



## THE YEAR'S ACTIVITIES IN PERSPECTIVE

### **A special report of Jojo G. Castro, P.E., Outgoing President**

June 30, 2010 marked the end of our term. And I wish to report to you a very memorable year not only for me but also to the officers of ASHRAE Philippines. The activities undertaken by your officers for the past year are commendable and noteworthy, and from the bottom of my heart, I would like to thank them for the contributions they have made to make our chapter relevant in the changing world of the Philippine HVAC/R sector.

It is with humility that I present to you our accomplishments.

#### JULY

The induction of executive officers, board of governors and committee chairmen of the ASHRAE Philippines chapter was held last July 23, 2009 at the Architectural Center Club Inc. in Makati City. Guest and resource speaker during the induction was Dr. Maya Q. Villaluz, PhD from the World Bank who discussed the Philippine Chiller Energy Efficiency Project (PCEEP), now going on a full implementation by the DENR.

Likewise Engr. Ramon D. Aguilos, PME, and immediate past president 2008, conducted a seminar on the green building initiative.



Inducted as officers were the following: 2009: Executive Committee - Dominador G. Castro Jr., President; Jim L. Bata, President-Elect, Emmanuel C. Punsalan, Vice President, David B. Farala, Treasurer and Dennis L. Alejandro, Secretary, the Board of Governors, composed of past presidents Cesar Luis Di. Lim, Cezar P. Punsalan, Rosendo C. Perez, Jr., Leandro A. Conti and Ramon D. Aguilos.

The standing committees are composed of: David B. Farala, chairman, Membership Promotion Committee, Dr. Manuel C. Belino, chairman, Student Activities Committee, Joselito B. David, chairman, Research Promotion Committee, Cesar Luis Di. Lim, chairman, Technology Transfer Committee, Danilo G. Duya, chairman, Nominating Committee, Eric M. Panzo, chairman, CRC Action Committee, Rosendo C. Perez, Jr., Chapter Historian, Rudolfo L. Tablante, chairman, Refrigeration Committee, Fernando S. Guevarra, chairman, Publicity Committee, Attendance Committee, Roberto G. Rosales, chairman, Finance Committee, Mark Q. Faulkner, chairman, Publications and Newsletter Committee, Demetrio DIT. Advincula, chairman, Special Events, Tito B. Soledad, chairman, Auditing Committee and Dennis L. Alejandro, Young Engineers of ASHRAE (YEA) Chairman.

The inducting officer was Eric M. Panzo, Regional Vice Chairman for Membership Promotion.

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**AUGUST**

The first of our numerous activities started with the Chapters Regional Conference (CRC) in Bangkok, Thailand held at the Swissotel Le Concorde Hotel from August 21 to 23, 2009, where the Philippine chapter garnered 4 of the 6 major awards: membership promotion, research promotion, chapter operations and chapter technology transfer. The Philippine delegation was also the biggest by far, at more than 50 delegates, bigger even than the host chapter. A side show was the singing and dancing portion made by yours truly, capping the CRC dinner with a rendition of "Can't Take My Eyes Off of You" to the delight of the audience. The CRC is an annual affair of Region XIII where we belong, composed of seven countries:



**Top: ASHRAE Philippines officers souvenir shot before the start of the conference (Lito David, Cezar Punsalan, Eric Panzo, Cesar Lim, Jojo Castro, Jim Bata, Dave Farala, Dennis Alejandro and Manny Belino)**



**Left: Your ASHRAE Philippines officers together with Robert Hu, DRC, Region XIII, Gordon Holness, ASHRAE President, Tom Lawrence, seminar speaker and Dr. Piya Chongvatana, CRC Chair.**

**Right: Gordon Holness, ASHRAE President, awarding to the Philippines chapter and president Jojo Castro accepting, in behalf of past president Mon Aguilos, the Star award and a ribbon for the chapter's accomplishments for the year 2008.**



Hong Kong, Indonesia, Malaysia, Philippines, Singapore, Taiwan and Thailand.

This year's version shall be held in Singapore from August 27<sup>th</sup> to the 29<sup>th</sup>, its thirteenth year.



