



AMERICAN SOCIETY OF INDIAN ENGINEERS

GALA

Celebrating Our
20th ANNIVERSARY
SEPTEMBER, 24th 2014
Houston, Texas



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President's Message

Welcome to the American Society of Indian Engineers 20th Anniversary GALA. I would like to extend my appreciation and gratitude to all our sponsors, supporters and GALA committee volunteers for making this event successful.

ASIE was established in 1994 with an objective to provide networking and professional development opportunities to engineers, architects and technicians of Indian origin in Greater Houston Area. This year, we complete twenty (20) years of our commitment to this objective. Over this period, our organization has been involved in diverse activities such as Scholarship Program, Disaster Relief Fundraising, annual participation in Science and Engineering Fair of Houston and Mathcounts competitions. Not only ASIE participates in the Engineers Week celebrations but we also conduct joint events with other professional organizations.

This year, ASIE has conducted several seminars covering topics such as leadership attributes, Project Management Institute (PMI) Certification seminar, TBPE Professional Practice Ethics seminar and petrochemical seminar. Technical field trips to Water Treatment Plant and, Pump manufacturing facility were also organized. ASIE members served as judges at Science and Engineering Fair of Houston and sponsored awards for the junior, ninth and senior divisions. Our members also volunteered as proctors and graders for the Mathcounts Competition conducted annually by Texas Society of Professional Engineers (TBPE). We are also planning our annual Diwali event during which we will provide scholarship awards to deserving students and recognize Young Engineer of the Year Award recipient.

One of the goals of ASIE is to assist its members to advance career goals by providing networking opportunities, mentorship and professional development. Many of our members play a prominent role in both private and government organizations, which enable us to provide such benefits. Historically, the experienced and well established members of ASIE have provided guidance and encouragement to the young and dynamic generation of the future. We strive to provide a unified voice for our members and the community we live and work within.

On behalf of ASIE Board of Directors and Advisory Council, I extend sincere appreciation to all our sponsors, members and supporters for their continued encouragement in our endeavors. We look forward to your continued involvement at future ASIE events.



President, ASIE 2014
SEKHAR AMBADAPUDI, P.E., CFM
KIT Professionals, Inc.

A message from the Gala Chair...

Showri Nandagiri, North Harris County Regional Water Authority



I am extremely honored and excited to take on this responsibility of chairing the Gala Committee for the 20th Anniversary celebration of ASIE. This is not something one should dread about, but since it involves several aspects that need to be managed, my first concern was whether I would be able to deliver the goods.

ASIE leadership this year has never been better. Every member of the Board and the Advisory Council was ecstatic to be part of this celebration. That excitement continued from day one to the date of the Gala, which was a very good encouragement for me to proceed with the task. It was obvious to me that getting the right people in the right place was a key to a successful function. As chair, all I did was perhaps to pick the experts to take on the various tasks. The rest was easy. Each member did his or her job with high enthusiasm and excitement. They attended the meetings, took part in conference calls and offered great pieces of advice to the chair. The contributions of these chairs of sub committees are very much evident from the fact that the function has taken ASIE to a higher level and all of us feel elated that our objective has been reached.

I would be failing in my duty if I do not recognize the members of this Gala committee for their hard work. They really took a lot of their personal time from family and work helping to organize this function. The following are the various chairs for the sub committees.

Fund Raising and Sponsorships	Vishal Merchant
Finance	Naresh Kolli
Food, Venue and Audio Visuals	Mahendra Korivi
Publicity, News Releases	Dinesh Shah
Reception	Rajsekhar Basavaraju
Recognition of Class of 2014	Krishna Vavilala
Program	Chetan Vyas
Silent Auction	Ravi Raj Yanamandala
Souvenir	Srinivas Chintalapati

I must also mention that several members of ASIE joined the above committees and extended their helping hand. I really appreciate their hard work.

I once again thank the ASIE officers, ASIE Advisory Council and all the chairs for their willingness to work with me and make this function as successful as it has been.



भारत का प्रधान कौंसल
ह्यूस्टन
CONSUL GENERAL OF INDIA
HOUSTON

MESSAGE

I convey my warm greetings and best wishes to all on the occasion of the 20th Anniversary Gala of the American Society of Indian Engineers (ASIE) at Hilton Houston Post Oak, Houston on 24 September, 2014.

I wish to acknowledge the very important role of American Society of Indian Engineers in bringing together the Indian Community and in further strengthening the bonds between professionals from India and the US.

My best wishes to ASIE and its membership.

(P. Harish)



PROCLAMATION

Whereas, the American Society of Indian Engineers (ASIE) is celebrating its 20th Anniversary on September 24, 2014; and

Whereas, ASIE is a non-profit organization established in 1994, with specific objectives for engineers, architects, and engineering technicians of Indian origin; and

Whereas, ASIE helps its members advance professionally, provides guidance and mentoring to engineering students, conducts technical conventions and sponsors activities to enhance public interest in technical fields; and

Whereas, ASIE supports S.T.E.M. (Science, Technology, Engineering & Math) education in our communities by volunteering at Mathcounts competition, serving as judges during the Science & Engineering Fair of Houston and providing an annual scholarship program for engineering students: now, therefore


I, Ed Emmett, County Judge of Harris County, Texas, hereby proclaim Wednesday, September 24, 2014, as

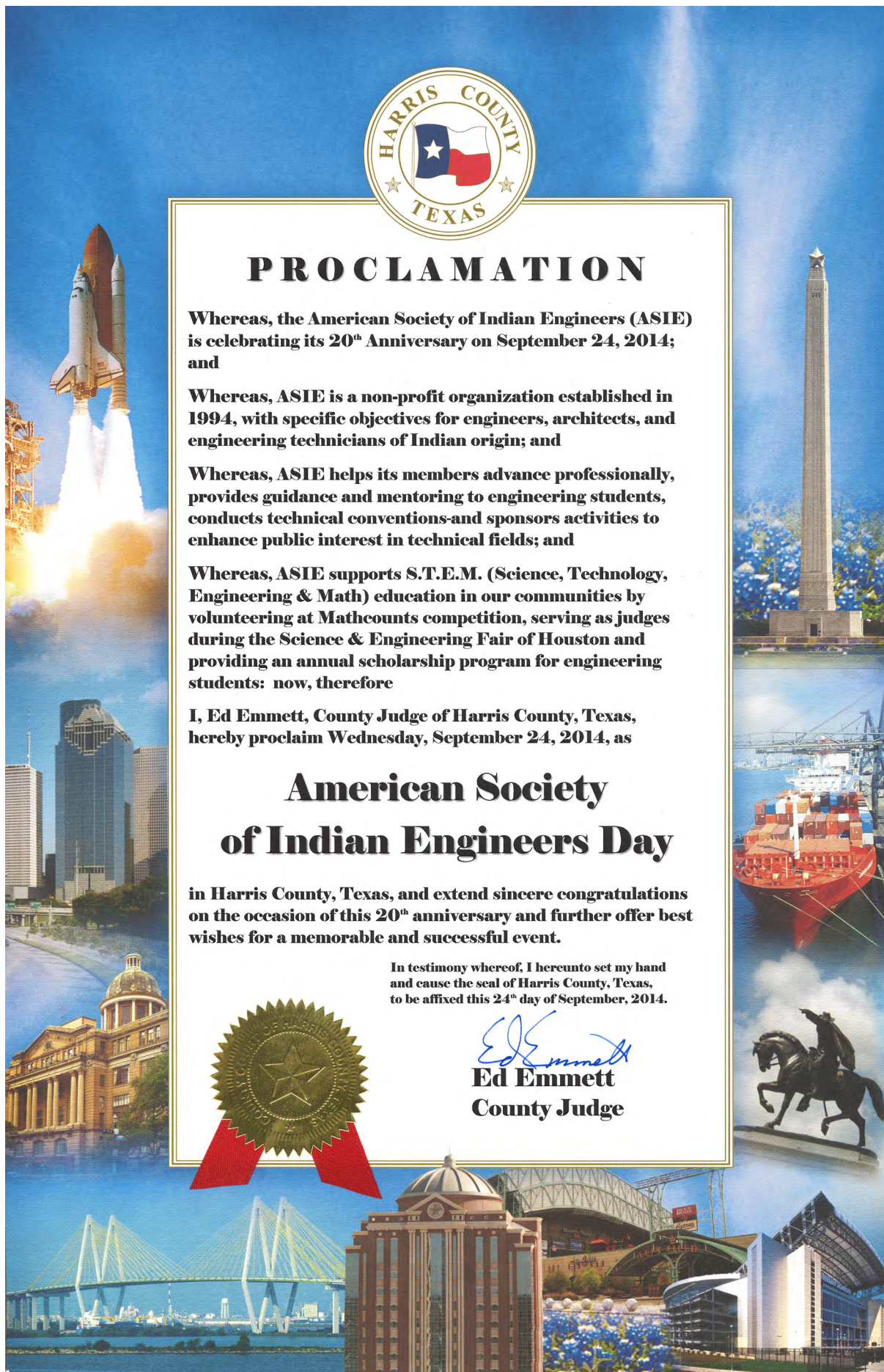
American Society of Indian Engineers Day

