

**Second Announcement**  
**July 31, 2010**

## **Third International Conference on Lie-Admissible Treatment of Irreversible Processes (ICLATIP-3)**

Dedicated to the Memory of Prof. Hyo Chul Myung

**KATHMANDU UNIVERSITY, Dhulikhel, Nepal**

**December 30, 2010 - January 2, 2011, Social Events**  
**January 3 to 7, 2011, Conference Sessions**

**Organized by**  
Kathmandu University, Dhulikhel, Nepal

**In Partnership with**  
Nepal Mathematical Society,  
Nepal Physical Society,  
The R. M. Santilli Foundation, USA



## Professor Hyo Chul Myung

Born on June 15, 1937

Dr. Myung received his B.S. and M.S. degrees in mathematics from Seoul National University and his Ph.D. degree in mathematics from Michigan State University in 1970. Since then he has taught at the University of Northern Iowa for over 25 years. In 1995 he returned to Korea to accept a professorship at KAIST and joined, in 1996, then newly established Korean Institute for Advanced Studies (KIAS).



Dr. Myung was one of the founding members of KIAS ( <http://www.kias.re.kr> ). He served as its acting president in October 1996 when KIAS was first established, and since July of 2007 served as its fourth president until his death. He leaves behind one of the premier institutions of advanced research, modeled after the Institute for Advanced Study (IAS) in Princeton that housed Einstein, Oppenheimer and von Neumann.

Fields of interest: Nonassociative rings and algebras, Lie algebras, Lie-admissible algebras, homogeneous spaces and H-spaces, mathematical physics, invariant system theory, algebras and differential equations.

Organization of International workshops and conferences:

- Co-organizer of "The First Workshop on Lie-Admissible Formulations", held at Harvard University, December 10-15, 1978.
- Co-organizer of "The Second Workshop on Lie-Admissible Formulations", held at Harvard University, August 1-8, 1979.
- Co-organizer of "The Third Workshop on Lie-Admissible Formulations", held at University of Massachusetts, New Harbor Campus, Boston, August 4-9, 1980.
- Co-organizer of "The Fourth Workshop on Lie-Admissible Formulations", held at the Institute for Basic Research, Cambridge, Mass., August 3-7, 1981.
- Co-organizer of "The Fifth Workshop on Lie-Admissible Formulations", and the First Workshop on Hadronic Mechanics", held at the Institute for Basic Research, Cambridge, Mass., August 2-7, 1983.
- Co-organizer of "The First International Conference on Non-potential Interactions and Their Lie-Admissible Treatments", held at University of Orleans, Orleans, France, January 5-9, 1982.
- Co-organizer of "The Second Workshop on Hadronic Mechanics", held at The Center "A. Volta", Villa Olmo, Como, Italy, August 1-3, 1984.
- Co-organizer of "The Third Workshop on Hadronic Mechanics" held at University of Patras, Patras, Greece, August 25-30, 1986.
- Co-organizer of "The Fourth Workshop on Hadronic Mechanics and Nonpotential Interactions", held at University of Skopje, Skopje, Yugoslavia, August 22-26, 1988.
- Organizer (Conference Chairman) of "The 5th International Conference on Hadronic Mechanics and Nonpotential Interactions", held at the University of Northern Iowa, Cedar Falls, Iowa, August 13-17, 1990