*Left: 2009-10 Chapter Presidents of Region XIII-Hong Kong, Philippines, Malaysia, Thailand, Indonesia, Singapore and Taiwan together with Society President Gordon Holness and wife, Robert Hu, DRC Region XIII, Wichai Laksanakorn, incoming DRC and Vincent Tse, first Region XIII president together with his wife.*

*Right: Student delegates and officers from Indonesia doing a presentation number.*



*Left: The Philippine delegation on stage together with ASHRAE President Gordon Holness and wife.*

*Right: President Jojo Castro singing for the audience.*



**SEPTEMBER**

**President Jojo Castro during his keynote address to the participants Of the first HVAC&R competition at La Salle Taft.**

The following month, the first ever HVAC&R Paper Presentation Competition was held at La Salle Taft. This event was spearheaded by the Philippine Institute of Mechanical Engineering Educators (PIMEE) with your Philippine chapter being the major sponsor. The panel of judges were composed of past president Rosendo Perez, Jr., ASHRAE Philippines past president & CTT chair Cesar Luis Lim, prof. Juan Tallara Jr. from PLM, and yours truly as chairman. It was held on September 19 at De La Salle University, Taft Avenue, Manila.

The purpose of the competition is to train the students for contests showcasing their abilities in documentation, reporting and presentation against the backdrop of their technical proficiency in the field of heating, ventilation, air-conditioning and refrigeration (HVAC-R). There were more than sixteen universities who participated and five finalists were selected from among them. The

papers presented by the students are quite intriguing and eventually the winners together with their entries were as follows:

First Prize:

DLSU-Manila – Installation of RFADS and Evaluation of Its Thermal Stratification and its Effects on Human Comfort Compared with Conventional OCACS

Second Prize:

Mapua Institute of Technology – Development of an Air Conditioning Laboratory Set-Up for Evaluating Chilled Glycol and Thermal Storage Systems

Third Prize:

DLSU-Manila - Design & Economic Evaluation of Thermal Storage System for the

Air Conditioning System of Bro. Andrew Gonzales Hall

PIMEE is headed by ASHRAE member Martin Ernesto Kalaw, professor at the De La Salle University in Manila.

**The winning team from La Salle together with, second from left Dr Manny Belino, SA chairman, Jojo Castro, Prof Ongie Tallara, PP Jun Perez, PP & CTTC Chair Cesar Lim (in red), Finance chair Beng Rosales, Profs Martin Kalaw and Efren Dela Cruz of La Salle.**



In the morning of that same day, September 19, the present set of ASHRAE Philippines officers went to the University of Sto. Tomas to make a presentation of what ASHRAE was all about. This was through the invitation of the mechanical engineering graduating students who have banded themselves to form a student branch at said university.



**Left: front row – Ding Guevarra, Publicity chair, Cesar Lim, CTTC Chair, second row – Beng Rosales, Finance chair, Jojo Castro, President, Mark Faulkner, Publication chair, Roger Almira, UST professor and colleague, third row – Prof. Nelson Pasamonte, ME Head and another instructor, Eric Panzo, RVC-MP Chair and Dr. Manny Belino, Student Activities Chairman.**

A side story of how this came about went this way: sometime in November 2008 when Cesar Lim and I were hired by the World Bank as consultants for the Chiller Energy Efficiency Project (CEEP), we needed personnel to conduct a quick survey of chillers installed at various commercial and

business establishments. We got a group of fourth year mechanical engineering students from UST because the graduating ones were busy doing their theses. A group leader was chosen from among them. This leader became our contact for all the efforts being undertaken by his group. Though their work only lasted for two weeks, the output was very valuable to the project such that said project is now on its commercial phase and being managed by the DENR and World Bank. Eventually, he became our coordinator and in fact is now a graduate. His name is Manuel John Paolo Rico and he became the first president of ASHRAE UST Student Branch (It takes more than a year to charter a student branch. UST has been confirmed as official student branch of ASHRAE Philippines only this June 2010. Watch for the official announcement when you receive your ASHRAE newsletter.)