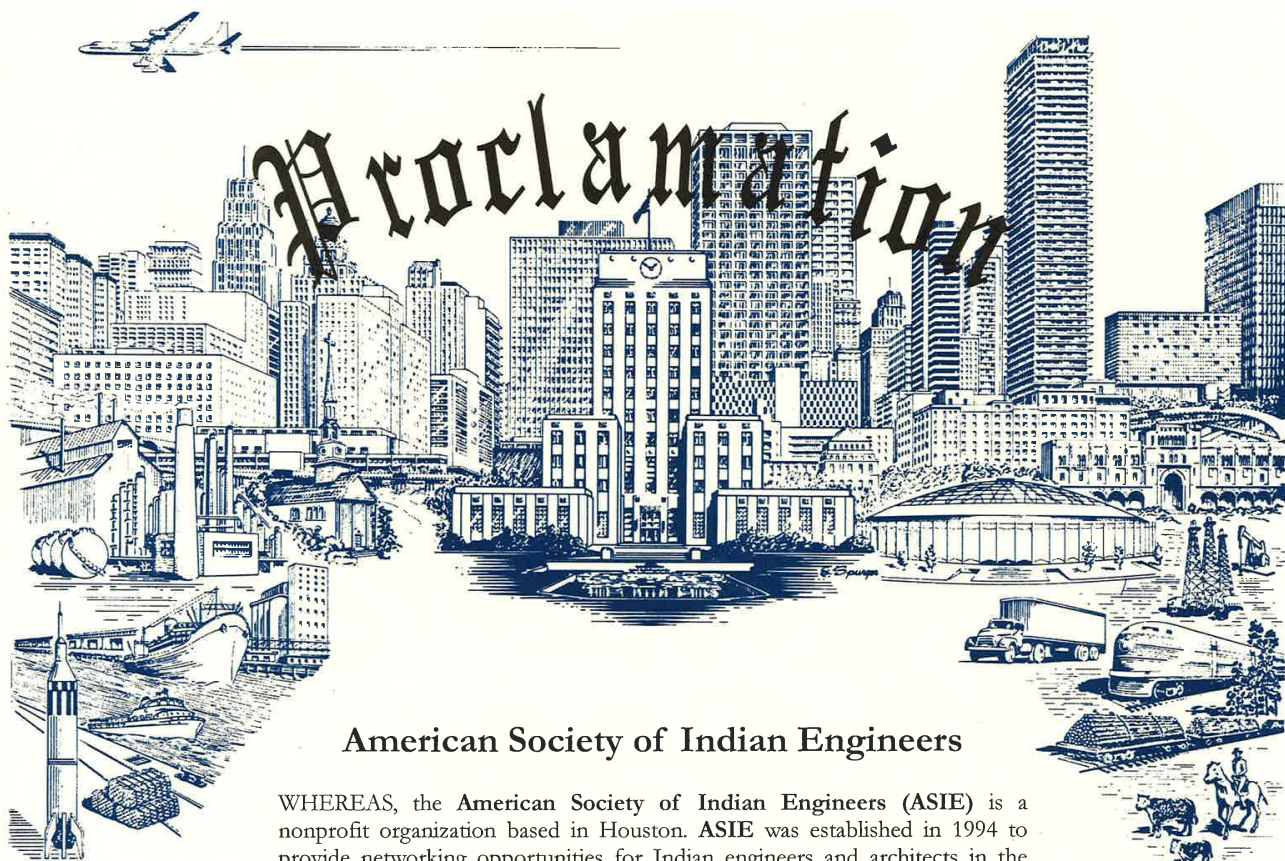
in Harris County, Texas, and extend sincere congratulations on the occasion of this 20th anniversary and further offer best wishes for a memorable and successful event.

In testimony whereof, I hereunto set my hand and cause the seal of Harris County, Texas, to be affixed this 24th day of September, 2014.




Ed Emmett
County Judge





American Society of Indian Engineers

WHEREAS, the **American Society of Indian Engineers (ASIE)** is a nonprofit organization based in Houston. **ASIE** was established in 1994 to provide networking opportunities for Indian engineers and architects in the Houston Metropolitan area and assist members in the advancement of their careers; and,

WHEREAS, **ASIE's** vision is to expand and provide benefits of the experienced and well established present generation to the new, young and dynamic generation of the future; and,

WHEREAS, one of the goals of **ASIE** is to help its members maintain stability in the work place and advance professionally in their fields by overcoming typical obstacles faced by immigrants and their families; and,

WHEREAS, on September 24, 2014, **ASIE** will celebrate its 20th anniversary and host its annual gala at Hilton Houston Post Oak. The City of Houston congratulates and commends the **American Society of Indian Engineers** on this important occasion and extends best wishes for continued success.

THEREFORE, I, Annise D. Parker, Mayor of the City of Houston, hereby proclaim September 24, 2014, as

American Society of Indian Engineers Day

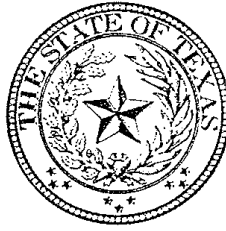
in Houston, Texas.



In Witness Whereof, I have hereunto set my hand and have caused the Official Seal of the City of Houston to be affixed this 11th day of September, 2014.

Annise D. Parker

Annise D. Parker
Mayor of the City of Houston



**STATE OF TEXAS
OFFICE OF THE GOVERNOR**

Greetings:

As Governor of Texas, it is my pleasure to welcome everyone to the American Society of Indian Engineers 20th Anniversary Gala.

Since 1994, ASIE has been committed to promoting involvement of Indian Americans in engineering, science and other technical professions. With an expanded membership today, including students and professionals, your organization continues to further opportunity and excellence.

This is a welcome occasion to celebrate 20 years of success and look forward to the achievements yet to come. I especially commend you for supporting young Texans in their studies and nurturing their interest in engineering. Soon, they will join you as professional engineers, helping to lead our great state into the future. Efforts such as yours reinforce the best of this great nation.

First Lady Anita Perry and I extend our best wishes for a successful event.

Sincerely,

A large, stylized handwritten signature of Rick Perry in black ink.

Rick Perry
Governor

2014 EXECUTIVE COMMITTEE, BOARD OF DIRECTORS



Rajesh Tolikonda (Secretary), Raj Basavaraj (Treasurer), Raghu Das, Harshad Patel, Sekhar Ambadapudi (President), Showri Nandagiri (Vice President), Naresh Kolli, Sai Gowthami Asam, Mahendra Korivi

2014 BOARD OF ADVISORS



Ram Gupta, Vishal Merchant, Mahesh Wadhwa, Dinesh Shah, Abraham Joseph

AMERICAN SOCIETY OF INDIAN ENGINEERS (ASIE), is a Houston, Texas based non-profit organization, tax exempt under IRS Rule 501(c)(3). ASIE was established in 1994 with specific objectives for engineers, architects, and engineering technicians of Indian origin.

PRICIPAL OBJECTIVES AND ACTIVITIES OF ASIE:

Provide a **networking** organization for engineers and architects of Indian origin in the Greater Houston Metropolitan Area and Texas at large. Provide **Forum** to assist members in advancement in their careers and in entrepreneurship, business and professional development; **Development** of engineers, architects and engineering technicians of Indian heritage for better communication and management skills and provide opportunities for networking and career enhancement through continuing educational seminars, workshops and field trips and encourage in professional registrations. **Share** information through ASIE newsletters and interact with fellow engineers, experts and successful entrepreneurs in various engineering fields. **Provide** guidance and mentoring to students enrolled in the engineering, architecture or related science fields by offering them scholarships and assisting them in practical training and job search. **Sponsor** technical conventions/seminars in association with and in cooperation with other professional societies with similar goals and objectives; to enhance public interest in technical fields such as Science fairs, Mathcounts. **Sponsor** social activities such as picnic and Diwali events to encourage social interaction with member families and their young generations.

ASIE is managed by nine members who are elected yearly. Keeping in view the goals of ASIE and to maintain continuity of the programs, ASIE members adopted amendment to its Bylaws to create an advisory body consisting of four life members and Immediate Past President. The purpose of the the Advisory Council is to help the Board in developing and promoting programs that will strengthen the advancement of ASIE's objectives, the fellowship and friendship among the Indian community at large. The Advisory Council will ensure the continuity of the programs once started.

For more information about ASIE, please visit www.asiehouston.org

ASIE AWARDS

There are more than one thousand engineers and architects of Indian origin who reside in Houston Metropolitan area and work in all engineering and science related industries. Many of them have excelled in their fields as entrepreneurs and professional fields of their expertise. A need has been felt to recognize their achievements. In 2013 ASIE started a new program ASIE Class of Engineers/Architects by honoring prominent Indian engineers and architects for their accomplishments and contribution to the society in Houston metropolitan area during last 20+ years. A total of 11 professionals were recognized in 2013 at special event held on June 14th 2013. The "ASIE Class of 2013" was:

Ben Bansal, Chad Patel, Dinesh Shah, Hasmukh Doshi, Jasbir Singh Sethi, Krishna Vavilala, Mahesh Wadhwa, Narendra Gosain, Ramesh Garg, Rao Ratnala, Ravi Arora



Continuing with our tradition five prominent engineers and architects have been chosen as "ASIE Class of 2014" as follow:

Durga Agrawal, Ram Gupta, Randhir Sahni, Sam Kanappan, Showri Nandagiri



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SHOWRI NANDAGIRI, P.E.

ASIE Class of 2014 Award Winner

Showri Nandagiri is currently serving as Engineering Coordinator for the North Harris County Regional Water Authority, under the stewardship of Jimmie Schindewolf, General Manager. Prior to joining the Authority ten years ago, Showri retired from the City of Houston's Public Works Department as Deputy Director/City Engineer.

Showri Nandagiri obtained his B.S. and M.S. degrees from Osmania University, Hyderabad, India and worked for the Government of Andhra Pradesh at the Engineering Research Laboratories for over three years. He then migrated to the US to pursue higher education, and obtained his M.S. in Water Resources from the University of Connecticut, Storrs, Connecticut. He moved to Houston in 1975, and worked in for Turner Collie and Braden (now AECOM) for several years, before joining the City of Houston's Public Works Department in 1978, as Graduate Engineer. He served the City in various capacities and retired in 2004, as City Engineer. Prior to his last assignment, he worked as Deputy Director for Engineering Construction and Real Estate Division.

Showri is actively involved in a number of professional and social activities. He is currently on the Association of Retired Houston Municipal Employees, and was until recently its Treasurer. He is the current Vice President of the southeast chapter of the American Water Works Association, which position he held twice in the last three years. He is on the board of Osmania University Alumni Association and also on Indo American Forum of Fort Bend. He is past board member of Telugu Cultural Association and past council member of India House. He worked with the Meenakshi Temple in Pearland, Texas in its formative years. He is also a member of Chinmaya Mission Houston.

PAST ASIE BOARD OF DIRECTORS AND ADVISORS

2013

Vishal Merchant (President), Showri Nandagiri (Vice President), Karthik Subramaniam (Treasurer), Sekhar Ambadapudi (Secretary)

Directors: Amal Dutta, Chetan Vyas, Madhu Kilambi, Rajesh Tolikonda, Raj Basavaraju.