- Organizer (Co-Chair with E. Zelmanov) of “International Conference on Recent Progress in Algebra”, held at KAIST and KIAS, Taejon-Seoul, August 11-15, 1997.
- Organizer of “Anniversary Symposium of KIAS”, (Mathematics Division), November 26, 1997.
- Chair of Organizing Committee for “KIAS Number Theory Conference”, December 8-12, 1997, KIAS, Seoul, Korea.
- Chair of Organizing Committee for “KIAS Algebraic Geometry Conference”, October 13-16, 1998, KIAS, Seoul, Korea.
- Member of Scientific Committee for “4th International Conference on Nonassociative Algebras and its Applications”, held at University of Sa<sup>o</sup> Paulo, Sa<sup>o</sup> Paulo, Brazil, July 19-25, 1998.
- Co-chair of Organizing Committee for “KIAS Lie Theory Conference”, October 5-8, 1999, KIAS, Seoul, Korea.
- Co-editor of Proceedings of “Korea-Japan Joint Workshop in Mathematics 2000”, November 7-9, 2000, KIAS, Seoul, Korea.
- Member of Organizing Committee for “International Conference on Lie and Jordan Algebras, Their Representations and Applications”, May 13-18, 2002, Guarujá, Brazil.
- Member of Organizing Committee for “Algebraic Groups and Quantum Groups”, April 7-9, 2003, KIAS, Seoul, Korea.
- Member of International Advisory Board for “5th International Conference on Nonassociative Algebra and Its Applications”, July 27-August 3, 2003, Mexico.
- Member of Organizing Committee for “International Conference on Lie Algebras and Related Topics”, October 20-23, 2003.
- Member of the Scientific Committee for “International Conference in Algebras”, August, 2007, Sao Paulo, Brazil.
- Member of Scientific Committee for “The Second International Congress of Algebra and Combinatorics”, July, 2007, Beijing, China.
- Member of Scientific Committee for “Pacific Rim Mathematical Association Congress”, July, 2009, Sydney, Australia.

Over 30 review articles have been published in Mathematical Review, American Mathematical Society.

Professor Myung’s commitment to support Korean Women in Mathematical Sciences (KWMS) comes on the heels of the agreement he signed on August 17, 2009 to donate the bulk of his fortune, valued at 300 million won (\$240,900), to KIAS.

Even as he faces death, Hyo Chul Myung continues to devote his life to science.

Professor Hyo Chul Myung died on February 11, 2010 in Seoul, South Korea after a long battle with cancer at the age of 73.

**The Scientific committee has decided to dedicate this conference in honour of this outstanding Mathematician.**

## SCIENTIFIC BACKGROUND

During the 20th century it was generally believed that the irreversibility over time of our macroscopic environment was "illusory" (sic) because, when macroscopic events are reduced to their elementary particle constituents, irreversibility "disappears" (sic) and one recovers nice elementary particles in the reversible conditions necessary for the applicability of special relativity, quantum mechanics and quantum chemistry.

As part of his lifelong research in the field, the Italian American applied mathematician Ruggero Maria Santilli (see CV, prizes and nominations at <http://www.santilli-foundation.org>) has proved the following:

*NO REDUCTION THEOREM: A classical system that is irreversible over time cannot be consistently reduced to a finite number of elementary particles all reversible over time and, vice versa, a finite number of elementary particles all in reversible conditions cannot yield a macroscopic irreversible event under the correspondence or other principles.*

The above theorem establishes that **irreversibility originates at the most ultimate structure of nature**. For instance, the irreversibility of a spaceship during re-entry in our atmosphere originates from the nonlinear, nonlocal-integral and nonpotential-nonhamiltonian, thus irreversible interactions between the electron orbitals of the peripheral atoms of the spaceship and the corresponding orbitals of the atmosphere. Similar origins have been identified for other irreversible events, including inelastic, thus irreversible, high energy scattering processes.

Above all, **all energy releasing processes at the particle, nuclear, atomic and chemical levels are structurally irreversible over time. Consequently, basic advances in irreversible processes are crucial for the development, in due time, of much needed new clean energies and fuels so, whose study is an important aim of the Conference.** Due to such a societal relevance of irreversibility, our Foundation encourages a wide participation by experts in different fields for communal advances.

By recalling that special relativity, quantum mechanics, quantum chemistry, and 20th century sciences in general are reversible, the above No Reduction Theorem has far reaching implications since it has stimulated the initiation of the broadening of the scientific knowledge of the 20th century. Another aim of the Conference is that of identifying the status of the research in irreversibility as well as discuss new frontiers, such as much needed new algebras, geometries, functional analysis and other methods with such an irreversible structure to achieve direct compatibility with thermodynamical laws, beginning with a quantitative formulation of the entropy, as a necessary condition for an actual representation of nature.

**The significance of Lie-admissible algebras for irreversibility can be outlined as follows.** As it is well known, 20th century sciences are based on Lie algebras with familiar product  $[A, B] = AB - BA$  and known time evolution for a Hermitean operator  $i dA/dt = AH - HA$ . Hence, the reversibility of special relativity, quantum mechanics, quantum chemistry and other 20th century disciplines is reducible to the primitive invariance of the Lie product under anti-Hermiticity,  $[A, B] = - [A, B]^+$ .