**Right: Group picture together with some student members.**



**OCTOBER**

From gathering materials and resources since July, we started a serious review of the proposed standard for energy efficient buildings beginning September, continuing up to October and culminating to the presentation during the PSVARE HVAC/R convention in November at the SMX Convention Center. I shall dwell more on this later.

***Right: The Green Building Committee of ASHRAE Philippines and PSVARE in one of their serious discussions on the Philippines' first Green Building Standard.***



***Left: The Green Building Team in a huddle. The Standard incorporates information from ASHRAE Standard 189.1 and the California Energy Code, but in the local setting, weather and climate conditions.***



***Left: While the Standard is in its composition progress, ASHRAE officers became part of the organizers of the Philippine Green Building Initiative together with UAP and 6 other professional organizations.***



**NOVEMBER**



In November 5 and 6, the 10<sup>th</sup> APCBE biennial held in Kaohsiung, Taiwan was unforgettable. A total of 41 technical paper presentations tackling various subjects were presented by academicians, researchers and engineers in topics on green buildings and HVAC&R technology. The year's theme was "Green Energy for Environment".

*Left: The Host and Organizing Committee of the APCBE in Kaohsiung led by BC Yang (left).*

*Right: Philippine Chapter delegation at second row with past ARC Uen Hua Chao. Front row shows RXIII past presidents Vincent Tse, Raymond Wong and CS Ow (middle to right) together with DRC Wichai Laksanakorn.*



*Right: Taiwan's LOHAS Energy Conservation House*

APCBE means the Asia Pacific Conference on the Built Environment and outside of the USA, it is the foremost conference on up and coming technologies in the HVAC&R field among others. We shall be posting the topics and detailed presentations in our website about this matter. Watch for it!

*Right: Delegates to the Kaohsiung APCBE 2009 in a souvenir photo in front of the Kaohsiung Main Stadium, site of the 2009 World Games.*



In November too, we have a distinguished lecturer who visited us, Dr. Wei Sun. Dr. Sun is the Chairman of ASHRAE Technical Committee TC9.11 (Clean Spaces), where he served as the Principal Author of the ASHRAE Handbook "Clean Spaces" 2007 Edition. He is also the Principal Author and leads a group of over 40 co-authors and contributors globally to develop a new technical book called "ASHRAE Cleanroom Design Guide" which is expected to be published in late 2010. He is a member of ASHRAE Technical Committees TC9.10 (Laboratory Systems) and TC9.6 (Healthcare Facilities). He is also a member of IEST, ASHE and NFPA organizations. In other leadership roles, he serves as a Regional Vice-Chair for ASHRAE Region V (Ohio, Indiana and Michigan), and President-Elect of ASHRAE Detroit Chapter.



Mr. Sun received his BSME from University of Shanghai for Science and Technology in China in 1985, and was accepted as a MSME student in Shanghai Jiaotong University in China in 1987. In 1988, he was awarded with an academic scholarship from University of Kentucky in the United States and then received his MSAE degree from University of Kentucky in 1992. Since then Mr. Sun has been working in the US as a design and consulting engineer for 18 years in building mechanical systems design, HVAC&R

**Left: Dr. Sun with Jojo Castro and convention dancers**

consulting and research. He is a registered Professional Engineer in 12 states in the United States.

Prior to his current position as a Principal and Director of Engineering at Engsysco, Inc., he has worked for several national design firms in the US Midwest. He served as lead senior engineer, group head for many large and sophisticated clean room facilities, bio-safety laboratories, data centers, major research hospitals and high-rise buildings. In addition to his cleanroom, laboratory and hospital design expertise, he has been serving as a Principal Investigator for several ASHRAE and governmental research projects, the research results have been published on ASHRAE Transactions, ASHRAE Journal, IEST, Labs21(DOE/EPA), CEC Research, etc. He has been invited to provide numerous technical speeches and training seminars in the US international conferences and for private industries as well. Mr. Sun has been serving as the "USA HVAC&R Advisor" for Japan Air Conditioning, Heating & Refrigeration News (JARN) magazine since 2004. He also serves as a "USA Consultant" for the Ministry of Health of Malaysia for their standardization effort for cleanroom and laboratory applications in healthcare facilities. Mr. Sun is the recipient of ASHRAE Dan Mills Award in 2006.

