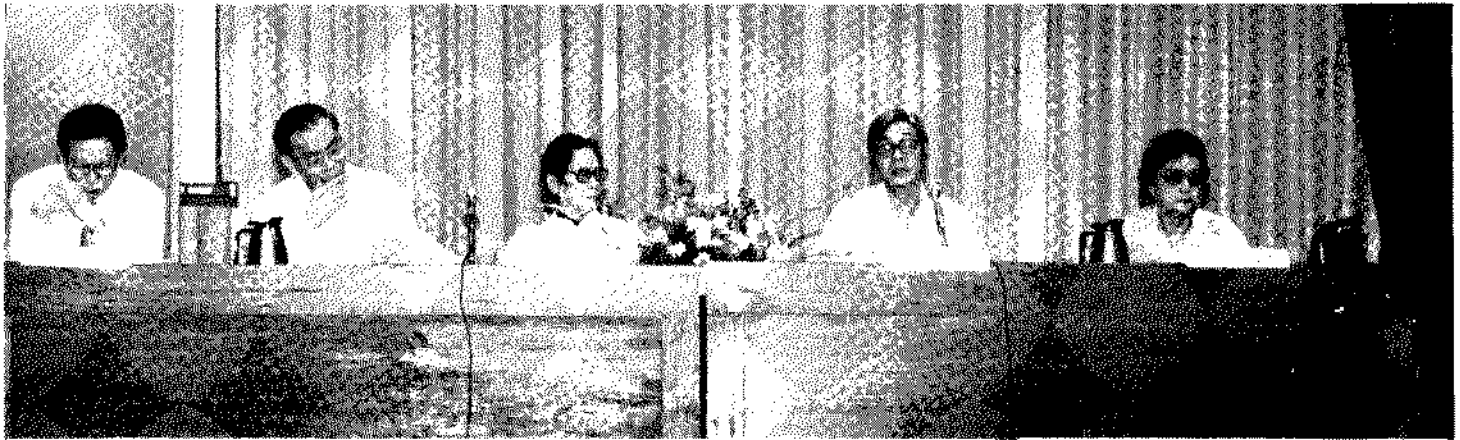


Biological Sciences. Chaired by Carmen C. Velasquez, Ph.D., Academician extreme left, with Joventino Soriano, Ph.D., Academician who presented the paper "Chromosomal Divergence in Three Natural Populations of *Corchorus Olitorius Linn*". To his right is Adoracion T. Arañez, Ph.D., discussant.



Alfredo V. Lagmay, Ph.D., Academician at the rostrum presenting his paper titled "Experimental Desensitization to Anger-Producing Stimuli".

At the table are F.G. David, Ph.D. and Edwin T. Decenteceo, Ph.D. who served as discussants.



Social Science. Jose Encarnacion, Jr., Ph.D., Academician reading his paper "Relative Contribution of Mixed Variables to the Variation of a Regressand".

With him in photo are from left: Burton Dfiate, Ph.D.; Tito A. Mijares, Ph.D., Academician; Teodoro Agoncillo, Ph.D. (honoris causa) Academician and who chaired social sciences group, Dr. Encarnacion and Cristina Parel, Ph.D.



The Diary of Olivia Salamanca, M.D., (1889-1913) was read by Encarnacion Alzona, Ph.D., Academician.

From left: Anacleto Villacorta-Agoncillo, M.D.; Dr. Alzona and Fe del Mundo, M.D., Academician.

DE GUZMAN SPEAKS ON TISSUE CULTURE AT BANGLADESH WORKSHOP

Dr. Emerita V. de Guzman, Academician, was a recent participant and speaker at a workshop on the Improvement of Tropical Crops through Tissue Culture held in Bangladesh. While she presented a paper about Philippine studies on coconut and banana tissue culture, she likewise chaired one of the scientific sessions.

She discussed the importance and progress in studies on the development of tissue culture methods for the propagation and genetic improvement of coconut and banana—two major export crops in the Philippines. These, have drawn great interest in the production and propagation of hybrids which are high-yielding, disease resistant and high-quality capable of yielding products.

Coconut *perse* faces, a big problem in its genetic improvement in its long life cycle, flowering being attained in the average of seven years of age for the tall varieties.

Besides, the hybrids cannot be clonally propagated as there is no regular means of a sexual propagation. Its limited exchange of germplasm is another difficulty because of the bulk of the coconut fruit. Transport specially in large scale and by costly and is open for contamination.

Dr. de Guzman added that studies are now conducted on the induction of callus using embryos from both makapuno and ordinary coconuts. The developing coconut inflorescence has been shown to be a promising source of explants either for organs or callus culture.

