



CHED~UPLB ZRC Formulates ZRP



The participants in the "Regional Consultation to Formulate the Zonal Research Program in Higher Education for Regions IV & V" held on August 5-6, 2003 at UPLB posed for a souvenir picture at the Alumni Park with ZRC staff led by Dr. Augusto C. Sumalde, Program Coordinator and Vice Chancellor for Research and Extension, UPLB.

CHED-UPLB ZRC endorses two papers for REPUBLICA AWARDS

The paper "Isolation and Purification of a Cytotoxic Lectin from Brown Sea Cucumber by Affinity Chromatography" by A.E. Gana and F.E. Merca was selected as the regional winner. On the other hand, "Comparison of Pollen Abortiveness of Four Weed Species Treated With Mercuric Chloride" by E.G. Regis and D.A. Lagunzad was selected runner-up. The papers were published in The Philippine Agricultural Scientist Vol. 85, No.3 pp. 236-247, 2002 and Science Diliman Vol. 14, No.1, January- July 2002, pp.21-27, respectively. Both papers were endorsed to CHED for final confirmation as regional winner to the National REPUBLICA Awards.

The REPUBLICA Awards is an annual recognition conferred by the Commission on Higher Education (CHED) through the Zonal Research Centers to honor and reward outstanding research outputs which contribute to the discovery, adoption of new knowledge and innovative technology resulting to sustainable development or generation of concepts

The CHED-UPLB Zonal Research Center was able to formulate the Zonal Research Program (ZRP) during its recently concluded "Regional Consultation to Formulate the Zonal Research Program (ZRP) in Higher Education for Regions IV & V." This activity was held on August 5-6, 2003 at the Operations Room, Abelardo Samonte Hall, UP Los Baños.

Three priority research areas that should be addressed by the member-HEIs were identified by the participants, namely, Education, Environment and Socio-Economics. To finalize the ZRP for CHED's approval and funding, an ad-hoc committee was formed consisting of representatives from seven HEIs chaired by the ZRC Program Coordinator.

Through the efforts of the ad-hoc committee, the ZRP was finalized with the following essential components: Grants-in-Aid (GIA), Database Establishment and Maintenance, Research Capability Building, and Research Utilization.

The members of the ad-hoc committee included Dr. Corazon L. Abansi (De La Salle U- Lipa), Dr. Pedro

Continued on page 2

Chancellor Wilfredo P. David welcomed the participants of "Regional Consultation to Formulate ZRP" and encouraged them to conduct researches



Chan. Wilfredo P. David

three-year period (2003-2005) and can meet the development needs of the regions. He also attended the presentations on identified priority research areas for possible funding by CHED conducted by member-HEIs.

ZRC Formulates..... continued from page 1

(Aquinas University-Legazpi), Dr. Michael D. Pido (Palawan State University), Dr. Cecilia N. Gascon (Southern Luzon Polytechnic College), Dr. Florencio V. Reyes (University of Batangas), Dr. Eddie S. See (Bicol University). Aside from its tasks to finalize the ZRP, the Committee also discussed important issues related to the operationalization

Out of eighty-one (81) Higher Education Institutions (HEIs) offering graduate programs and conducting research activities, 52 or 64.20% represented by faculty and research staff participated. Three representatives from CHED Regional Offices also attended the occasion.

Training on Research Methodologies

The UPLB-ZRC will conduct a training on research methodologies, monitoring and evaluation and related topics for its member-HEIs. The ZRC intends to conduct three sessions for the first year. Participants will benefit from the lecturers who are UPLB experts.

Regular Update of CHED-UPLB ZRC website

_____CHED-UPLB ZRC website established during its first term of operation will be regularly updated with the latest information not only for the benefit of member-institutions in Regions IV & V but also for other interested parties.

Grants-in-Aid Program

Under GIA, six research proposals falling within the identified priority areas were endorsed to CHED for CY 2004 funding. On the other hand, database establishment and maintenance will be done in compliance to CHED Memorandum No. 24, S-2004 on Five-Year Research Management Information System Data/Information (RMIS) form AY 1999-2000 to 2003-2004.

CHED-REPUBLICA Awards.....

continued from page 1

which propel significant advances in the CHED-identified priority disciplines.