Dr. Sun discussed the topics on Primary, Secondary and Tertiary Air Handling Systems Design Strategies for Controlled Environments and HVAC Systems Design for Airborne Infection Control Spaces in Healthcare Facilities during his visit.

**Right: Dr. Sun with officers of PSVARE and ASHRAE Philippines.**





Before the end of November, we also have another distinguished lecturer who visited us in the person of Dr. William P. Bahnfleth. Dr. Bahnfleth is Professor and Director of the Indoor Environment Center in the Department of Architectural Engineering at the Pennsylvania State University (Penn State) in University Park, PA, where he has been employed since 1994. Previously, he was a Senior Consultant for ZBA, Inc. in Cincinnati, OH and a Principal Investigator at the U.S. Army Construction Engineering Research Laboratory in Champaign, IL. He holds BS, MS, and PhD degrees in Mechanical Engineering from the University of Illinois, where he also earned an undergraduate degree in music (pipe organ performance), and is a registered professional engineer.



**Left: Dr. William Bahnfleth with some ASHRAE Philippines officers and participants to the lecture at Makati Shangri-la Hotel.**

At Penn State, Dr. Bahnfleth teaches undergraduate courses in HVAC fundamentals and controls and graduate courses in chilled water systems, hot water

and steam systems, and indoor air quality. His research interests cover a wide variety of indoor environmental control topics, including chilled water pumping systems, stratified thermal energy storage, protection of building occupants from indoor bioaerosol releases, ultraviolet germicidal irradiation systems, and others. He is the author or co-author of more than 100 technical papers and 11 books and book chapters. He consults regularly on the design of chilled water thermal energy storage systems and has been involved in more than 20 projects world-wide.

**Right: From left, Dr. Orlando Vea, Mapua President Martin Kalaw, Jojo Castro, Bill Bahnfleth, Mapua Instructor and Dr. Manny Belino, SA Chairman**



Dr. Bahnfleth is member of the American Society of Mechanical Engineers (ASME), Sigma Xi, American Society for Engineering Education (ASEE), Society of Building Science Educators (SBSE), and a Fellow of the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE). He has served ASHRAE in a variety of capacities, including Student Branch

Advisor, Chapter Governor, Technical Committee and Standing Committee Chair, and as a Director-at-Large and is currently Society Vice President. He is the recipient of a 1<sup>st</sup> place ASHRAE Technology Award, Transactions Paper Award, and Distinguished Service and Exceptional Service Awards.

Dr. Bahnfleth's lecture topic was "Cool Thermal Energy Storage in the Era of Sustainability" which was held at the Makati Shangri-la Hotel last November 26 where more than a hundred participants attended.

He also visited the two student chapter branches of ASHRAE Philippines, Mapua Institute of Technology in Intramuros and De La Salle University in Taft Avenue, both in Manila.

**Left: Bill with Mapua Students and ASHRAE Officers in front of a Thermal Energy Storage Project.**



**DECEMBER**

Finally in December, we have a respite from all the activities, and what better way to cap the holiday season than to celebrate a Christmas Party together with our colleagues from PSVARE. This was a month of merriment and rest for everyone. The holidays after all renew our relationships with our families and friends. Cheers!