Advisors: Ben Bansal, Chintalapati Srinivas, Dinesh Shah, Hasmukh Doshi, Mahesh Wadhwa.

2012

Chintalapati Srinivas (President), Vishal Merchant (Vice-President), Naresh Kolli (Treasurer), Bhavana Patel (Secretary)

Directors: Karthik Balasubramanian, Madhu Kilambi, Shekhar Ambadapudi, Showri Nandagiri,

Advisors: Ashish Bagga, Dinesh Shah, Hasmukh Doshi, Ravi Arora, Ravi Kaleyatodi.

2011

Ashish Bagga (President), Chad Patel (Vice President), Ravi Yanamananda (Treasurer), Chintalapati Srinivas (Secretary)

Directors: Bhavana Patel, Mohan Atluri, Naresh Kolli, Sudhakar Kalaga, Vishal Merchant.

Advisors: Raj Tanwani, Ravi Arora, Ravi Kaleyatodi.
Corporate Advisor: Abraham Joseph, P.E. (One Point, Inc),

2010

Rajesh Tanwani (President), Ashish Bagga (Vice-President), Raghavender Nednur (Treasurer), Srinivas Chintalapati (Secretary)

Directors: Chad Patel, , Lagnesh Varshney, Ravi Raj, Sudhakar Kalaga, Vaishali

Advisors: Ravi Arora, Tanu Hiremath,
Corporate Advisor: Abraham Joseph, P.E. (One Point, Inc)

2009
 Tanu Hiremath (President), Rajesh Tanwani (Vice-President),
 Ashish Bagga (Treasurer), Raghavender Nednur (Secretary)
 Directors: Chad Patel, Lachman Das, Lagnesh Varshney,
 Omesh Malik, Sudhakar Kalaga.
 Advisors: Manjula Krishnamurthy, Ravi Arora, Sanjay Ramab-
 hadran,
 Corporate Advisor: Abraham Joseph, P.E. (One Point, Inc),

2008
 Manjula Krishnamurthy (President), Charu Jain (Vice Presi-
 dent), Tanu Hiremath (Treasurer), Rajesh Tanwani (Secretary)
 Directors: Ashish Bagga, Chad Patel, Raghavender Nednur,
 Sudhakar Kalaga, Swapnil Patil
 Advisors: Ram Gupta, Ravi Arora, Ben Bansal
 Corporate Advisors: Ramesh Gunda (Gunda Corporation)
 and Ramesh Kalluri (Kalluri Group)

2007
 Ram Gupta (President), Charu Jain (President Elect), Ta-
 nushree Hiremath (Treasurer), Rajesh Tanwani (Secretary)
 Directors: Ashish Bagga, Chad Patel, , Raghavender Ned-
 nur, Sudhakar Kalaga, Vishal Merchant.
 Advisors: Ravi Arora, Virinder Bansal, Albert Joseph
 Corporate Advisors: Ramesh Gunda (Gunda Corporation)
 and Ramesh Kalluri (Kalluri Group)

2006
 Al Joseph (President), Ram Gupta (President Elect), Gaju
 Patel (Treasurer), Manjula Krishnamurthy
 Directors: Girish Thallapragada, Sudhakar Kalaga, Shan-
 tanu Patil, Charu Jain, Abraham Joseph

2005
 Abraham Joseph (President), Sandeep Patil, (Vice Presi-
 dent), Manjula Krishnamurthy (Secretary), Gaju Patel (Trea-
 surer), Sanjay Ramabhadran (Past President)
 Directors: Ramesh C. Garg, Al Joseph, Girish Thallapraga-
 da, Sudhakar Kallaga, Shantanu Patil

2004
 Sanjay Ram (President), Gaju Patel (Vice President), Vivek
 Menon (Secretary), Virinder Bansal (Treasurer)
 Directors: Virinder Bansal, Ram Gupta, Girish Tallapragada,
 Hari Bhatt, Raghu Rao, Manjula Krishnamurthy

2003
 Sandeep Patil (President), Abraham Joseph (Vice-President),
 Vivek Menon (Secretary), Gaju Patel (Treasurer),
 Directors: Ben Bansal, Chetan Vyas, Chandra Sekhar
 Sripadam, Mohindra Korivi, Raghupati Rao, Sanjay Ramab-
 hadran - Immediate Past President,

2002
 Sanjay Ramabhadran (President), Sandeep Patil (Vice Pres-
 ident), Chad Patel (Secretary), Sriram Natarajan (Treasurer),
 Directors: Virinder Bansal, Vivek Menon, Gautham Chande,
 Abraham Joseph, Ravi Arora (Advisor)

2001
 Vivek N. Menon (President), Abraham Joseph (Vice-Presi-
 dent), Sriram Natarajan (Treasurer), Chad Patel (Secretary),
 Directors: Sriram Natarajan, Raju Adwaney, Hersh Kumar,
 Bhupal Choudhry, Sanjay Ramabhadran (President Elect),
 Ravi Arora (Advisor)

2000
 Chad Patel (President), Abraham Joseph (Vice President),
 Virinder Bansal (Secretary), Sandeep Patil (Treasurer)
 Directors: Vivek N. Menon, Sanjay Ramabhadran, Vishnu
 Gupta, Ajay Mallik, Udayan Patel, Ravi Arora (Advi-
 sor)

1999
 Virinder Bansal (President), Rita Amin (Vice-president), Abra-
 ham Joseph (Secretary), Vishnu Gupta (Treasurer),
 Directors: Sandeep Patil (Membership), Devender Srivia-
 stava; Gaju Patel (Assistant Treasurer), Ravi Arora (Advisor)

1998
 Ravi Arora (President); Bhupal S. Chowdhry (Vice President);
 Vishnu Gupta (Treasurer); Reddivari S. Reddy (Secretary).
 Directors: Abraham Joseph; Rita Bhojwani; Kris Chander;
 Jawaharlal Prasad.

1997
 Krishna S. Vavilala (President), Ravi Arora (Vice-President),
 Hasmukh Doshi (Secretary), Champak Lad (Treasurer)
 Directors: M.K. Arya, B. S. Chowdhry, Ujwal Kirane, Bharat
 Patel, Chandrakant Patel

1996
 Kirti J. Sanghani (President), Navin Sheth (Vice-
 President), Ravi Arora (Treasurer), Bharat M. Patel (Secretary)
 Directors: Dilip Kapasi, Champak Lad, Dilip C. Shah, Vijay V.
 Raman, Krishna S.Vavilala

1995
 Kirti J.Sanghani (President), B.K. Rath (Vice-President), Navin
 Sheth (Treasurer), Bharat Patel (Secretary)
 Directors: Hasnukh H.Doshi, .Devendra Desai, G.S. Brar,
 Prakash Chowdhry and Chinmay Vyas

1994
 Hasmukh Doshi (President), Kirti Sanghani (Vice-President),
 Navin Sheth (Treasurer), Uday Shah (Secretary)
 Directors: Bharat Patel, Prakash Desai, B.K. Rath, Rajesh Patel,
 Atul Patel





DURGA D. AGRAWAL, PH.D., P.E.

ASIE Class of 2014 Award Winner

Dr. Durga Agrawal is the Founder, President and CEO of Piping Technology & Products, Inc. (Founded in 1975) -- a company providing products and services for industrial and construction needs. Durga earned his Bachelor's degree from the Delhi College of Engineering, Delhi University in 1967 and a Masters (1969) and Ph.D. (1974) in Industrial Engineering from the University of Houston. Through the years, he has been a part of many organizations:

- Appointed to the UH System Board of Regents in 2013 by Governor Rick Perry and will serve through August 31, 2019.
 - Licensed Professional Engineer, and a member of the National and Texas Societies of Professional Engineers.
 - A part of the Cullen College of Engineering Leadership Board and is an advisor to the University of Houston Department of Industrial Engineering.
 - Serves as a member of the Texas Higher Education Coordinating Board (2009-2013)
 - Director of the Agrawal Association of America and a member of the India Cultural Community. He also served (2003-2014) as an advisor to the Industry Trade Advisory Committee (ITAC, U.S. Dept. of Commerce/USTR).
 - Member of the Board of Advisors and Past President of the Indo-American Chamber of Commerce of Greater Houston.
 - Serves as a Board Member of Friedman Industries
 - Past President and current Trustee of India House, Houston.
- Currently serves on the Board of Directors of Asia Society Texas and is on the Board of Visitors at MD Anderson Cancer Center.

He is married to Sushila Agrawal; the couple has four children and six grandchildren.

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Randhir Sahni, AIA

ASIE Class of 2014 Award Winner

President

Ilwelyn-davis sahani, Inc.

As a working principal, of the firm for over 30 years Randhir has led large teams on planning, urban design and architectural projects in Texas, the United States and overseas. His experience extends from public to private projects including new towns, urban design studies related to CBD redevelopments, economic development, mixed-use developments and single focus projects. In addition, he uses his financial skills in utilization of capital for large and small projects.

He was invited to be the 2012 commencement speaker for the Architecture School at Kansas State University. He has lectured and written numerous articles and is an expert in project delivery. His broadly based experience provides him with the expertise and understanding of each project task to ensure timely and successful project completion.

Community Service

- Board member Houston Arts Alliance, 2012-present.
- American Leadership Forum, 2012-present
- Board Member, Association of Rice Alumni, 2009-2012
- Founding Member and Treasurer, Indo-American Political Action Committee, 1998-2012
- Board Member, Greater Houston Preservation Alliance, 2005-2010
- Board Member, SPARK Parks, 2006-present

Awards & Recognitions

- Texas Asian Republican Caucus, Elected Official of the Year (former City of Piney Point Councilman), 2009
- Asian Chamber of Commerce of Greater Houston, Entrepreneur of the Year, 2001
- Environment Improvement Award for "Light Spikes", City of Houston, Most Innovative Idea-Best of Show, 1990
- Gold Award for Excellence in Hospital Design, Texas Society of Architects/Texas Hospital Association, 1990

Leadership

- Senior Fellow American Leadership Forum-Class XVI
- Senior Fellow Leadership Houston-Class XIII
- Senior Fellow Center for Houston's Future-2005

Affiliations

- American Institute of Architects
- Texas Society of Architects
- Urban Land Institute
- Three term Councilman, City of Piney Point, Texas

Published Articles

- Fields of Green, Houston Business Journal, November 27-December 3, 2009
- Building with Care, Texas' Health Care Market Remains Vital, Texas Construction, November 2009
- Let LEED be Your Guide, Building Operating Management, September 2009
- ArchiChat - Interview with Randhir Sahni, 002 Magazine, June, 2009
- Factors to Consider in Designing Campus, Community College Times, March 27, 2009, pgs 19 and 25

Mr. Sahni has served as Adjunct Professor of Urban Design at the University of Houston, Teaching Fellowship at Rice University, Director of Urban Affairs for the American Institute of Architects and was awarded a Presidential Citation by the American Institute of Architects. Among the many awards his firm has received is the Gold Award for Excellence in Hospital Association. Mr. Sahni presented a paper entitled, "Program Management as a Key to Successful Facility Design and Construction: Case Study of Harris County Hospital District" at the AHA Annual Convention in Denver, Colorado and has had numerous papers and articles on hospital facility design and management published.



