Association of Korean Physicists in America

AKPA Newsletter

재미 한인 물리학자 협회

Volume 26, Number 10 March, 2006

The current and past AKPA newsletters are found in the AKPA website: http://www.akpa.org/.

1. An Evening in March in Baltimore and AKPA Annual Meeting

한인 과학 및 공학자 모임

Traditional APS March Wednesday Dinner Meeting for the Year 2006

Please join us at the Traditional APS March Dinner Meeting for the year 2006.

Place: Uncle Lee's Harbor Restaurant (at Lombard/South)
Address: 44 South Street, Baltimore, MD 21202, (410) 727-6666
Time: 6:00 – 9:00 pm on Wednesday, March 15, 2006
Transportation: This Szechuan Chinese restaurant is within walking distance from the Convention Center.

Participants will gather near the APS message board at the Convention Center by 5:30 pm and walk together, or go directly to the restaurant.

Cost: $20 per person (Graduate Students: $10)
Contact: For more information, contact
Sung Kwun Lyo (sklyo@sandia.gov) or Yung Kee Yeo (Yung.Yeo@afit.edu)
Sponsors: 1. Association of Korean Physicists in America (AKPA)
2. Dr. Jin Joo Song

PS: This traditional APS March Wednesday Dinner Meeting has been held for the past three decades. The dinner will be followed by a special talk and also by AKPA general meeting at 9:00 pm.

Hoping to see you all at the dinner meeting in March of 2006,

Condensed Matter Physicists Group (Sun Kwun Lyo, Jin Joo Song, Hoydoo You, and Yung Kee Yeo)

AKPA Annual Meeting for the Year 2006

The AKPA annual meeting for 2006 will take place at the following time and place.
We invite as many AKPA members as possible to participate in the meeting.

Time: **9:00 pm on Wednesday, March 15, 2006 (right after the March Dinner)**
Place: **Uncle Lee's Harbor Restaurant, Baltimore, MD (same as the March Dinner)**

Agenda of the Traditional APS March Wednesday Dinner Meeting and AKPA Annual General Meeting

1. **5:30 pm: Depart from the Convention Center (~10 min walking distance)**
2. **6:00 pm: Dinner**
3. **7:15 pm: Outstanding Young Researchers Award (OYRA of AKPA)**
4. **7:30 pm: Self Introduction and Job Announcement by Institutions**
5. **8:15 pm: Invited Speaker's Talk**

   Speaker: Dr. Roy U.T. Kim,
   Professor of International Political Economy, Drexel University and a Senior Fellow, Foreign Policy Research Institute

   Title: Natural Gas from Russian Far East for the Benefit of North and South Korea's Economic Integration

Prof. Roy U.T. Kim and Rep. Curt Weldon (R-PA) on Navy C-130 transport en route to Far East in 2004.

6. **9:00 pm: AKPA Annual Meeting**
   (1) Report of last year's activities
   (2) Discussion on the possible amendment of AKPA Constitution

   According to the current Constitution, the members of various committees have three-year staggering terms whereas the elected officers (President and Auditor) have two-year terms. Since the committee members are appointed by the presidents, it may be more efficient to change their terms to four years so that half of them will be appointed by the new presidents every two years. Another possibility is reverting the terms of the elected officers to one year, as was in the original Constitution, while keeping the terms of the committee members at three years. The membership fee structure may also have to be updated. Presently, there is an annual membership fee of $5.00 for graduate students while AKPA does not have a single student member. The possibility of waiving this student membership fee and of instituting a lifetime membership fee will be discussed.

7. **10:00 pm: Adjourn**

2. Dr. Namjung Hur: 2006 OYRA Winner

Dr. Namjung Hur, a postdoctoral research fellow at the Condensed Matter and Thermal Physics Division of the Los Alamos National Laboratory, has been selected as the winner of the 2006 Outstanding Young Researcher Award of AKPA.