During his Ph. D. studies, Santilli proposed in 1967 [1] the embedding of lie algebras in covering algebras with the first known deformed product  $(A, B) = pAB - qBA$ , where  $p, q$  and  $p \pm q$  (called  $\lambda$  and  $\mu$  in the original paper) are non-null scalars, and the first known deformed time evolution  $i dA/dt = pAH - qHA$ , where the product  $(A, B)$  is Lie-admissible (as well as Jordan-admissible) in the sense that the attached antisymmetric (symmetric) product is Lie (Jordan).

Subsequently, when at the Department of Mathematics of Harvard University under DOE grants ER-78-S-02-47420.A000, AS02-78ER04742, DE-AC02-80ER10651s, Santilli proposed in 1978 [2] the most general known Lie-admissible and Jordan-admissible product  $(A, B) = ARB - BSA$  where  $R$  and  $S$  are nonsingular operators, with Lie-admissible time evolution  $i dA/dt = ARH - HSA$  that is manifestly irreversible because no longer invariant under anti-Hermiticity.

A new mathematics based on generalized different units for ordered products to the right (representing motion forward in time) and inequivalent ordered products to the left (representing motion backward in time) had to be developed because, when applied to Santilli's Lie-admissible formulations, the mathematics underlying Lie's theory (conventional numerical fields, functional analysis, differential calculus, etc.) would lead to different numerical values under the same conditions at different times, loss over time of Hermiticity-observability (Lopez lemma), violation of causality, and other catastrophic inconsistencies.

Following contributions by a large number of authors reported in the *Third Announcement* of our Foundation (see <http://www.santilli-foundation.org/Announcements.html>), the latest comprehensive presentation including the needed new mathematics, the new irreversible mechanics, the proof of its universality with invariance, and a number of specific applications to irreversible processes, can be found in the 2006 Nuovo Cimento memoir [3]. Additional information can be found in the above quoted website of the Conference as well as of our Foundation.

[1] "Embedding of Lie-algebras in Lie-admissible algebras"

[1] R. M. Santilli, Nuovo Cimento Vol. 51, 570 (1967),  
<http://www.santilli-foundation.org/docs/Santilli-54.pdf>

[2] "On a possible Lie-admissible covering of Galilei's relativity in Newtonian mechanics for nonconservative and Galilei form-noninvariant systems," R. M. Santilli, Hadronic J.  $\{ \backslash \text{bf } 1 \}$ , 223-423 (1978), available in free pdf download from \\ <http://www.santilli-foundation.org/docs/Santilli-58.pdf>

[3] "Lie-admissible invariant representation of irreversibility for matter and antimatter at the classical and operator levels," R. M. Santilli, Nuovo Cimento B Vol. 121, 443 (2006),  
<http://www.santilli-foundation.org/docs//Lie-admiss-NCB-I.pdf>

### **TRAVEL SUPPORT**

Our Foundation can support a limited number of travel expenses on a first come first serve basis. Following the acceptance of their talk by the organizers, interested participants are suggested to request travel support to < [board@santilli-foundation.org](mailto:board@santilli-foundation.org) > with a copy of the abstract

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### **APOLOGIES**

The Foundation apologizes to recipients in the event they receive this message by mistake caused by continuous upgrading of the elist. In this instance, recipients are kindly requested to unsubscribe via the above easy link.