**JANUARY**

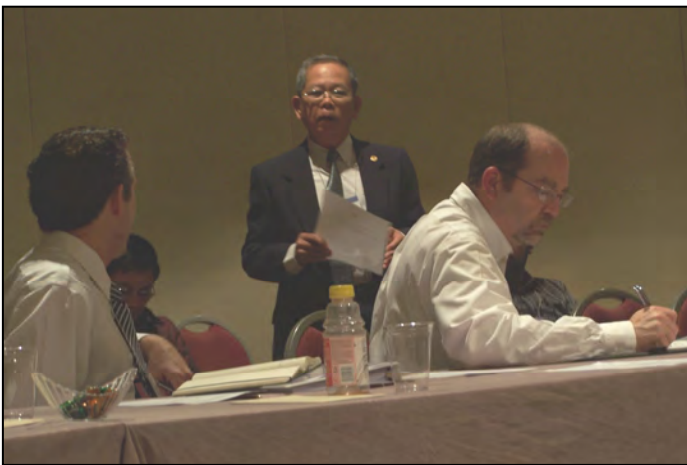
With the start of the year 2010, we held a planning meeting to discuss the Green Building standard again, and prepare for the ASHRAE winter conference in Orlando, Florida which has the theme “Building Sustainability from the Inside Out”. It was held from January 23 to 27 at the Rosen Creek Shingle Hotel and coincided with the AHR Expo which was held at the nearby Orange County Convention Center.



**Right: Joint PSVARE-ASHRAE Philippines Officers in their planning meeting in Cebu City.**

**THE WINTER CONFERENCE**

The first day activity led us to attend the forum on ASHRAE Standard 189.1, the Green Building Standard, especially organized for international participants. It was a proud moment for the Philippines as delegates ASHRAE Fellow Larry Punsalan, Publicity chairman Ding Guevarra, Secretary Dennis Alejandro, Past President and Region XIII Membership Promotion chairman Eric Panzo, and yours truly contributed to the lively discussion about each country’s experiences in the



**Left: ASHRAE Fellow Larry Punsalan expounding on the experiences of Filipino ASHRAE members in drafting the Philippines’ Green Building Standard.**

**Right: Ding Guevarra, chair of the Philippines’ Green Building Technical Committee and ASHRAE Publicity chair giving his suggestions to the Standard Committee chaired by Doug Reindl.**

promotion of energy efficient standards written and designed to reduce electricity consumption of buildings from the main grid, adopt energy efficient measures and utilize renewable energy as much as possible and ultimately decrease carbon dioxide emissions which contribute to global warming and climate change.



The winter conference also showed the firm resolve of ASHRAE through its president Gordon Holness, to push for the adoption of Green Building standards internationally while targeting net zero energy for buildings by the year 2030 in the USA.

It was a great opportunity also for your officers to attend the different seminars and fora during the 4-day event. Cesar Luis Lim, our 2009 Milton Garland Awardee, who is a voting member of the Refrigeration Committee attended its regular meeting sessions as he also handles several project and technical committees. He is also a co-author of a chapter for the Technical Committee 9.11 "Clean Spaces" or TC9.11 for

**Right: The Rosen Shingle Creek Hotel, site of the 2010 ASHRAE winter conference which is just beside the world famous Orlando Golf course.**



short, in charge of coming out with the ASHRAE Clean Room Design Guide, which shall be officially launched in



**Left: Photo with Canadian friends during the traditional Chinese dinner hosted by Region XIII officers at the Ming Court Chinese Restaurant in Orlando, Florida.**

**January 2011** coinciding with the winter conference in Las Vegas. Likewise, yours truly was appointed corresponding member of TC9.11 together with Cesar. Even better, Secretary Dennis Alejandro was appointed as a corresponding member too of TC9.12, Tall Buildings. This committee is concerned with the function, operation, energy and human safety for buildings in excess of 300 feet in height. Also included is the determination of requirements related to hydraulics, airflow, infiltration, thermal insulation, water vapor retarders, environmental control, fire and smoke control and maintenance.

**Right: Who did we bumped into but our recent DL visitors, Drs. Wei Sun and Bill Bahnfleth, shown here with Bill's wife, Cesar Lim and Dennis Alejandro.**



## **FEBRUARY**

Coming back to the Philippines, your officers went to work again by February, with the preparation of the final draft of the Philippines' first Green Building Standard. Recall that the gathered materials and resources for its preparation commenced in July of last year, and the first working draft prepared by October. The nitty gritty part of dissecting the document begins.

The effort to produce the Standard really was a joint undertaking of ASHRAE Philippines chapter and the Philippine Society of Ventilating Air Conditioning and Refrigerating Engineers (PSVARE) as most of the members belong to each other's organizations.