Dr. Hur is cited for "his study on interplay between ferro-electricity and magnetism in synthesized heavy fermion superconductors and becoming a leader in the field of multi-ferromagnetic and magneto-electric effects."

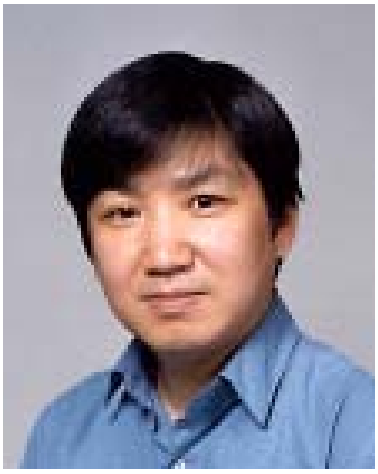
Dr. Hur received his B.S. in Astronomy in 1997 and M.S. in Physics in 1999 from Seoul National University. He was awarded his Ph.D. in Physics in 2004 from Rutgers University. He carried out research in the area of Material Physics under the supervision of Professor Sang-Wook Cheong of Rutgers. After completing one year of postdoctoral research at Rutgers in 2004-2005, Dr. Hur is now a postdoctoral researcher at the Condensed Matter and Thermal Physics Division of the Los Alamos National Laboratory since February 2005.

The OYRA award with citations and cash award of $1,500 will be presented at the March 15 dinner get-together for the Korean physicists (see the preceding announcement above) by Professor Ho Jung Paik of the University of Maryland, president of AKPA.

The OYRA Award Committee consists of Professors Kyungsik Kang (Brown U., Chair) [19th President of AKPA], Kwang-Je Kim (Argonne National Lab) [24th President of AKPA], Yoonseok Lee (U. Florida), M. Howard Lee (U. Georgia), and Yong Wook Kim (Lehigh U.) [12th President of AKPA].

This year marks the 13th annual OYRA award, the first award presented in 1994. The OYRA was founded in 1994 by Professor Nowhan Kwak (now retired) of the University of Kansas [15th President of AKPA] and for the first three years, 1994-1996, the OYRA committee was headed by Professor Moo-Young Han of Duke University [7th President of AKPA].

3. OYRA Recipients (6)



The recipient of the 1999 OYRA was Dr. Yong Baek Kim, who at the time of the award was an assistant professor of physics at the Penn State University. He is presently an associate professor of physics at the University of Toronto, Canada. Having received B.S. degree in 1989 from Seoul National University and M.S. degree in 1991 from Pohang University, Dr. Kim obtained his Ph. D. degree from MIT in 1995.

He is a member of the Condensed Matter Physics group at Toronto and his fields of research include quantum magnetism, quantum critical phenomena, superconductivity, and quantum Hall effect. Professor Kim's website is at http://www.physics.utoronto.ca/~tbkim.

4. Einstein and Mozart: Pure Thoughts

A Genius Finds Inspiration in the Music of Another

By ARTHUR I. MILLER
Professor of the history and philosophy of science at University College London

The New York Times, January 31, 2006

Last year, the 100th anniversary of $E = mc^2$ inspired an outburst of symposiums, concerts, essays and-merchandise featuring Albert Einstein. This year, the same treatment is being given to another genius, Wolfgang Amadeus Mozart, born on Jan. 27, 250 years ago. There is more to the dovetailing of these anniversaries than one might think.

Einstein once said that while Beethoven created his music, Mozart's "was so pure that it seemed to have been ever-present in the universe, waiting to be discovered by the master." Einstein believed much the same of physics, that beyond observations and theory lay the music of the spheres — which, he wrote, revealed a "pre-established harmony" exhibiting stunning symmetries. The laws of nature, such as those of relativity theory, were waiting to be plucked out of the cosmos by someone with a sympathetic ear. Thus it was less laborious calculation, but "pure thought" to which Einstein attributed his theories. Einstein was fascinated by Mozart and sensed an affinity between their creative processes, as well as their histories.