The call for nominations was issued to the 81 member-HEIs on October 1, 2003.

The Zonal Awards Board (ZAB) of CHED-UPLB ZRC that evaluated the papers was chaired by Dr. Augusto C. Sumalde with two members, Dr. Cecilia N. Gascon and Dr. Salcedo L. Eduardo. The team carefully selected from among 31 nominations the eligible papers based on the criteria set and merits of the individual research work.

CHED-UPLB ZRC now on its second term

The CHED-UPLB Zonal Research Center for Regions IV and V is one of the original ZRCs granted another three-year term.

Aside from serving as the coordinating office for various research activities of Higher Education Institutions (HEIs) in regions IV and V, it will conduct activities among others (see related story) such as research-capability building and development and maintenance of databases.

Deputy Executive Director of CHED, Atty. Julito D. Vitriolo presented a paper entitled "Status of Higher Education Research in the Philippines", which, provided the participants a broad perspective on the research areas being funded by the Commission.



Atty. Julito D. Vitriolo

CHED Accepts Six Research Proposals

Out of 52 research proposals screened by CHED-UPLB ZRC, nine were endorsed to CHED under the Grants-In-Aid (GIA) program. However, after further evaluation by CHED, only six were accepted for possible funding.

The proposals and their implementing HEIs are as follows:

Education

- Development of An Open Adaptive e-Learning System Based on Intelligent Software Agents (Institute of Computer Science, UP Los Baños, in collaboration with De La Salle U-Lipa and University of Batangas)

Environment

- Landscape and Seascape Assessment of Selected Catchments in the Western Side of Mount Mantalingahan Range, Southern Palawan (Palawan State University)
- Biodiversity Assessment of Selected Areas in Bicol Region

Study 1 - Inventory of Weeds, Ferns and Bryophytes, and their Associated Arthropods in the Western Slopes of Mt. Isarog National Park (Ateneo de Naga University)

Study 2 - Inventory of Flora and Fauna of Mt. Asug, Iriga City (Camarines Sur State Agricultural College)

- A Collaborative Research Program in Bioremediation in Support of Developing Solutions for Mining-Related Problems in Marinduque (BIOTECH-UPLB and Marinduque State College)
- Isolation, Preservation and Identification of Microorganisms from Mangrove Ecosystem in Mindoro (BIOTECH- UP Los Baños)

Socio-Economics

- Assessing the Quality of Life of Rural Communities in Regions IV and V: Basis for Development Intervention

Study 1 - Assessing the Quality of Life of Rural Communities Along Riverbanks of Regions IV & V: Basis for Development Intervention (University of Batangas)

Study 2 - Diagnosing the Interplay of Determinants of Poverty Incidence in Selected Rural Communities in Regions IV & V (Institute of Community Education, UP Los Baños)

Upcoming Activities of UPLB-ZRC in November

■ Training-workshop on research methodologies, monitoring, evaluation and other related topics (first of three). The first batch of invited HEIs will be from Region IV. Faculty members who are experts in research will serve as lecturers. This training is hoped to be of essential help in future research undertakings of participating HEIs.

■ Encoding of accomplished Research Management Information System (RMIS) forms of member-HEIs as part of the Database Establishment and Maintenance component of ZRP.

Meet the New CHED-ZRC Staff

The CHED-UPLB Zonal Research Center for Regions IV & V has two project staff: Ms. Ellenita G. De Castro and Ms. Ginelle B. Ballesfin, both are UPLB graduates. Ms. De Castro obtained her MS in Forestry, (major in Silviculture) and BS in Forestry in 2003 and 1995, respectively, while Ms. Ballesfin obtained her BS degree in Agricultural Economics major in Marketing and Price Analysis in April 2003.