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Sockalingam “Sam” Kannappan P.E.

ASIE Class of 2014 Award Winner

Sockalingam “Sam” Kannappan of Houston is a Professional Engineer. He is a Charter Member of the Society of Piping Engineers & Designers and Advisory Board Member, Asia Society, Texas Center. Texas Governor Rick Perry appointed Kannappan to the Texas Professional Engineers Board from 2012 to 2017. He serves as Enforcement Committee Chairman. He was elected as the Secretary and Treasurer, US National PE Board (NCEES) Southern zone. Houston Mayor Brown declared December 27, 2005 as Sam Kannappan day in Houston to mark his 60th birthday celebration. He served as member of the American Society of Mechanical Engineers Gas Pipeline Safety Research Committee, ASME B31.3 piping code committee, and Defend Houston against Bio-terrorism. He served on the Texas On-Site Wastewater Treatment Research Council from 2006 to 2011.



He received Lighting Award from General Electric Company's Astro Division, Princeton, NJ for estimating the remaining life in a critical component which was already fitted in US Government satellite. He received Merit award from Tennessee Valley Authority for expediting non-conformance reports in the design of Bellefonte Nuclear Power plant. He received award from Crystal Dynamics group of NASA's Goddard Space Flight Center, Maryland for improving laser measurement accuracy. As Chief Engineer, he implemented electric power peak energy reduction programs.

As Chairman of Indo-American Disaster Relief Council, Kannappan worked with the Indo-American Charity Foundation to donate \$20,000 to student representatives of UTMB and Galveston Recovery Fund in the aftermath of Hurricane Ike. He is the Founder of Bharathi Kalai Manram and Founder Secretary of Sri Meenakshi Temple, and GOPIO Houston Chapter. He is from Nattarasankottai, Tamil Nadu.

Kannappan received his B.E. (Hons) in Mechanical Engineering from Annamalai University, India in 1965 and M.S. in Mechanical Engineering from the University of Texas, Austin in 1970. He is the author of the text book on “Introduction to Pipe Stress Analysis” and developer of Piping Analysis software “EZFLEX”.



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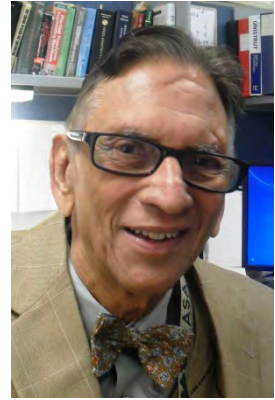
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BRIEFS ON RAM GUPTA, P.E.

ASIE Class of 2014 Award Winner



Professional:

- Presently working with 'PAE' Applied Technology Group' for 'National Aeronautics & Space Administration' -'NASA', Johnson Space Center, Houston,TX, as SENIOR PROFESSIONAL. Sealed,signed and approved over 1,200 drawings.

Worked with top engineering Design and Construction companies in USA, Nigeria and India in senior positions in the areas of civil/structural Engineering Analysis and Design,Construction planning and supervision, Quality control. Major employers are, Walter P Moore & Assoc. Inc.,Brown and Root,Bechtel, EBASCO, Desman Associates, CDIGroup, VECO (Alaska) and worked in Nigeria & India too. Also worked with Indiana State Highway Commission Research & Training Center,West Lafayette,Indiana and Victory Memorial Hospital (VMH),Brooklyn, City of New York.

Academic & Professional:

- Graduate and former Assistant Professor of Purdue University, West Lafayette,Indiana, USA.
- Graduate Instructor during Master's Program,first in Purdue University History.
- Former Research Engineer,Indiana State Highway Commission Research & Training Center.
- Twice selected as best Instructor during ISHC staff training courses. Developed sub-sonic frequency equipment to detect sub-surface cracks in the bridge concrete decks around spalls.
- Invited by former Supreme Court Chief Justice of India to be a Consultant to Council of Scientific and Industrial Research related to its expansion and growth, Government of India,1966.
- First in India to Produce Computer Logic Teaching Aids & Quarter Square Multiplier,1972.
- Former Consultant to Electronic Commission,Government of India on Computers, 1974.
- Chief Engineer, Billion Dollar Village of African Arts & Culture Construction Project in Lagos Nigeria,1974-75.
- As a Principal Project Manager,Established a Record in Nigeria by completing Armed Forces Development Projects construction,ahead of Schedule and within Budget, 1977-1979, keeping the Nigerian company ahead of international construction companies in Nigeria.
- Director of Facilities Mgmt. completed \$52 million VMHospital expansion within budget and within schedule and obtained certificate of occupancy with first visit from JCAHO and NYSDOH,both rare in New York State.
- Sealed,signed & approved more than 1,000 Construction Drawings for Johnson Space Center within 4 years.
- Former Consultant to National Council of Examiners for Engineering and Surveying for P.E.
- Written over a dozen articles,technical manuals, reports and co-author of a book, Fire Life Safety Guide, published by 'Council of American Structural Engineers,'CASE.'
- Registered Active Professional Engineer,licensed in the States of Texas,Indiana,New York and New Jersey. Chartered Engineer,India, Former Chartered Engineer Nigeria. Life Fellow of Institution of Engineers,India.
- Former Fellow of British Institute of Management & Institution of Industrial Managers, UK.

Societies:

- Life Member, American Society of Indian Engineers, Houston, former President.
- Member,Indo-American Chamber of Commerce, Greater Houston.
- Member,Global Organization of People of Indian Origin.

Honors:

- Recipient of International Scholarship Award at Purdue University, 1965.

Participant in American History:

- During the Statue of Liberty Bi-Centennial,1986, each State were to select 2 Immigrants,entire America, to participate and be honored at Statue of Liberty Bi-Centennial by receiving Citizenship to be awarded directly in Ellis Island, New York, directly by U.S. Supreme Court Chief Justice Warren Burger on Independence day evening. Among these 51immigrants,I was nominated by Governor Mark White of Texas, and Senator Lloyd Bentsen, to represent all the immigrants of the State of Texas. I am the first Indian whose name is engraved on a special plaque in Ellis Island. Both events are an American History for me.
- For this event,CBS-Dallas interviewed me for broadcast on Television on Prime Time on July 4,1986.
- 'Houston Post- daily Newspaper published my photo in color on front page with feature content of about a full page in July 4,1986 issue.

1997 ASIE BOARD OF DIRECTORS



Krishna S. Vavilala (President), Ravi Arora (Vice-President), Hasmukh Doshi (Secretary), Champa Lad (Treasurer)
Directors: M.K. Arya, B.C. Chowdhry, Ujwal Kirane, Bharat Patel and Chandrakant Patel

AMERICAN SOCIETY OF INDIAN ENGINEERS

Mr. Peter Evans
Vice-president
The M.W. Kellogg Co.,
601 Jefferson
Houston, TX 77002

Dear Mr. Evans,

Subject: ASIE DAY - Celebration of India's 50th Anniversary
Independence on Saturday, September 6th, 1997

On behalf of the Board of Directors of the American Society of Indian Engineers, I convey our sincere thanks to you for extending M.W. Kellogg Co.'s support for the ASIE Day event which was held on September 6th, 1997.



Year 2030: Houston Are We Ready?

Advised by Indo American News on November 8, 2012.
Sponsored by Community



Panel Discussion - "Year 2030 - Houston, Are We Ready?" Speakers (from left) Leonard Waterworth, Executive Director, Port of Houston; Samar Mukhopadhyay, Chief Development Officer, Houston Airport System; Andy Icken, Chief Development Officer, City of Houston; George Greanias, President & CEO, METRO.

By Dinesh Shah

HOUSTON: American Society of Indian Engineers (ASIE) is a Houston based non-profit organization established in 1994 for engineers, architects, and engineering technicians of Indian origin. ASIE members and many other Indo-American engineers have been serving the Engineering field in the Greater Houston area. The vision of ASIE is to expand and provide benefits of the experienced and well established present generation to the new, young and dynamic generation of the future by supporting initiatives in engineering and architecture, including Science Fair, Mathcounts, and E-Week programs. Every year, ASIE presents awards for the Science and Engineering Fair and offers scholarships to students pursuing engineering degrees from public universities in the Houston area. Since 1999, ASIE began the Young Engineer/Architect Award for the member Engineer's Week and

ASIE celebrates National Engineers Week



Members of ASIE and speakers at National Engineers Week. From left: President Vishal Merchant, Hasmukh Doshi, and Ravi Arora.

The American Society of Indian Engineers (ASIE) in January, under the leadership of newly elected President Vishal Merchant, formed its 2013 Executive committee which included Showni Nandagiri as Vice president, Sekhar Ambadipuri as Secretary, and Karthik Balasubramanian as Treasurer.

The current board of directors are Madhu Kilambi, Anil Dutta, Raj Basavaraju, Rajesh Tolikonda, and Chetan Vyasa. The Board of Advisors include Srinivas Chintalapudi, Hasmukh Doshi, Dinesh D. Shah, Virendra K. Bansal, and Mahesh Wadhwa.

On Feb. 2, ASIE volunteers participated in the MATHCOUNTS competition sponsored by Texas Society of Professional Engineers (TSPE), which was held at Rice Corp. in Sugar Land, by serving as Proctors and Graders.

MATHCOUNTS is a national math enrichment, coaching & competition program that promotes middle school mathematics achievement in every U.S. state & territory.