As a boy Einstein did poorly in school. Music was an outlet for his emotions. At 5, he began violin lessons but soon found the drills so trying that he threw a chair at his teacher, who ran out of the house in tears. At 13, he discovered Mozart's sonatas. The result was an almost mystical connection, said Hans Byland, a friend of Einstein's from high school. "When his violin began to sing," Mr. Byland told the biographer Carl Seelig, "the walls of the room seemed to recede — for the first time, Mozart in all his purity appeared before me, bathed in Hellenic beauty with its pure lines, roguishly playful, mightily sublime."

From 1902 to 1909, Einstein was working six days a week at a Swiss patent office and doing physics research — his "mischief" — in his spare time. But he was also nourished by music, particularly Mozart. It was at the core of his creative life. And just as Mozart's antics shocked his contemporaries, Einstein pursued a notably Bohemian life in his youth. His studied indifference to dress and mane of dark hair, along with his love of music and philosophy, made him seem more poet than scientist. He played the violin with passion and often performed at musical evenings. He enchanted audiences, particularly women, one of whom gushed that "he had the kind of male beauty that could cause havoc."

He also empathized with Mozart's ability to continue to compose magnificent music even in very difficult and impoverished conditions. In 1905, the year he discovered relativity, Einstein was living in a cramped apartment and dealing with a difficult marriage and money troubles.

That spring he wrote four papers that were destined to change the course of science and nations. His ideas on space and time grew in part from aesthetic discontent. It seemed to him that asymmetries in physics concealed essential beauties of nature; existing theories lacked the "architecture" and "inner unity" he found

in the music of Bach and Mozart.

In his struggles with extremely complicated mathematics that led to the general theory of relativity of 1915, Einstein often turned for inspiration to the simple beauty of Mozart's music. "Whenever he felt that he had come to the end of the road or into a difficult situation in his work, he would take refuge in music," recalled his older son, Hans Albert. "That would usually resolve all his difficulties." In the end, Einstein felt that in his own field he had, like Mozart, succeeded in unraveling the complexity of the universe.

Scientists often describe general relativity as the most beautiful theory ever formulated. Einstein himself always emphasized the theory's beauty. "Hardly anyone who has truly understood it will be able to escape the charm of this theory," he once said. The theory is essentially one man's view of how the universe ought to be. And amazingly, the universe turned out to be pretty much as Einstein imagined. Its daunting mathematics revealed spectacular and unexpected phenomena like black holes.

Though a Classical giant, Mozart helped lay groundwork for the Romantic with its less precise structures. Similarly, Einstein's theories of relativity completed the era of classical physics and paved the way for atomic physics and its ambiguities. Like Mozart's music, Einstein's work is a turning point.

At a 1979 concert for the centenary of Einstein's birth, the Juilliard Quartet recalled having played for Einstein at his home in Princeton, N.J. They had taken quartets by Beethoven and Bartok and two Mozart quintets, said the first violinist, Robert Mann, whose remarks were recorded by the scholar Harry Woolf.

After playing the Bartok, Mann turned to Einstein. "It would give us great joy," he said, "to make music with you." Einstein in 1952 no longer had a violin, but the musicians had taken an extra. Einstein chose Mozart's brooding Quintet in G minor. "Dr. Einstein hardly referred to the notes on the musical score," Mr. Mann recalled, adding, "while his out-of-practice hands were fragile, his coordination, sense of pitch, and concentration were awesome." He seemed to pluck Mozart's melodies out of the air.

5. Dues and Contributions

The 2005-2006 fiscal year ends on April 30, 2006. The final report on dues and contributions will be reported in the May 2006 issue of AKPA newsletter.

As of February 28, 2006, dues and contributions received: $10,245.

You can now pay your due ($25/year) or send your contribution *electronically*. Please go to www.akpa.org, register as a member, and follow the instruction for electronic payment. Or if you prefer, you can still mail your check to our Treasurer, Professor Eun-Suk Seo at the Institute for Physical Science and Technology, University of Maryland, College Park, MD 20742.

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