Ms. Betty Reyes still serves as the Administrative Support Staff of the Center. □

List of 81 Member-HEIs of CHED-UPLB ZRC

From the original 278 member-HEIs during the CHED-UPLB ZRC's first three years of operation, CHED has trimmed down the number into 81. These HEIs offer graduate courses and are engaged in research. Of this number, about 62.96% (51/81) are from Region IV and the remaining 37.04% (30/81) are from Bicol region. The following are the member-HEIs:

Region IV Members

1. Adventist International Institute of Advance Studies- Cavite
2. Adventist University of the Philippines-Cavite
3. Asia-Pacific Nazarene Theological Seminary-Rizal
4. Batangas State University - Batangas City
5. Cavite State University- Cavite
6. Colegio de Los Baños- Laguna
7. Colegio de San Juan de Letran - Laguna
8. De La Salle University Lipa- Batangas
9. De La Salle University Health Science Campus - Cavite
10. De La Salle University Dasmariñas- Cavite
11. Divine Word College of Calapan-Mindoro
12. Divine Word College of San Jose-Mindoro
13. Divine Word College of Theology- Cavite
14. Eastern Laguna College- Laguna
15. Golden Gate College- Batangas
16. Holy Trinity College - Palawan
17. I.B. Calingasan Memorial Institution - Batangas
18. Laguna College- Laguna
19. Laguna College of Business and Arts - Laguna
20. Laguna State Polytechnic College (San Pablo)- Laguna
21. Lipa City Colleges - Batangas
22. Lyceum of Batangas - Batangas
23. Manuel S. Enverga University Foundation- Lucena City
24. Marinduque State College- Marinduque
25. Northern Quezon College - Quezon Province
26. Occidental Mindoro National College- Occ. Mindoro
27. Palawan State University- Palawan
28. Polytechnic University of the Philippines- Cavite
29. Presbyterian Theological Seminary - Cavite
30. Quezonian Educational College - Quezon
31. Rizal College of Taal-Batangas
32. Roosevelt College - Rizal
33. Sacred Heart College of Lucena - Quezon
34. Saint Alphonsus School of Theology- Quezon
35. Saint Joseph College - Cavite
36. Saint Michael's College of Laguna - Laguna
37. San Pablo Colleges-Laguna
38. San Pedro College of Business Administration- Laguna
39. San Sebastian College of Recoletos-Rizal
40. Southeast Asia Interdisciplinary Development Institute- Rizal
41. Southern Luzon Polytechnic College- Quezon
42. Western Philippine University- Aborlan, Palawan
43. STI College of Computer Science, Inc.- Cavite
44. Tanauan Institute- Batangas
45. Tomas Claudio Memorial College- Rizal
46. Union College of Laguna - Laguna
47. University of Batangas- Batangas
48. University of Perpetual Help System- Laguna

49. University of Rizal System -Rizal
50. University of the Philippines Los Baños- Laguna
51. Western College- Cavite

Region IV Members

1. Aemillianum Institute - Sorsogon
2. Ago Medical & Education Center - Albay
3. Annunciation College (Balogo) - Sorsogon
4. Aquinas University of Legazpi - Albay
5. Ateneo de Naga University - Camarines Sur
6. Bicol College - Albay
7. Bicol University - Albay
8. Camarines Norte State College - Camarines Norte
9. Camarines Sur Polytechnic College - Camarines Sur
10. Camarines Sur State Agricultural College - Camarines Sur
11. Catanduanes College - Catanduanes
12. Daniel B. Peña Memorial College Foundation - Albay
13. Divine Word College of Legazpi - Albay
14. Dr. Emilio B. Espinosa Jr., Memorial State College- Masbate
15. Holy Rosary Major Seminary- Camarines Sur
16. La Consolacion College - Camarines Norte
17. Mabini College -Masbate
18. Masbate College - Masbate
19. Naga College Foundation - Camarines Sur
20. Osmeña College -Masbate
21. Partido College - Camarines Sur
22. Partido State University - Camarines Sur
23. Republic Colleges - Albay
24. Sorsogon State College - Sorsogon
25. St. Louise de Marillac College of Sorsogon-Sorsogon
26. Tabaco College - Albay
27. University of Northeastern Philippines - Camarines Sur
28. University of Nueva Caceres - Camarines Sur
29. Unibersidad de Sta. Isabel - Camarines Sur
30. University of St. Anthony- Camarines Sur

CHED offers Phd Dissertation and other grants

The Commission on Higher Education has issued the Guidelines for CHED PhD Dissertation Grant. This Grant is a sub-component of the National Higher Education Research Agenda 1998-2007 aimed at upgrading the research capability of higher education institution by supporting the conduct of research on identified priority areas.