On Feb. 15, ASIE organized a two part event at Mayuri Restaurant, which was attended by over sixty members and was sponsored by Geotech Engineering and KET professionals.

The topic for the seminar was "Problem solving 101" by Dr. Seides M. Ranade, who has obtained Ph.D. in Chemical Engineering from University of Houston. The second part of the event was a meet and greet with Mr. Parvathani Harish, Consul General of India in Houston.

The National Engineers Week 2013, known as EWeek, was celebrated during Feb. 17 to 23. The theme for the event was "Celebrate Awesome", and it was definitely celebrated awesome and enabled the UH engineering students and organizations to receive an awesome award of money and recognition.

About \$57,000 was awarded to 72 students and 5 organizations from corporations, professional engineering organizations, Cougar engineers, and friends of UH.

About 240 engineering students, alumni, faculty, staff, and sponsors attended this event.

For the EWeek celebration, on February 19 during UH EAA Student Awards Banquet, ASIE presented "Indian Engineers Engineering the Future" award to two recipients.

COMMUNITY

Family and Friends



Attendees enjoying the food catered from SAPS Sharma restaurant and Mayor Indian Restaurant.

ASIE President, Sekhar Ambadipuri, and Vice President, Showni Nandagiri, welcomed all the guests to the event. The event was held at SAPS Sharma restaurant and Mayor Indian Restaurant.

ASIE
American Society of Indian Engineers

"ASIE DAY"
The 50th Anniversary of India's Independence
September 6, 1997
Houston, Texas



Panel Discussion - "Year 2030 - Houston, Are We Ready?" Speakers (from left) Leonard Waterworth, Executive Director, Port of Houston; Samar Mukhopadhyay, Chief Development Officer, Houston Airport System; Andy Icken, Chief Development Officer, City of Houston; George Greanias, President & CEO, METRO.

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From left: Harishad Patel, Raghu Dass, Showni Nandagiri - VP, Sekhar Amadipuri - President, Raj Basavaraju - Treasurer, Rajesh Tolikonda - Secretary, Mahendra Korivi, and Sai Gowthami.

American Society of Indian Engineers Held 2014 Inauguration Event

Advised by Indo American News on January 30, 2014.
Sponsored by Community



From left: Harishad Patel, Raghu Dass, Showni Nandagiri - VP, Sekhar Amadipuri - President, Raj Basavaraju - Treasurer, Rajesh Tolikonda - Secretary, Mahendra Korivi, and Sai Gowthami.

Dinesh Shah

SUGAR LAND: American Society Of Indian Engineers (ASIE), a Houston based organization of engineers, architects, designers, and engineering technicians organized, a first time ever "20th Inauguration Event" on January 23 at Sankalp. Despite of a worst weather of the season, more than 60 technical professionals participated to welcome the 2014 new ASIE Board and Board Advisors and also to express their thanks to the 2013 Board and Board of Advisors.



introduction. Vishal Merchant, outgoing ASIE President warmly welcomed all attendees and introduced his board members: Karthik Balasubramanian, Anil Dutta, Sekhar Amadipuri, Showni Nandagiri, Madhu Kilambi, Rajesh Tolikonda, Raj Basavaraju, and Chetan Vyasa. He sincerely thanked them for their incredible service.



Dinesh Shah, an engineer, real-estate developer and community activist laid the success of the ASIE's year-long activities - they held at least four major events and a few smaller ones - squarely on the shoulders of outgoing President Vishal Merchant, whose term expires at the end of the year.

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ASIE MEMBERS

PLAY SIGNIFICANT ROLE IN HOUSTON PUBLIC WORKS

Mr. Alvin Wright, Public Information Officer, Office of the Director Public Works, City of Houston
Ben Bansal, P.E. Supervising Engineer, Engineering Branch, PW&E

The City of Houston Public Works and Engineering Department provides services that affect the entire Houston region, one way or another. It's the only department that touches the lives of every Houstonian, every day. The vast responsibility of the department and of the near 4,000 employees requires a great deal of foresight and dedication because the work performed daily maintains the quality of life we all enjoy. As long as the water flows from the faucet and the drains drain, Public works has done its job. Most residents are not aware of how large the city's infrastructure is or how much work goes into maintaining those systems. For example, the department's **Street and Drainage Division** maintains over 15,000 miles of roadway, 3,100 miles of road side ditches, and 3,838 miles of storm water lines as well as 1,374 bridges (concrete, culvert and pedestrian). The cost associated with projected fiscal year 2015 maintenance of these four areas can cost over \$69 million dollars.

The treatment of water and wastewater by the **Public Utility Division** is also a massive undertaking that contributes greatly to improving the city's quality of life. The water treatment system, which consists of three treatment plants (Northeast, Southeast and East plants), 127 wells, 113 storage tanks, over 7,500 miles of water lines and nearly 60,000 fire hydrants involves coordination and collaboration with our regional water partners. Maintenance and repairs that keep the system flowing could run as high as 100 million dollars with revenues in the neighborhood of \$510 million dollars. Our wastewater treatment system, which is just as vital as the water treatment system, covers 6,500 miles and consists of 40 treatment plants, 392 lift stations and 28 odor control facilities. Annual budget to maintain this system could cost about \$141 million dollars in fiscal year 2015.

We are proud of the work performed by the devoted city employees many of them are ASIE members:

- Showri Nandagiri, P.E.: 25 years of dedicated service. Retired as Deputy Director, Public Works Engineering and City Engineer
- Harish Jajoo, P.E. : 30 years of dedicated service to PW&E. Served as Managing Engineer and Senior Assistant Director
- Ravi Kaleyatodi, P.E. Current Senior Assistant Director, Engineering Branch
- Gurdip Hayre, P.E.- Managing Engineer , Wastewater Operations (Plants
- Paramjit Kang, P.E.: Managing Engineer, Construction Division
- Lagnesh Varshney, P.E : Managing Engineer, City Engineer's office
- Sandeep Aggarwal, P.E. Managing Engineer, Drinking Water Operations
- Raghuvender Nednur, P.E. Managing Engineer Waste Water Operations
- Rajiv Arya, P.E. Managing Engineer, City Engineer Office
- Gopal Krishan- Manager IT, Director's Office
- Rajinder Singh, P.E. Supervising Engineer, Water Engineering
- Tanu Hiremath, P.E. Supervising Engineer, Wastewater Design
- Kumar Arya, P.E. : Supervising Engineer, City Engineer's office
- Ben Bansal, P.E. : Supervising Engineer, Engineering Branch.
- Shilesh Patel, City Engineer Office
- Raj Shah, Pavement Evaluation, Street Drainage Division
- Paresh Lad, Senior Staff Analyst, PW&E Planning
- Alka Aggarwal, P.E. : Wastewater Operations
- Vishwa Bahl, P.E. RPLS- Retired as Chief Engineer in 1992
- Late Adil Godiwala, P.E. Assistant Director
- Harry Singh- Controllers Office

Plus several folks in planning and development have active role in the day to day planning and implementation of the capital improvement projects.

PROUD TO BE AN ENGINEER



Dr. Sulekh C. Jain
Houston, Texas
email: scjain@earthlink.net

According to Wikipedia, an **engineer** is a professional practitioner of engineering, concerned with applying scientific knowledge, mathematics, and ingenuity to develop solutions for technical problems. Main goal of an engineer is to improve the quality of human life by developing tangible products, goods and services. Engineers serve humanity without differences of caste, creed, religion, nationality, ethnicity, and color of skin or race. The engineers with versatile minds create links between science, technology, and society. Engineering is the most profound and ancient profession that practically touches every form of life style. From olden days to present world, they have designed and built Ram Setu, Pushpak Viman, Pyramids, Suez Canal, Qutab Minar, Taj Mahal, World Trade Center building, Astrodome, flying Space Station, satellites and many more monuments. The other things such as electricity, telephones, cell phones, radio, television, fax machines, air-conditioners, refrigerators, dish-washers, clothes dryers, internet, emails, frozen food, soft drinks, contact lenses, heart transplant, rockets, bullet trains, planes, internet, emails, Google, GPS and many more around us are invented by engineers and have become a necessity of our daily life. But....all these laurels and greatness come with responsibility, integrity, honesty, morals and principles, which are the hallmark of an engineer. An unethical or careless engineer can do humongous damage or kill lot more people than any professional of other fields. We remember Bhopal Gas leak, failure of dams, and collapse of high rise buildings. Thus we engineers have obligations to the public, our clients, employers and the profession. So many Engineering Societies have established codes of practice and codes of eth-

ics to guide members and for the benefit and safety of public at large.

We have heard the simple accounting equation: (Revenue) – (Expenses) = Profit. To maximize profit, an Engineer constantly strives to reduce expenses by reducing wastes and tries to increase efficiency and productivity of machinery and the system by innovations and by implementing new ideas.

I have formerly worked as an Aerospace Engineer with General Electric Company (GE). The company used slogans for its engineers, “We bring Good things to Life” and “Imagination at Work”. I believed then and now, that it is very true. Engineers play a key and pivotal role in improving the quality of life for each and everyone in the world.

Let me close with a remark made by Steve Bechtel, Chairman of Bechtel Corporation on September 1980 during ASME's Centennial celebrations in San Francisco – “On Christmas Eve my wife asked me, what Profession Santa Clause is coming from? I deeply thought and answered that Santa Clause has to be an engineer. She asked what makes you so sure. I replied that Santa Clause plans everything well in advance, is never late no matter what the weather, snow or hurricane, or flight delays, is very meticulous, delivers right gift to the right person, 100 % on time and never asks for recognition, favors and tips except a cookie and a sip of milk. Only an Engineer who is a dedicated professional can do this.”

Well, my brothers and sisters, engineering is fun and challenging. But think about it -if engineering stops, then the whole world will come to a rest. So we Engineers must feel proud that we have an important place in the society.