The Green Building Committee was created in July last year with Dave Farala handling the chairmanship.

## **MARCH**

On March 6, the Philippine Green Building Initiative was born. This date became a red-letter day for many professional organizations when the Philippine Green Building Initiative (PGBI) was successfully launched at the Teatro Arkitekto, UAP National Headquarters Building in Quezon City. Leading the incorporators and signatories to



the Declaration of Commitment of the non-stock, non-profit organization are PSVARE president Dani Duya together with ASHRAE Philippines Chapter president and PSVARE secretary Jojo Castro and presidents of the United Architects of the Philippines, Integrated Institute of Electrical Engineers, Heritage Conservation Society, Geological Society of the Philippines, Philippine Institute of Interior Designers and International Council of Monuments and Sites.

*Souvenir photo of the signatories and witnesses to the Philippine Green Building Initiative.*

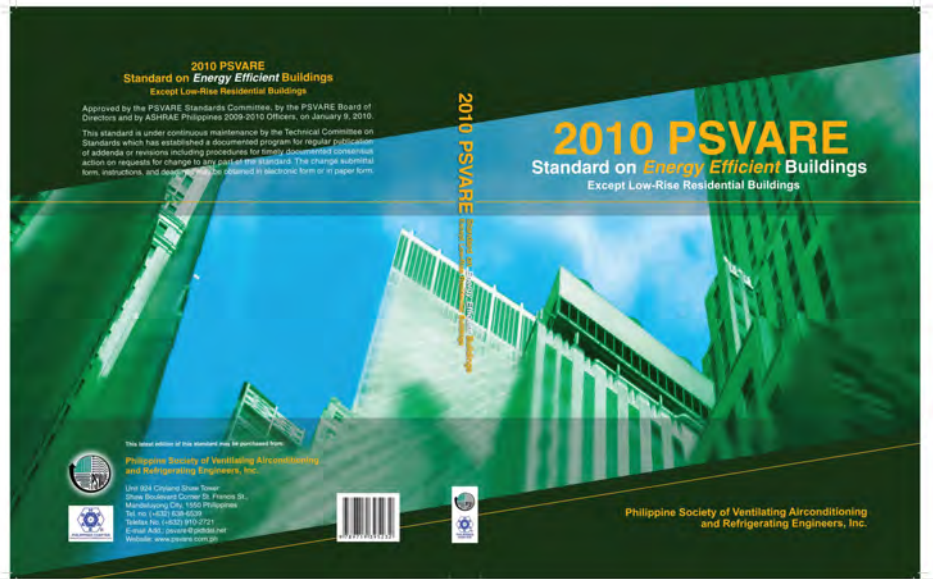
Secretary Heherson Alvarez, Vice Chairman and Executive Director of the Climate Change Commission gave the keynote address. The main objective of the PGBI is to reduce carbon emissions by introducing a green building standard for energy efficient

Then on March 24, 2010, the PGBI group represented by ASHRAE Philippines, PSVARE and UAP were invited to attend the Experts Panel meeting in Malacañang to discuss and present Pillar 3 of the Climate Change Commission's program on Climate Change. There are six pillars on the Commission's approach namely; Pillar I: River Basins, Pillar II: Mitigation and Decarbonization, Pillar III: Green Buildings, Pillar IV: Food Production Systems, Pillar V: Coastal Systems and Pillar VI: Disaster Risk Reduction.

The Green Building Committee of ASHRAE Philippines and PSVARE is now part of the Experts Panel which drafted Pillar 3: Green Buildings of the Climate Change Commission's framework strategy which was submitted to President Gloria Arroyo last April and was approved in May of this year.

**APRIL**

On April 29, Thursday, PSVARE and ASHRAE Philippines jointly held a grand book launching of its 2010 PSVARE Standard for Energy Efficient Buildings (right) at the Makati Shangri-la Hotel. The book launching is a high point in the history of PSVARE and ASHRAE Philippines, their major contribution to the country's effort to reduce carbon dioxide emissions, by coming out with a Green Building Standard. Sec. Heherson Alvarez was the guest of honor in this memorable occasion.



