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#### FROM THE ASIE PRESIDENT



On this historic moment of the silver jubilee celebration of the American Society of Indian Engineers, my mind races back to the initial years of ASIE's existence and the turmoil and challenges we faced then. ASIE was established in 1994 with just a handful of people and very limited resources. As I look back over these twenty five years, the enormous and tireless efforts of dedicated members of this organization come to mind. It is because of the sincerity of these individuals and their strong belief in the goals they set that we are in this room today celebrating the 25th anniversary.

Being associated with ASIE since its inception, it is easy to see how far we've come. During the good and bad times, we all worked together like a family. We shared our ideas and our goal of taking ASIE to the next level consistently. We saw the successes and failures, highs and lows, celebrations and crises. Today the Society is standing on firm footing, and commands re-

spect among similar Associations in and around the Houston area. There were times when the question "why do we need another organization" was being asked repeatedly. I also remember the then-Director of Public Works for the City of Houston asking why the Indian American engineers don't have an association since he felt there were other such groups at that time. The result of this question created the initial drive to form one. The objectives were and still are to provide a platform for young engineers and architects to get together (there was no Whatsapp, internet or Facebook at that time) in meetings and take advantage by networking. As ASIE grew and became a stable group, it was able to offer scholarships to deserving students, as evident by this year's target of \$25,000 in scholarships.

Furthermore, attendees benefitted from the technical seminars during lunch hours, continuing their own education and ensuring they were keeping up with the trends from our industry.

We have come a long way, but there is still more we can accomplish. We must have a diverse group of engineers and architects who belong to various disciplines. We need to arrange more field trips and make technical presentations in national and international seminars. We can increase the scholarship amounts to deserving students, offer assistance to job seekers and, above all, we can increase our roster for membership. There is strength in numbers and with that, we give credence and respect as we grow. ASIE should establish goals for the future which are meaningful and achievable.

I cannot forget to acknowledge the cooperation and assistance rendered to me during the years I was holding a board position by my peers. Each one is a great contributor in his/her own expertise. In particular, I would like to express my sincere appreciation to my board of directors and council of advisors this year during my year of presidency. It was exciting and a fun year. To pull this gala ceremony off in such a grand manner, the Gala Committee deserves to be commended, because it is the mind set of these people who treat ASIE projects as their projects. In conclusion, I truly want to thank all of them for all they have done, repeatedly and professionally.

ASIE is truly blessed, and my wish is that it continues to grow in the years to come.

mandagor

Showri Nandagiri ASIE President, 2019

### MESSAGE

#### FROM THE GALA CHAIR



It was a lazy Sunday afternoon in January of this year when my phone rang, and I reluctantly picked up especially with my now three-year-old sleeping peacefully in my lap. It was Mr. Showri Nandagiri, one of the most passionate and selfless leaders of ASIE. Given his penchant for respecting others time, Showri ji (as most of us in the organization fondly call him) immediately proceeded to ask me whether I would be interested in being the Gala Chair for ASIE's Silver Jubilee Anniversary.

Being a Past President of ASIE in 2015 and passionate about the vibrancy of this organization, I was humbled by this golden opportunity being handed to me. However, I also knew from my experience as the Reception Committee Chair and Treasurer during ASIE's 20th Anniversary Gala, that this opportunity will require serious commitment.

With the support of my wife, Manu and my business partner, Sirisha; I called back Showri ji a few days later to tell him that it is with great humility that I accept this very important role to lead the grand celebration of ASIE's Silver Jubilee Year. By the same token, I told him that an event worthy of ASIE's stature in the Houston Community can only be accomplished by a team of dedicated professionals. By God's grace, ASIE is blessed with many talented professionals and I was fortunate to be able to tap into that pool in choosing the right core team that has assisted passionately in delivering this Gala tonight that ASIE membership should be extremely proud of. My fabulous core team along with their hard-working subcommittee members are proudly listed on the 2019 Benefactors page in this elegantly prepared Souvenir. Sincere thanks to all sponsoring companies and volunteers who made this Gala happen.

Madhu, my first Vice-Chair, worked tirelessly in not only coordinating with and inviting the Chief Guest and Guests of Honor (special thanks to Ravi Yanamandala in inviting Commissioner Cagle) but also making sure we had the befitting venue and hospitality that you are experiencing tonight. Chetan, my second Vice-Chair, encouraged us to constantly aim for the stars given the occasion and facilitated the high-quality entertainment acts that you experienced today while ensuring the Gala finances were in order. Showri ji, my Program subcommittee chair, was the voice of reason and enabled us to stay true to the established goals and ensured everything was done per high standards while spearheading good publicity for the Gala.

Chaitanya, my Fundraising subcommittee chair, fearlessly spearheaded the sponsorship effort raising funds that are an all-time high in the history of ASIE enabling the grandeur you are experiencing tonight. Archana, my Reception subcommittee chair, went beyond the call of duty in working with her team and myself, to deliver unique giveaways as a lasting memory of this fabulous Gala. Naresh, my Auction subcommittee chair, brought out his creative ideas in providing y'all with ample community engagement opportunity. Last but not the least, Bhavana, my Souvenir subcommittee chair, spent countless hours including extensive coordination in developing a Souvenir that encapsulated the past 25 years of ASIE.

In closing, I would like to say that this beautiful opportunity to lead the Silver Jubilee Gala efforts has enabled me to learn and grow in more ways than I can imagine while contributing to the continued success of ASIE. Here's to the next 25 years of this organization's selfless value-added service to the Greater Houston area engineering and architectural community!