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Architecture & Public Health - Need for Active Design

Joanna Yaghooti



Urban sprawl with little mass transit and very little opportunity to travel on foot, coupled with limited access to fresh food in low income areas, have contributed to an epidemic in chronic diseases such as heart disease, respiratory disease and diabetes, which are all linked to our habits and behaviors. Asthma cases have been steadily rising in the past decade, and the rise in obesity rates over the past two decades is widely cited and documented. Public health in the U.S. is in crisis. Poor health across the population is impacting our quality of life, and contributes towards escalating healthcare costs. The response to this public health crisis must come from multiple avenues, including from the designers of the built environment. The urban design response- sustainable neighborhood design, reduced dependence on cars, improved walkability, and development of alternative transportation options- will help to reverse sedentary habits, resulting in healthier lives and healthier communities.

According to the Journal of American Academy of Pediatrics, the incidental activity level (non play and non sports activities) in children has dropped significantly. In 1969, 40% of children walked to and from school daily. By 2009, this number had dropped to below 13%. In some regions of the country, this number dips to as little as 5%. The reduction in walking as transportation is directly affected by the design of our communities, and the proximity and ac-

cess to local amenities, such as schools.

Active Design is the theory that the design of the built environment has a direct impact on public health, and specifically today's public health epidemics of obesity and related chronic diseases. Active Design calls on the architect, urban planner, landscape architect, public official, and building owner to help contribute to the solution. In doing so, active design focuses on four primary ways by which healthier habits may be introduced and fostered: alternate transportation, active buildings,

active recreation, and access to healthy nutrition.

Alternate transportation emphasizes increased access to safe and usable cycling and walking routes. This involves creating complete streets- streets which are usable in a safe manner for cyclists and pedestrians. This strategy requires carefully designing bike lanes and sidewalks for maximum safety and effectiveness.

Active buildings encourage the use of stairs over elevators/ escalators. They also feature outside walking paths, bike storage, and wellness education. Finally, active buildings are located within the urban fabric allowing for access via alternate transportation.

Active recreation can be realized in many different ways- from increasing access to existing parks to designing outdoor plazas and playgrounds which are vibrant and engaging.

Access to healthy nutrition comes from introducing community gardens and farmers markets in cities as well as numerous other strategies aimed at eliminating food deserts.

Joanna Yaghooti, Director of Sustainable Design in Page draws from an extensive understanding of both green building strategies and certification schemes. Accreditations in LEED, BREEAM, and Estidama give Joanna an international perspective on sustainable designs strategies. In 2010, she became the first U.S. citizen accredited as a BREEAM AP.

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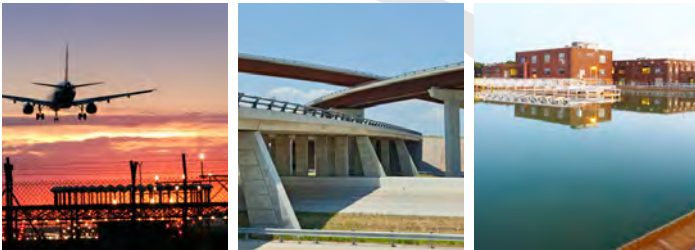
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Dr. Kamlesh Lulla
completed 25 years of
accomplishments at NASA and has
served as research director, chief
scientist for earth observations
and astronaut training specialist.
Dr Lulla is an award-winning,
internationally acclaimed scientist.

National Aeronautics and Space Administration (NASA)
Johnson Space Center in Houston:

OUR NATION'S GATEWAY TO EXPLORATION OF SPACE

Houston Texas is home for many pioneers and many pioneering institutions. This great city has always been known for its can do spirit and warm hospitality. Here are some examples: Houston is known for the famous heart surgeon Dr. Michael DeBakey and M D Anderson Cancer Center in world of medicine and healthcare. It is also

known for Rice University and Nobel Laureate Dr. Rick Smalley who pioneered and established a new field of research widely known as Nanotechnology. Houston is also globally recognized for these historic words of the First Man on the moon Neil Armstrong "Houston, Tranquility Base here.. The Eagle has landed"... Our nation's pioneering journey to the Moon began in Houston with President Kennedy's declaration of the Apollo program at Rice University stadium and later establishment of the NASA Johnson Space Center. At NASA, we make history.

OUR NATION'S GATEWAY TO SPACE EXPLORATION

NASA and Johnson Space Center have a long and distinguished 50 year record of accomplishments in space endeavors. From Missions to the Moon to landing Mars rovers, NASA is an agency for this nation's leadership in innovation in technology. NASA and Johnson Space Center are poised to take new bold initiatives in space exploration. After the retirement of Space Shuttle program and completing the construction of NASA's flagship International Space Station; the agency is dreaming of humanity's future journeys to deep space destinations and Mars. The International Space Station (ISS) is serving as our test bed for developing technologies and conducting needed scientific research as we plan our path for reaching the deep space destinations.

The ISS under NASA leadership is a 15 nation collaborative laboratory for preparing humans, developing new space technologies and inspiring the next generation of explorers. This foot-ball field size orbiting laboratory is our toe-hold in low earth orbit since 1998 and is a valuable initial step in our new vision for NASA. The ISS is fully functional with six astronauts and international crew on-

board who live, work and conduct research in space 24 hours a day and 365 a year. It is truly an amazing feat the talented engineers and scientists have accomplished. Many important research areas include advanced life support systems, human health and performance in space, human-robotic interfaces, autonomous refueling of spacecrafts, fundamental molecular biological systems, Earth Observations, planetary and physical sciences.

EXPANDING OUR PRESENCE IN THE SOLAR SYSTEM

Johnson Space Center is working on the agency's flagship Orion Multi Purpose Crew Vehicle spacecraft program. This next generation spacecraft will carry our astronauts to deep space destinations, provide capability to support their journey and provide safe re-entry and return from deep space. All efforts are devoted to make this world's first ship to be used by astronauts for deep-space travel, including, hopefully, a mission to Mars projected sometime after 2030.

Among other new systems is the Space Launch System (SLS) being assembled by NASA teams. This system consists of an advanced, heavy-lift launch vehicle which will provide an entirely new safe capability for science and human exploration beyond Earth's orbit. The Space Launch System will give our nation an afford-able and sustainable means of reaching beyond our current limits and open new doors of discovery from the unique vantage point of space. The SLS will carry the Orion Multi-Purpose Crew Vehicle, as well as important cargo, equipment and science experiments, to deep space. The Orion spacecraft will carry up to four astronauts beyond low Earth orbit on long-duration, deep space missions and include both crew and service modules and a launch abort system to significantly increase crew safety.

AN INVESTMENT IN OUR NATION'S FUTURE

While NASA sends spacecrafts and astronauts into orbit; the benefits from innovations and technologies developed for space missions are always for down to earth applications. Over the years, American investement in space endeavors has paid rich dividends. No, Do not think about Tang or Velcro-there some real and long lasting commerical and economic benefits that result from NASA innovations. Here are a few very recent examples from 2014:

- A new firefighting system, influenced by a NASA-derived rocket design that extinguishes fires more quickly than traditional systems, saving lives and property.
- Software employing NASA-invented tools to help commercial airlines fly shorter routes and help save millions of gallons of fuel each year, reducing costs to airlines while benefiting the environment.
- A fitness monitoring technology developed with the help of NASA expertise that, when fitted in a strap or shirt, can be used to measure and record vital signs. The technology is now in use to monitor the health of professional athletes and members of the armed services.
- An emergency response software tool that can capture, analyze and combine data into maps, charts and other information essential to disaster managers responding to events such as wildfires, floods or Earthquakes. This technology can save millions of dollars in losses from disasters and, more importantly, can help save lives when tragedy strikes.

NASA AND INDIAN AMERICAN ENGINEERS

Indo-American engineers have made very substantial and significant contributions to NASA missions. Though the numbers of Indian American engineers working for NASA or its contractors is relatively small, their technical acumen and engineering skills have been valuable for NASA at many levels. They have been involved in all aspects of NASA endeavors-Indian American astronauts, program managers, Mars mission leaders, research scientists and technology leaders. They have left their mark on American space program.

NASA AND INDIA'S ISRO: COOPERATION IN SPACE EXPLORATION

India's Indian Space Research Organization has a long history of cooperation and collaboration with NASA since the inception of ISRO. Dr. Vikram Sarabhai-the architect of India's forays into space was a visionary who sought NASA cooperation from the very early stages of Indian Space activities. Dr APJ Kalam also visited NASA early in his career under the tutelage of Dr Sarabhai. (This author, as a young student in India, was positively influenced by

the scientific genius of Dr Sarabhai and later appreciated the work of Dr Kalam to put India on the map for space activities).

NASA and ISRO have several on-going collaborative activities- the most notable and recent example is NASA's participation in India's Chandrayan-1 mission. In addition, ISRO has a strong scientific interaction with NASA's unmanned programs in earth observations and



scientific research on monsoon climate, remote sensing technologies and weather monitoring.

GLOBAL LEADERSHIP IN SPACE EXPLORATION

NASA and Johnson Space Center is taking bold steps to remain global leader in space exploration. NASA Administrator Charles Bolden has stated "as a former astronaut and the current NASA Administrator, I am here to tell you that American leadership in space will continue because we have laid the foundation for success- and failure is not an option".



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THE ENGINEERING MARVEL BEHIND HEART FUNCTION IN HEALTH AND SICKNESS

S. G. (Nik) Nikam, M.D.

The good almighty created the human heart first. In the process, he accumulated so much information, he decided to create all the branches of engineering

that we have today. Yet, what engineers create today cannot even come close to or parallel the almighty's marvel. The heart develops from a tiny tube in the mother's womb at about 12 weeks into gestation, into a miniature 4 cylinder pump that beats, beat after beat, for the rest of the life. Can you think of anything that engineering has created, which can match this endurance, tenacity, and reliability. Even a space shuttle, the greatest engineering marvel, does not come close to what a heart muscle, the size of a fist, can in some cases accomplish for more than a century, in some patients. Let us look at some of the engineering concepts that have evolved from the heart function.

MECHANICAL ENGINEERING AND THE HUMAN HEART

Imagine, attaching a mechanical pump to the end of a flexible tube. With the energy generated by the pump, you are able to move fluid from point A to point B. The amount of fluid moved is based on the energy produced by the pump and the resistance offered by the flexible tube. In the "heart," the amount of fluid equates to the amount of blood pumped with each heart beat. The blood vessels represent the tube, and the flexibility represents the vascular (blood vessel) resistance. So, the vascular resistance indirectly is measured by the simple blood pressure machine. The vascular resistance forms the basis of hypertension. So, getting back to your engineering concept, if you want to reduce high blood pressure, you can do so by reducing vascular resistance or the force with which the heart pumps. The beta-blockers work by reducing the force by which the heart pumps, while the water pills and the ACE inhibitors work by reducing the vascular resistance.