At present, she said banana hybridization work is hampered by pollen and seed sterility as well as poor seed germination. She has pinned hope that induced mutation studies using tissue and cell culture methods will accelerate progress in the genetic improvement of the crop.

NAST VISITOR... (from p. 1)

- guna September 5, 4 p.m.
- o Hormonal Control of Plant Growth at Botany Lecture Hall, UPLB September 8, 4 p.m.
- o New Developments in Plant Disease Control at Control Plant Pathology Lecture Hall, UPLB September 9, 4 p.m.
- o Some Chemical Defense Mechanism in Plants, Chemistry Lecture Hall, UPLB September 10, 4 p.m.
- o New Developments in Plant Disease Control, Paulino J. Garcia Hall, Herran September 15, 4 p.m.

Three New... (from p. 1)

College of Agriculture Los Baños in 1947, an M.S. in Economic Entomology, University of Wisconsin, in 1950 and a Ph. D. in Systematic Entomology, from North Carolina State College and Wisconsin University.

RP NEEDS 400 RESEARCHERS... (Continued from page 2)

and lack of laboratories. It is plagued by an obdurate bureaucracy and requires scientists to take a vow of poverty without that Christian promise of heavenly reward.

Our apathy to science is not induced by an inherent inability to learn and apply it to practical uses.

The membership of this Academy is the best proof that we, as a people, are not incapable of mastering the sciences. Academies of science are regarded with the highest respect. Politicians and rulers, who usually listen to no one, invariably heed their advice on scientific matters, particularly on the

scale and distribution of resources for research and science education. The Royal Society of London is an example. It is the highest adviser of the British government on science matters.

The same role could be played by our own national academy for some of our most eminent scientists compose its membership. Even now, the national academy can become a potent force in forging a national will to draw Filipino talent into advanced science and technology.

The Academy is in a singular position to provide independent and disinterested advice to our people and government. As the New Republic embarks in a new

economic program, I urged you to wield your prestige and influence to bring about a fundamental change in popular attitudes regarding scientific research. This country must realize its true values as the indispensable basis for our progress into the 21st century.

We are fortunate to be present at this time and era in our history. With the proclamation of a new New Republic comes a clear call for a fresh start in our effort to achieve, through science and technology, a better life for our people. It is my hope, as it is your dream that the National Academy of Science and Technology will be at the forefront of this renewal of effort and resolution.



From left to right: Dr. Esperanza A. Icasas-Cabral, Medicine; Dr. Severino V. Gervacio, Mathematics; Dr. Pacifico E. Marcos, Min. Melecio S. Magno; Dr. Paciente A. Cordero, Jr., Biology; Dr. Romeo M. Bautista, Economics; Dr. Manolito G. Natera, Physics; and Dr. Alfredo Lagmay. Not in photo are Dr. Lourdes J. Cruz, Biochemistry and Dr. Ernesto P. Lozada, Agricultural Engineering.

1981 Outstanding Young Scientists Picked

Winners in the Outstanding Young Scientists Awards for this year were awarded during the celebration of the 23rd Anniversary of the National Science Development Board at a luncheon last July 15 at

In his address during the NSDB anniversary day, President Marcos assured that with the launching of the new Republic, S & T will continue to play a vital role in the general effort to create a better life for the people.

the PICC. The NSDB started off successfully the Outstanding Young Scientists Awards last year and gave the selection chore to the National Academy of Science and Technology, including that of this

year's awards. By the way, the annual award is launched out to give recognition to outstanding young scientists in different disciplines.

This year's awardees are:

1. In chemistry — Lourdes J. Cruz, Ph.D. in Biochemistry. She is chairman of the UP Dept. of Medicine;

2. In medicine — Esperanza A. Icasas-Cabral, Doctor of Medicine and Professor (UP), Physician, Member, Consultant, (PGH, PHCA, MMC, SJDD, FDA);

3. In Engineering — Ernesto P. Lozada, Ph.D. in Agricultural Engineering. He is with the Institute of Agricultural Engineering, UPLB;

4. In Biological Sciences — Paciente A. Cordero, Jr., Ph.D. in Marine Biology. He is connected with the Philippine National Museum;