The complete list of priority discipline areas, and information on eligibility requirements, procedure of application and entitlements/obligations are posted in the ZRC website (<http://www.geocities.com/uplbchedzrc>).

Another grant offered by CHED is the Visiting Research Fellowship (CMO No.13, S-2003), primarily aimed to have a venue for sharing/transfer of latest research knowledge/expertise among institutions and between research experts and developing researchers.

Recipients of 2004 CHED National REPUBLICA Awards

The CHED REPUBLICA AWARDS is an annual recognition offered to outstanding research and publication among higher education institutions (HEIs) within the Philippines which commences this year. A brainchild of CHED Chairman Rolando R. Dizon, the awards can be compared to other existing research and publication awards given by other government agencies. Any published research is considered eligible if it meets the minimum criteria, most notably if it falls within CHED priority research areas and is a product of a Filipino connected in any member-HEIs.

The Zonal winner of ZRC NCR-2 and Regions IV- bagged the national awards for the entry of *"Self-Organized Queuing and Scale-Free Behavior in Real Escape Panic."* The research was published by Dr. Cesar Saloma of UP Diliman as part of the Proceedings of the National Academy of Science, USA, Issue No.21 (14 October 2003). The publication focused on the behavior of panicking mouse groups and how it is influenced by the architecture of the space in which the groups are confined.

The National 1st Runner-up was won by an entry from NCR-1 entitled *"The Effect of Foreign Entry and Ownership Structure in the Philippine Domestic Banking Market"* by Dr. Angelo Urite and Michael Sullivan of De La Salle University-Manila. The paper specifically investigates the influence of the social relationship-based corporate governance system that is characteristic of the Philippine banking system and Philippine corporate sector, in general.

The National 2nd Runner-Up was the Regional winner of Regions I, II and CAR entitled *"Population Growth and Customary Land Law: The Case of Cordillera Villages in the Philippines"* by Dr. Lorelei C. Mendoza and Dirk van de Gaer of the University of the Philippines-Baguio. The research focused on the property rights defined by customary land laws in resource management by the household in Cordillera. As such, the study contributed to the understanding of the importance of giving attention to local institutions which likely influenced household decisions and behavior, particularly in resource management.

The National Winner received a cash prize of P150,000 plus medal while the Runners-up received P 100,000 and a medal. On the other hand, each Regional Winner received P 50,000 cash prize and a medal while the Runners-up bagged P 25,000 cash prize and a medal. The awarding ceremony was held at Century Park Hotel last May 17, 2004 during CHED's 10th anniversary.

The first level of screening was done by the Zonal Awards Board (ZAB) at the level of each ZRC. The board

selected the regional winners and runner-ups and were endorsed to CHED. All the regional winners were then considered for the national award, which was judged by Central Awards Board (CAB) chaired by Rolando R. Dizon with Dr. Ma. Cristina D. Padolina as Co-Chair. Other members of CAB included nine ZRC Directors, namely: Estrella R. Calixto (MMSU), Joselito P. Duyanen (UP-Diliman), Ma. Andrea I. Santiago (DLSU-Manila), Augusto C. Sumalde (UPLB), Victorina H. Zosa (USC), Angel C. Alcala (Silliman University), Angela S. Almendra-Ferraren (LSU), Lina A. Mondejar (NDMU) and Roberto M. Malaluan (MSU-IIT).

The final selection of National REPUBLICA winners was done by a team of judges composed of the following: Dr. Gelia T. Castillo (agriculture), Dr. Reynaldo B. Veja (engineering) and Dr. Emiliana N. Bernardo (agriculture). Dr. GT Castillo is a national scientist who produced a definitive works in Philippine agricultural and rural development. On the other hand, Dr. RB Veja, is an academician who specializes in the field of engineering. Dr. E Bernardo is a retired professor and former Vice-Chancellor for Academic Affairs of UP Los Baños. Her contribution is in the field of entomology particularly on host plant resistance to insect pests.

Database of Researches

continued from page 6

Agriculture, Education and Management were identified as the most researched discipline in Region IV, while Education, Agriculture and Business/ Economics were the disciplines most researched in the Bicol region.