ELECTRICAL ENGINEERING AND THE HUMAN HEART

In order to light up a city, we need, power plants, thousands of miles of electrical grid, relay-stations, transformers, and many others. The human heart, about the size of your fist, contains all these elements within itself. The heart from generator, transmitter, electrical grid, and the relay-stations. The heart generates its own electrical impulse by specialized heart muscles cells located in strategic locations, the most important of which is the Sinus node. It is located at the junction of the right upper chamber and generates the impulse that initiates the electrical activity of the heart that lead to muscle contraction, which is the

mechanical end-result. The impulse travels through network of fibers (electrical grid) to the relay station called the AV node, which acts as a delay station to hold the impulse until the mechanical function of the upper chambers is completed, and the blood has been pumped from the upper chambers to the lower chamber or the ventricles.

CIVIL ENGINEERING AND THE HUMAN HEART

The civil engineering involves architectural, structural, mechanical, electrical and plumbing components.

The heart structure is another example of an engineering marvel in the architectural and structural engineering fields. There is nothing that parallels the architecture of the heart, where all four chambers (cylinders) are glued together. The heart muscle is designed in such a manner that when the upper chambers squeeze simultaneously, the lower chambers relax. When the lower chambers squeeze, the upper chambers relax. It is based on the hydrolytic principle so that when one set chambers squeeze, the others relax to accommodate the influx of blood and vice versa. When the heart muscle gets weak due to a heart attack or high blood pressure, the heart enlarges losing its pumping efficiency, which leads to heart failure.

We talked about the electrical system in the heart. Now, let us focus our attention to the plumbing system in the heart. Heart itself acts as the pump to the entire plumbing system in the body—the arteries that carry the pure blood, oxygen, and nutrients to the rest of the body; while the veins return the impure blood to the heart which pumps it to the lungs to re-oxygenate the blood and remove waste product such as carbon dioxide.

Most of us have experienced a clogged plumbing at one time or another. And, I also have seen arteries of people in their seventies, which are clean as a whistle. How could that be possible, given the fact the plumbing system in the body is the most convoluted with twists and turns? No man made lubricating system comes close to the efficiency of the plumbing system in the body. The blood with its ability to stay liquid, and not stick to the blood vessels, and yet allow nutrients to move in and out of the blood vessels is truly amazing. Yet, we, with all our habits such as unhealthy diet, smoking, and lack of exercise ruin these blood vessels, leading to heart attacks, strokes, kidney failure or peripheral arterial disease. The inner lining of heart chambers prevent the blood from clotting, even though the blood is subjected to such high pressure during squeezing. The heart and the veins have valves that allow blood to flow in only one direction so that the blood moves in the forward

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COMPUTER ENGINEERING AND THE HUMAN HEART

Microsoft, Sun, Cisco, and Google pail in significance compared to the amount of hardware and software engineering that has gone to heart function. The heart is hardwired to the brain, so that they can communicate with each other instantaneously, in real-time. The heart and the brain have true intelligence (not artificial), by which they can incorporate past experiences into future actions and reactions. The heart is programmed to respond to every conceivable challenge even before we face them, and is fully engraved into the system even before a baby is born. The heart knows when to slow down, when to speed up, and even when to even stop. The beauty of the system is that with training the unwanted reactions can be tamed. With exercise, we can train our heart to respond with a slower heart rate response. Similarly, with training and confidence, we can reduce our palpitations during stressful situations. The software programming is continuously upgrading itself with each experience so that you do not have to buy an upgrade every year.

CHEMICAL ENGINEERING AND HUMAN HEART

The human body is the greatest chemical factory in the world and the heart in the center of it. Most of the heart function is dependent on chemical messengers that are controlled and released by the endocrine glands. When you want to run, the brain sends signals to the adrenal glands to produce more adrenaline, which stimulates the sinus node to speed up the heart rate. At the same time dilates the blood vessels to accommodate more blood supply to the working muscles. On the other hand, when we are sleeping, the body sends signal to slow the heart rate at the demand is reduced to conserve energy.

When we start a car, the engine uses oil, which is converted into energy to move the pistons. Interestingly enough, the heart muscle also uses fatty acids (oil) for its continuous energy needs. When there is increased demand, the heart uses glucose for immediate energy needs. So, the heart has been using dual source of energy for thousands of years. This is the basis on which the concepts of new hybrid cars were conceived,

Friction is an inherent problem with many moving parts and accounts for wear and tear. Not so, when it comes to the heart. You could be jogging at 6 miles per hour, with your heart beating at 150 beats per minute against your chest wall, and yet, it does not suffer any trauma. It is surrounded by pericardial sac with a thin layer of fluid, which acts as a shock absorber so that the heart simply glides with beat with very little friction. Now you know where engineering came from!

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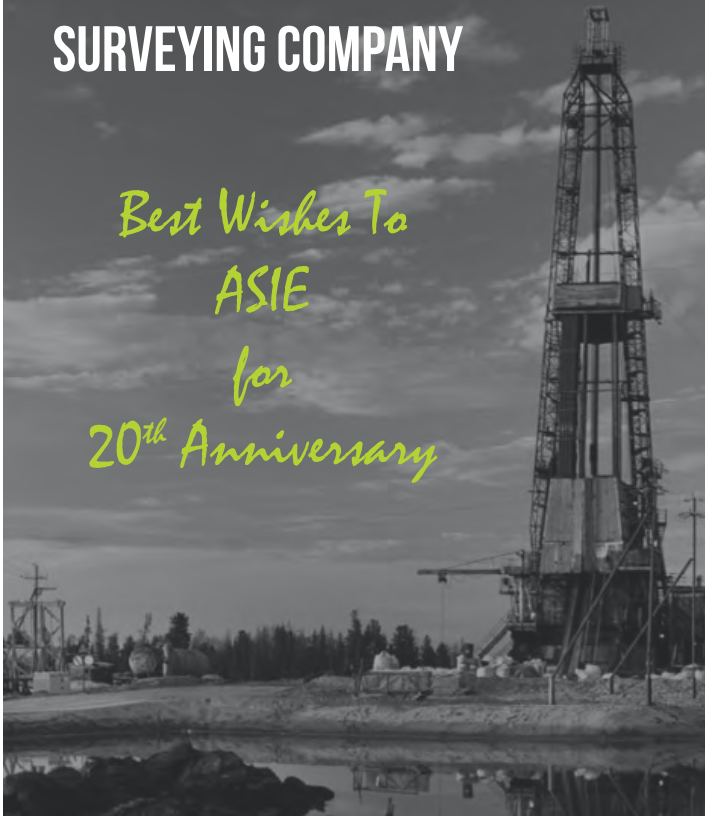
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DOWN THE MEMORY LANE - Random reflections

By Krishna Vavilala, President of ASIE - 1997

When I had just returned from Saudi Arabia and was looking for a job in Houston, someone whom I had met in a Hillcroft store told about the association for Indian engineers called the American Society of Indian Engineers (ASIE). ASIE members met once a month in Mahatma Gandhi Community Center, owned by Gujarati Samaj, located at 6220 Elm Street, Houston, TX. 77081. Mr. Kirti J. Sanghani was the second term President when I joined ASIE in 1996. ASIE originally started as an offshoot of Gujarati Samaj, under the visionary leadership of Mr. Hasmukh Doshi, the first President of ASIE who saw the need to create an identity for Indian Engineers as a group. ASIE membership originally comprised of mostly Gujaratis and I was probably the first Telugu speaking person to join the organization. I knew then that the membership base of ASIE was too small and had to be expanded to include engineers from all states of India.

In 1997, when I was elected the President of ASIE, I was determined to bring ASIE from the back street to the main street. India's 50th Independence Anniversary in 1997 provided me an excellent opportunity to do just that. To many non-Indians in the West, India was no more than a country of maharajas and magic carpets. The time was ripe to show case India as a modern nation that was transforming itself into a technological and economic power house. ASIE's first Gala was held on September 6, 1997 in a grand style at the South West Hilton Hotel. The uniqueness of the event was an all-day seminar highlighting India's space technology. Mr. L.S. Satyamurty, Counsellor for ISSRO at the Indian Embassy, flew in from

Washington, D.C. to make a presentation on India's pioneering space program, INSAT-1C, etc. Professor John Lienhard was the key note speaker. Dr. Swashpawan Singh was the first Consulate General of India, Houston. In the early days, ASIE was teased as an association of job seekers and did not enjoy due respect from employers. Engineers satisfied with their jobs did not see much benefit in joining the organization. However, during lay-offs and bad job market, ASIE membership swelled. "No O.T. (overtime)...No roti" used to be the joke in those days. Engineers who came to this country in the 60's and 70's with eight dollars in pocket looked for overtime earnings and worked late evening hours. After a hard day's work, they were reluctant to come and sit through a technical presentation. ASIE's present practice of giving Professional Development Hour (PDH) certificates at the end of each technical seminar is certainly motivating engineers to attend the ASIE meetings which would help keep their professional licenses current.





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A Pathway to the Final Frontier in the Study of Architecture

By Randhir Sahni, AIA

Concern related to the role of the architect as a professional has been argued, debated and discussed for as long as the profession has existed. Over 30 years ago, in 1984, Robert Gutman wrote about the challenges facing the architectural profession. His book, *Architectural Practice: A Critical View* discussed a number of emerging trends in the field of architecture.

Gutman's report acknowledged a changing environment and growing interest in architecture and environmental design and green buildings. That interest remains strong even today. Many in the profession, however, believe that architects today are playing an ever-diminishing role in the design and development of the built environment.

What exactly is the “built environment?”

It's commonly known that the term refers to anything man-made, where humans have altered nature to accommodate their needs. In order to develop a deeper understanding, we must examine a number of key elements that form the basis of a built environment: social and economic change, ever growing decimation of nature, expanding urbanization, form of the built environment and most importantly, public and private funding sources that fund the built environment.

The basic tenets of the “Golden Rule” are well known: He who has the gold makes the rules. Quite simply, entities with knowledge of and access to capital, determine when and how it will be used.