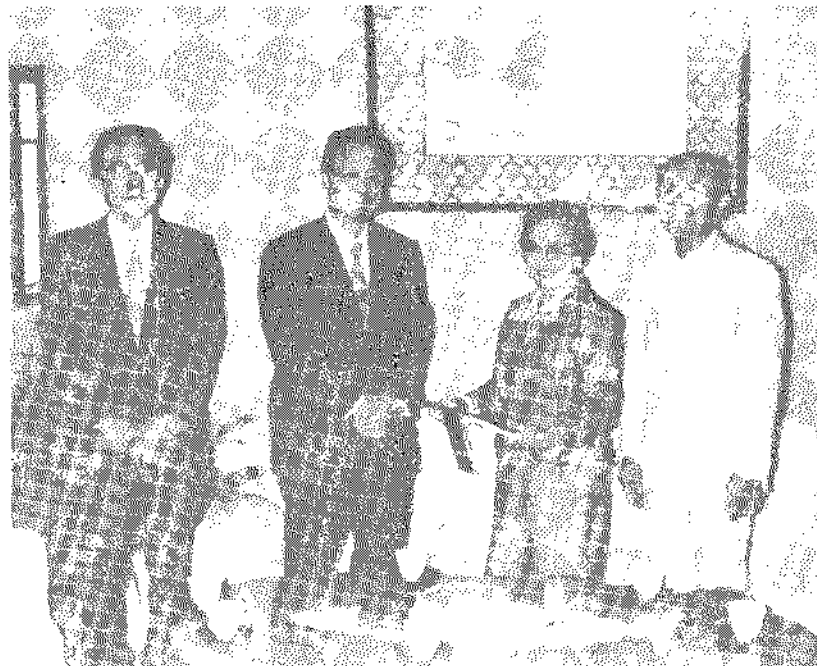
5. In Physics — Manolito G. Natera, Ph.D. in Physics. He is Science Research Chief at the Atomic Research Center;

6. In Mathematics — Severino V. Gervacio, Ph.D. in Mathematics. He is a faculty member at the department of Mathematics & Physics, UPLB;

7. In Social Sciences — Romeo M. Bautista, Ph.D. in Economics. He is a Professor at the UP School of Economics and a Deputy Director-General, NEDA (on special detail).

Academician Gives Lecture Series at Waseda U in Tokyo

Luz Oliveros - Belardo Ph.D. Academician and Visiting Research Fellow of the De La Salle University Chemistry Department, recently returned from a two-week stay (May 16-31) at Waseda University in Tokyo. As this year's De La Salle University exchange professor sponsored by Yoshida International Education Foundation, she went to Tokyo as one of three honorees, along with Dr. I.I. Sudnizyn of Moscow State University and Dr. Biswarangan Maiti of the University of Calcutta. The honorees were tendered a reception by Waseda Senior Faculty host Dr. Yusuyuki Oshima.



At the Office of President Tsukasa Shimizu of WASEDA University, Tokyo, on the occasion of the awarding of a plaque to Dr. Luz Oliveros-Belardo "in recognition and appreciation for her dedicated service as Visiting Professor of Pharmaceutical Chemistry".

Left to right: Prof. Dr. Yasuyuki Oshima, Waseda University Senior faculty host, Pres. Tsukasa Shimizu of Waseda U., Dr. Luz Oliveros-Belardo and Dr. Ricardo Belardo.

Dr. Belardo delivered four lectures at the university for faculty and students. These are:

1. Herbal Medication in the Philippines and the Search for the Scientific Bases Thereof;

2. Essential Oils;
3. Some Aspects of Essential Oil Research in the Philippines; and
4. New Philippine Essential oils.

Plan to Bring Together Scientists of the ASEAN Region in the Offing

M. K. Rajakmur of the the Malaysian Scientific Association (or Persatan Ahli-Ahli Sains Malaysia) has sent word of his desire to invite the President of the National Academy of Science and Technology. He said he wishes to discuss with the NAST head the possible formation of an ASEAN organization for science in Kuala Lumpur on March 1982.

Incidentally, March 1982 is the period during which the Malaysian Scientific Association meets for

their annual conference.

In his communication, Dr. Rajakmur expressed that his organization in the past the Malaysian Scientific Association have been concentrating its efforts in the area of "advancement of science and technology".

He even spoke of the possible areas of an ASEAN corporation, possibly an ASEAN confederation of scientific organization; an ASEAN Society for the Advancement of Science.

Waseda President Tsukasa Shimizu, awarded her a plaque of appreciation and recognition for "her dedicated service as Visiting Professor of Pharmaceutical Chemistry."

Dr. Belardo also visited Waseda's Department of Biology and School of Science and Engineering, and the Meiji University College of Pharmaceutical Sciences. This is on invitation of an internationally-known phytochemist Dr. Shojii Shibata, likewise a school administrator and research scientist.

Current works of Dr. Belardo include two research projects, entitled "Phytochemical Investigation of *Cymbopogon citratus* (DC.) Stapf and Examination of the Extracts for Possible Hypotensive Property," and "Components of the Fruit Peel Oil of *Psidium guajava* L. (bayabas)." All are scheduled to be completed by end of August.

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