## Conference Schedule

	<b>Thursday</b>	<b>Friday</b>	<b>Saturday</b>	<b>Sunday</b>	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>		
	<b>December 30</b>	<b>December 31</b>	<b>January 1</b>	<b>January 2</b>	<b>January 3</b>	<b>January 4</b>	<b>January 5</b>	<b>January 6</b>	<b>January 7</b>		
<b>9.00 – 10.00</b>	<b>Arrival of participants in Kathmandu</b>	<b>Sightseeing of Durbar Squares</b>	<b>NEW YEAR 2011</b>	<b>Transfer to Dhulikhel</b>	<b>Opening Session</b>	<b>Scientific Session</b>	<b>Scientific Session</b>	<b>Scientific Session</b>	<b>Scientific Session</b>		
<b>10.00 – 10.30</b>					<b>Tea/Coffee</b>	<b>Tea/Coffee</b>	<b>Tea/Coffee</b>	<b>Tea/Coffee</b>	<b>Tea/Coffee</b>		
<b>10.30 – 11.30</b>					<b>Scientific Session</b>	<b>Scientific Session</b>	<b>Scientific Session</b>	<b>Scientific Session</b>	<b>Scientific Session</b>		
<b>11.30 – 12.30</b>		<b>Lunch</b>		<b>NEW YEAR PROGRAM at Nagarkot</b>	<b>Registration</b>	<b>Scientific Session</b>	<b>Scientific Session</b>	<b>Scientific Session</b>	<b>Scientific Session</b>	<b>Closing Ceremony</b>	
<b>12.30 – 13.30</b>						<b>Travel to Nagarkot</b>	<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>
<b>13.30 – 14.30</b>		<b>Tea - Together</b>		<b>NEW YEAR PROGRAM at Nagarkot</b>		<b>Scientific Session</b>	<b>Visit of Bhaktapur</b>	<b>Scientific Session</b>	<b>Scientific Session</b>	<b>Scientific Session</b>	
<b>14.30 – 15.00</b>						<b>Tea/Coffee</b>		<b>Tea/Coffee</b>	<b>Tea/Coffee</b>	<b>Tea/Coffee</b>	
<b>15.00 – 16.00</b>	<b>Tea - Together</b>	<b>NEW YEAR PROGRAM at Nagarkot</b>		<b>Scientific Session</b>	<b>Tea/Coffee</b>	<b>Scientific Session</b>	<b>Scientific Session</b>	<b>Scientific Session</b>			
<b>16.00 – 18.00</b>				<b>Tea - Together</b>	<b>Tea - Together</b>	<b>Welcome Dinner</b>	<b>Music Concert</b>	<b>Cultural Program</b>			
<b>19.00 – 20.30</b>	<b>Night stay in Kathmandu, Hotel Himalaya</b>	<b>Night stay in Nagarkot The Fort Resort</b>		<b>Night stay in Nagarkot The Fort Resort</b>			<b>Dinner</b>	<b>Dinner</b>	<b>Dinner</b>		

Note:

1. All sessions will be held at Kathmandu University, Dhulikhel.
2. One night in Kathmandu, two nights stay in Nagarkot for New Year celebration and remaining days in Dhulikhel.

**The Third International Conference on Lie-admissible Treatment of Irreversible Processes (ICLATIP-3) is being organized for the first time in South-East Asia at Kathmandu University, Nepal**

**December 30, 2010 - January 2, 2011, Social Events**

**Venue: The Fort Resort, Nagarkot ([www.fort.tripod.com](http://www.fort.tripod.com))**

**January 3 to 7, 2011, Conference Sessions**

**Venue: Kathmandu University, Dhulikhel ([www.ku.edu.com](http://www.ku.edu.com))**

**Accommodation:** Hotel Mirabel ([www.mirabelresorthotel.com](http://www.mirabelresorthotel.com)); Hotel Himalayan Horizon ([www.himalayanhorizon.com](http://www.himalayanhorizon.com)) and Dhulikhel Lodge Resort ([www.dhulikhellodgeresort.com](http://www.dhulikhellodgeresort.com))

## **Practical Suggestions**

### **Visas**

All foreigners, except Indians, must have a visa. Nepali embassies and consulates overseas issue visas. You can also get one on the spot when you arrive in Nepal, at Kathmandu's Tribhuvan Airport.

To obtain a visa on arrival by air in Nepal you must fill in an application form and provide a passport photograph. Visa application forms are available on a table in the arrivals hall. A single-entry visa valid for 60 days costs US\$30. At Kathmandu's Tribhuvan Airport the fee is payable in any major currency. However the Delegates of the following countries are required to obtain visa from in their respective Nepalese Embassy or Consulate: Afghanistan, Palestine, Iraq, Nigeria, Ghana, Zimbabwe, Swaziland, Somalia, Ethiopia, Liberia, and Cameroon.

### **Weather**

In December the climate and visibility are still good, though it can get chilly in the mornings and evenings and cold in night time. Please bring warm cloths.

### **Logistic matters**

For all logistic matters regarding airlines, accommodation, meals, etc., please contact

Prof. Bhadra Man Tuladhar

Chair, Scientific Committee

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