These days, the entrepreneur architect – one who manages the process from beginning to end – is a true rarity and most of those who remain have not been properly instructed on how to remain ahead of the curve. Other professions have made notable progress through their demonstrated access to capital as well as control and management of it. Large contractors, for example, have been able to convince the investment community as well as public agencies such as independent school districts, transit authorities, that their management skills are superior to those of the architect. As a result, they get to “make the rules.”

The architect, whose role was once encompassed by the “Master Builder,” used to be trusted to manage the entire process and deliver the final product. Post WW II, the profession has been losing out – at an ever-increasing

rate – to design-build firms, program management firms, developers and contractors. Today, the architect is largely reduced to putting pencil to paper.

It goes without saying that every architectural practice should strive to make a profit and run as a business. In order to achieve this goal, every entrepreneur architect should understand, to its core, capital formation, i.e. needs of the investor, and its effect on the project intent, project content and project delivery.

It is once again, time for the architect to demonstrate that the profession is capable of handling issues involving capital, return on capital as well as safety of investments. By properly understanding the role of capital and offering this knowledge as an integrated service to clients, today's entrepreneur architect can put himself in a position to increase market capture. The architect can be involved in pre-project as well as post-project services.

In order to do this, the entrepreneur architect must be instructed in developing a clear understanding of capital formation, how to attract capital, how to manage resources to earn additional fees and how to deliver a project with the means available. The ultimate goal of such instruction is that the architect is able to convince investors that he can enhance the value of a product through proper leveraging of capital.

On December 13, of 2007, Zacks reported that the real estate arm of Morgan Stanley invested around \$525 million in Lennar Homes, buying 1000 housing lots (developed housing lots) valued Lennar's balance sheet at more than a billion dollars. In subsequent years, Morgan Stanley's representatives would take the lead in determining the design – including size, timing, character and quality – of the eventual built environment. And it was not the architect/planner, or even the engineer, who made all key decisions.

Architectural firms that are forward-thinking enough to expand their roles and include the financial aspect are likely to find highly receptive clientele. Over the past few years, Ilewelyn-davies sahani (I-ds) has succeeded at this. The firm was hired by various institution clients to provide management, programming, planning, and design and delivery services. The firm was part of the team that executed the capital projects from the pre-design to post-construction phases of work.

The firm not only helped establish the space budget,

resources needed and physical character, but also worked with the administration and bond council to match the different sources of funds (GO bonds, maintenance bonds, public improvement bonds, or internal cash flow) with the use of funds. This knowledge allowed I-ds to help formulate the strategy and achieve desired design quality, while providing the institution with the means to increase the utilization of the Capital Improvement Program (CIP) funds raised by others.

Understanding what is possible inspires a discussion on what avenues can be taken to bring tomorrow's architect to this level. Curriculum enhancement at the university level is one way to develop the financial capabilities of young professionals.

In reviewing Gutman's work, it becomes clear that there are five specific topics which should be emphasized by those responsible for formulating the curriculum for the next generation of architects. These five topics are as follows:

- Expanding demand for service
- Consolidation of construction industry
- Intense competition between architects & other professions
- Sophistication of the construction industry
- Financial problems of careers & practice

To prepare for the market place; capital and its attributes should be introduced at the undergraduate level for those interested in becoming a real entrepreneur architect. The curriculum should be designed to give a general exposure to the subject. Exposing them to the subject matter will make understanding capital a part of the "culture" allowing them to take leadership positions in the development of our buildings and cities - the built environment.

Today, most schools that recognize this need have taken the easy route. They collaborate with on campus business schools in developing a joint program. The resulting program is burdensome and time consuming, and treats the architecture student as a "step child". While the collaborative concept looks

good on paper, the resulting turf rivalry between different schools at the same university leaves the needs of the entrepreneur architect unanswered.

There should also be a renewed effort in practical "cross-pollination" training for young architects, which can be accomplished by exposing students to different areas of the process. University-sponsored internships at investment firms, for example, would provide the sort of insights needed by architecture students to gain an awareness of finance as well as capital.

There are numerous other methods, of course, but the knowledge of what is possible makes it all the more important to expand the financial capabilities of the architects and other professionals of tomorrow so they can be better masters of their destiny.

Randhir Sahni is president of Llewellyn-davies sahni, the Houston-based architectural, planning and design firm that he has directed for nearly 35 years. He is also the president of Sahni, Inc. Mr. Sahni offers securities through Resource Horizons Group L.L.C., Member FINRA, SIPC, and offers advisory services through Resource Horizons Investment Advisory. 1350 Church St Ext NE, 3rd Floor, Marietta, GA 30060 770-319-1970. Neither Randhir Sahni nor Resource Horizons Group are involved in raising capital for architectural projects. For more information, visit www.theldnet.com/.

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ASIE started the scholarship program in 1998 on a small scale. Since then, we have received overwhelming and generous support from the engineering community as well as individuals during the Gala events in 1999, 2002, 2009 and at other ASIE fund raising events. Over the years, the ASIE scholarship program has seen increase in scholarship applications and thus expanded our number and amount of awards. During last five years, the ASIE Scholarship Program has gained more prominence. Our sincere gratitude to all the sponsors as well as contributors for making this program successful and sustainable.

ASIE awarded Scholarships exceeding \$10,000 in 2013. This program is ASIE's way of recognizing and rewarding talented and deserving students.

ASIE Scholarship Winners in 2013:

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Young Engineer/Architect of the Year

With gradual increase of the membership, ASIE has seen more and more young engineers and architects actively participating in the organization. To encourage them to be actively involved with ASIE, the Young Engineer/Architect of the Year Award was started in 1998. These Young Engineers' names are nominated for further recognition during the Houston Engineer's Week celebrations, organized by Texas Society of Professionals Engineers (TSPE). Our congratulations go to Kartik Subramanian, P.E. for being awarded the ASIE Young Engineer/Architect of the Year 2014.

Karthik is a Senior Civil/ Structural Engineer at Technip USA, Houston, Texas. He received a bachelor's degree in Civil Engineering in 2004 from Bombay University in 2004, and a master's degree in Environmental Engineering from Lamar University, Beaumont, in 2006. He is a licensed Professional Engineer in the State of Texas. Previously, he worked for KBR, Inc. for five and a half years as a Senior Technical Professional (civil). In February 2013, Karthik was awarded a "Recognition Certificate for Excellent Performance" in Jazan IGCC project for Saudi Aramco. His engineering experience includes civil, structural and infrastructure work for refinery, LNG terminals, natural gas basins, and integrated gasification coming (SPM), and Marine Simulation studies. Other recipients of the award in the past five years are:

Year 2013	Vishal Merchant, P.E.
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Karthik Balasubramanian receives Young Engineer of Year 2014 Award from Brent Baldwin, TSPE



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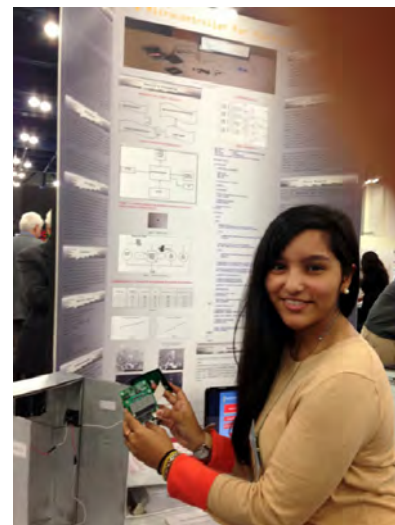
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HOUSTON SCIENCE & ENGINEERING FAIR 2014

The 55th Science & Engineering Fair of Houston (SEFH), was held on February 19-22, 2014 at the G. R. Brown Convention Center. This is a regional fair for all public and private junior, ninth grade and senior high school students in Harris and 16 other neighboring counties. The event is sponsored by the University of Houston - Downtown, The Houston Museum of Natural Science, and the Engineering, Science and Technology Council of Houston. With over 1,500 student entries from about 150 schools, the Houston Science and Engineering Fair is one of the largest of its kind. Approximately 28,000 projects are entered in the preliminary school/district fair competitions. SEFH has more students who actually participate in the judging process than any other science fair in the world.

ASIE has been an active participant at the Houston Science & Engineering Fair for since 1998 as a "Special Award Judging Agency." ASIE judges all engineering projects in the Junior, Ninth grade and Senior divisions.



Winners in each category are being recognized at the ASIE Diwali event in October 2014. The following are the Award-ees in each category:

SENIOR DIVISION

PLACE	CATEGORY	NAME	PROJECT	SCHOOL
Senior First Place	Engineering	Ruhika Roy	Novel Sensor & Lawrence Microcon-troller for Vibration Detection	Elkins High School
Senior Second Place	Life Sciences (Sr Team)	Sukhnoor Cheema	Kidney Cell Shock	Hightower High School
Senior Second Place	Life Sciences (Sr Team)	Anishya Idicula	Kidney Cell Shock	HightowerHigh School
Senior Second Place	Life Sciences (Sr Team)	Jessica Thomas	Kidney Cell Shock	Hightower High School



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1996 & 1995 Kirti Sanghani



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2001 - Vivek N. Menon



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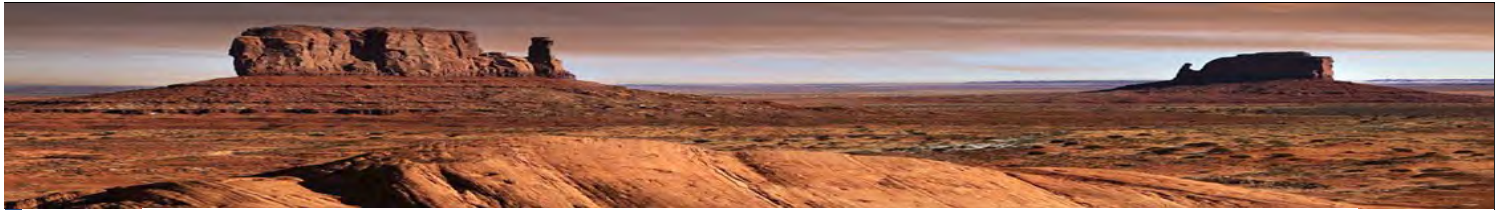
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