The updated database is now available on-line through the website: <http://www.geocities.com/uplbchedzrc>.

Abstracts of Winning Entries- Regions IV & V

ISOLATION AND PURIFICATION OF A CYTOTOXIC LECTIN FROM BROWN SEA CUCUMBER BY AFFINITY CHROMATOGRAPHY

(A.E. Gana and F.E. Merca, UP Los Baños, 2002)

Lectin activity was detected in the body walls and internal organs of brown, black and white sea cucumbers. The highest agglutination activity was detected in the brown sea cucumbers. The lectin obtained from the composite samples of brown sea cucumber was therefore purified and characterized. Based on the results of hapten inhibition, fetuin was the only glycoside that prevented interaction of the lectin with erythrocytes. The lectin was the only glycoside that prevented interaction of the lectin with erythrocytes. The lectin was further purified through (NH₄)₂SO₄ precipitation and affinity chromatography on fetuin agarose.

The isolated lectin was nonblood-type specific as it agglutinated erythrocytes of all human blood types (A,B, AB and O) and animal erythrocytes (those of horse and cattle). The lectin was classified as complete type because it agglutinated untreated erythrocytes. The agglutinating activity of the lectin was enhanced by trypsinization of the erythrocytes and addition of Ca²⁺. The lectin was stable at pH 2-12; its maximum agglutinating activity was observed at pH 10-11. Based on the results of gel chromatography, the lectin had an estimated molecular weight of 305 kilodalton (KD). Four bands with approximate molecular weights of 145 KD, 87 KD, 69 KD and 44 KD were detected through sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE). The lectin was a glycoprotein containing 0.15% total sugar. Glucose and galactose were detected as component monosaccharides through high-performance liquid chromatography (HPLC).

Sea cucumber lectin had no antimicrobial activity against *Escherichia coli*. It transformed human lymphocytes into lymphoblasts, an indication of the lectin's mitogenic activity. The lectin likewise exhibited cytotoxicity against mouse cancer (Sarcoma T180) and human lung cancer cells (A549) at 5 µg mL⁻¹ and 50 µg mL⁻¹, respectively.

COMPARISON OF POLLEN ABORTIVENESS IN FOUR WEED SPECIES TREATED WITH MERCURIC CHLORIDE (E.G. Regis and D.A. Lagunzad, Ateneo de Naga University, 2002)

Pollen grain abortiveness due to mercury exposure was investigated in four species of weeds, namely *Cleome rutidosperma* Mart., *Commelina diffusa* Burm.f., *Ludwigia micrantha* (L.) Hara, and *Stachytarpheta jamaicensis* (L.) Vahl. All four species tested showed mean pollen grain abortion rates significantly higher than those of their unexposed cohorts. Pollen grain abortion was manifested by reduced size and staining deficiencies. Scheffe's test for viability indicated that higher mercury concentrations were required to effect changes in pollen grain abortiveness. The weed species tested can possibly be used as bioindicators of mercury pollution. Because of the plants' ability to absorb mercury, these species can now be considered as possible bioremediators.

Database of Researches and Researchers of Member- HEIs

Now on its second term of operation, the CHED-UPLB ZRC is tasked among others to continually update the database of its researches and researchers of member- HEIs to improve research efficiency.

The type of information solicited out of the survey conducted last October 2003 was basically the same as that gathered in 2001. The only difference was the additional information about the researchers and their qualifications including their fields of specialization.

About 41 HEI-respondents from Regions IV and V replied to the survey representing 50.62% of the member-HEIs. Significant findings of the study indicated that graduate theses constituted the bulk of the research undertakings both in private HEIs and SUCs in the two regions.

Continued on page 5

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ZRC Highlights welcomes articles/contributions/announcements from member-HEIs that may have immediate use for the general readers particularly on the highlights of research undertakings of their institutions. Articles intended for publication in ZRC Highlights should be sent to CHED-UPLB ZRC, Office of the Vice Chancellor for Research and Extension, RDE Network Building, UP Los Baños, College, Laguna.

Articles submitted should be typed on one side of white bond paper, 8 1/2 x 11", and double spaced throughout.

Website: <http://www.geocities.com/uplbchedzrc>