**Signing of the Memorandum of Understanding between Climate Change Commission Sec. Heherson Alvarez (front middle), PSVARE Pres. Danilo Duya (left) and ASHRAE Philippines Pres. Dominador “Jojo” Castro, Jr. with principal witnesses at the back, from left: Former DOE Undersecretary Mariano Salazar, 2007 ASHRAE Phils Pres Ramon Aguilos, Fellow ASHRAE Larry Punsalan and Dave Farala, Green Building Committee Chairman.**

**MAY**

Pushing for the adoption of the Green Building Standard really drained our energies and we need some time off to recharge.

As we wind up our affairs, we were in attendance during the renewal of marriage vows by PSVARE Charter President and the Philippines first ASHRAE Fellow Larry Punsalan together with wife Mary last May 16, at the San Agustin church. Dinner was held at the historic Manila Hotel with maestro Ryan Cayabyab, his son-in-law providing entertainment with great music. This is a singing family with music in their veins so that the siblings were led by none other than our incoming Vice-President Manny Punsalan, Larry's son, who also got some music chops.



**Top: Larry & Mary, on their 50<sup>th</sup> wedding anniversary and marriage vow renewal**

**Left: The whole Punsalan family**



We finally attended the annual Regional Planning Meeting (RPM) which was held in Hong Kong last May 29-30 and present during that meeting for the Philippine chapter were Eric M. Panzo, Regional Vice Chairman (RVC) for Membership Promotion, Emmanuel C. Punsalan, Vice-President (representing Jim L. Bata, President-Elect) and yours truly as the newly appointed

RVC-Refrigeration for Region XIII. The RPM is a venue for training ASHRAE president-elects to become familiar with the society, know each committee's functions, select future, local and society leaders and other matters pertaining to running a chapter. Only president-elects and regional officers attend Regional Planning Meetings.

**Right: Souvenir snapshot of participants in the recent RPM held in Hong Kong led by outgoing DRC Robert Hu (Taiwan) together with incoming DRC Wichai Laksanakorn (Thailand) (middle part).**



**JUNE**

As we close out our term and the annual summer conference sets in, we still have one more activity to accomplish. And that is, attend the ASIA Clean Energy Forum at the ADB headquarters in Manila. The forum brings all participants from all parts of the globe to discuss renewable energy. It is sponsored by Asian Development Bank, US Agency for International Development (USAID) and World Resources Institute. Our goal is to contribute to the discussion and raise the speakers' and participants' awareness that even if we live in a developing country, we as



engineers are doing something for her benefit, and that is to raise energy efficiency and ultimately mitigate global warming and climate change as the fruit of such energy savings is, reduced carbon dioxide emission. Through our 2010 PSVARE Standard for Energy Efficient Buildings (Except Low Rise

Residential Buildings), we believe we can bring about some change in the way we do business and consume energy in our country.

Also, word from Albuquerque courtesy of Cesar Lim is that, the confirmation of another ASHRAE Fellow from the Philippines and the official acknowledgment of our new student branch, University of Santo Tomas, will be announced in the days to come. This is indeed a great gift to all ASHRAE members as ASHRAE Philippines celebrates its 10<sup>th</sup> year with such pleasant surprises.



*Top: Dave and Ding at ADB's Clean Energy Forum 2010*



Albuquerque, New Mexico June 26-30, 2010

Finally, we thank:

our sponsors for their contributions which help us deliver services in support of all the activities of the chapter  
 our past officers who are our advisers in all matters that require wisdom in judgment  
 our members, both regular and students, who quietly support our chapter just by renewing their membership  
 our friends in government through the Climate Change Commission of Sec. Heherson Alvarez  
 our friends in the private sector for acknowledging our small contributions for the betterment of our society  
 and the general public, just by being aware of our existence as an organization.

And lastly, we welcome our next president, Jim L. Bata, whom we know will steer well the chapter to greater heights together with his indefatigable team. Onwards ASHRAE PHILIPPINES!