Warm Regards,

Basavara

Raj Basavaraju, PE, PTOE 2019 Silver Jubilee Gala Chair

### GALA BENEFACTORS

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#### **2019 GALA COMMITTEE**

ASIE thanks all the volunteers for their hard work and generous support in making the Gala a grand success.

Chair	Raj Basavaraju		
First Vice Chair (Venue & Hosting)	Madhu Kilambi		
Second Vice Chair (Finance & Entertainment)	Chetan Vyas		
Program Subcommittee:	Showri Nandagiri, Chetan Vyas, Raj Basavaraju		
Fundraising Subcommittee:	Chaitanya Kasturi (Chair), Sudhakar Kalaga, Ravi Yanamandala, Chetan Vyas,		
	Madhu Kilambi, Showri Nandagiri, Rajesh Tanwani, Apoorv Kumar, Bhavana Patel		
Reception Subcommittee:	Archana Sharma (Chair), Sai Gowthami Asam, Vishakha Kaushik, Tej Kour		
Silent Auction Subcommittee:	Naresh Kolli (Chair), Ashish Bagga		
Souvenir Subcommittee:	Bhavana Patel (Chair), Alex Santana, Ravi Arora, Srinivas Chintalapati,		
	Chaitanya Kasturi, Sirish Madichetti, Yashika Gulati		

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### **CHIEF GUEST**



#### MR. BHAVESH V. (BOB) PATEL CEO, LYONDELLBASELL

Bhavesh V. (Bob) Patel is chief executive officer of LyondellBasell, one of the largest plastics, chemicals and refining companies in the world. Mr. Patel assumed this position in January 2015 after having served as executive vice president, Olefins and Polyolefins – Europe, Asia and International and previously senior vice president, Olefins and Polyolefins – Americas.

Mr. Patel joined LyondellBasell in March 2010 and as executive vice president successfully led the restructuring of the company's 0&P – Americas, 0&P – Europe, Asia and International (EAI), and Technology segments, focusing on achieving best-in-class operational and commercial excellence. In this role, Mr. Patel led early stage development of the company's plan to capture the U.S. shale advantage. This plan, which began with debottlenecks and capacity expansions, has progressed to major organic growth projects and continues to guide the company's strategy today.

Prior to becoming CEO, Mr. Patel was responsible for all of LyondellBasell's manufacturing facilities in EAI and commercial operations for the O&P – EAI and technology segments. In 2011, he led the effort to establish a new business model for the O&P – EAI segment which structurally repositioned the business, increasing overall competitiveness, efficiency and earnings.

As CEO, Mr. Patel has focused on leading the next phase of the company's long-term growth strategy, including the 2018 acquisition of A. Schulman, Inc., which made LyondellBasell

the world's largest manufacturer of compounded materials. Under his leadership, the company has made several strategic acquisitions in growing markets and is building new production facilities around the world, including a new world-scale high density polyethylene (HDPE) plant and the world's largest propylene oxide and tertiary butyl alcohol (PO/TBA) plant.

Under Mr. Patel's leadership, in 2018 LyondellBasell was named to Fortune Magazine's "world's most admired companies" list for the first time in its history.

Previously, Mr. Patel held positions of increasing responsibility at Chevron Corporation and Chevron Phillips Chemical Company for more than 20 years. Over the course of his career, Mr. Patel has held leadership positions based in the Netherlands, Singapore and the United States.

Mr. Patel is a member of the Business Council, The Business Roundtable and he serves on the boards of the Greater Houston Partnership and Junior Achievement of Southeast Texas. Mr. Patel is also on the external advisory council of the College of Engineering at The Ohio State University and the dean's advisory council for the Fox School of Business at Temple University.

Mr. Patel serves on the board of directors of Union Pacific Corporation. He earned a Bachelor of Science in chemical engineering from The Ohio State University and he also holds a Master of Business Administration from Temple University.

### **GUEST OF HONOR**



#### HONORABLE R. JACK CAGLE COMMISSIONER, HARRIS COUNTY PRECINCT 4

Commissioner R. Jack Cagle has served as county commissioner for Harris County Precinct 4 since 2011. He was re-elected in 2014 and again on November 6, 2018.

As commissioner, Cagle represents nearly 1.3 million residents and manages a staff of 433 employees with a Precinct 4 budget of \$283.5 million. He has spent 30 years working with and serving the citizens of Harris County Precinct 4 as an attorney, elected judge, and now county commissioner.

As a member of Commissioners Court, he has also been selected to serve as a representative on the board of the Houston-Galveston Area Council and on the Board of Directors of the statewide Public Power Pool. Until his appointment to Commissioners Court, Cagle served 11 years as judge of Harris County Civil Court-at Law No. 1. Harris County voters elected him to the bench countywide in 2000 and re-elected him in 2002, 2006, and 2010.

As judge, Commissioner Cagle consistently earned high ratings from the Houston Bar Association and received numerous awards from legal, business, political, and community groups. Twice recognized as "Judge of the Year" by law enforcement groups, Cagle was also recognized by the Mexican American Bar Association of Houston and served as an officer in the Association of Women Attorneys. He was elected by his peers to be administrative judge for the County Civil Courts and as president of the Texas Association of County Court at Law Judges.

Commissioner Cagle is a graduate of Rice University with triple majors in economics, history, and managerial studies, as well as a graduate of Baylor Law School. He is married to Janet and they have three children: Richard, Victoria, and Elizabeth.

#### MESSAGE FROM COMMISSIONER CAGLE

"Your diligence and hard work add priceless value to the greater Houston area and therefore it humbles me to be a part of ASIE's 25th Silver Jubilee celebration this year. As Commissioner for Harris County Precinct 4, I value ASIE's role in developing skilled leaders and workers. Your work not only enriches our Indian communities, it enriches the lives of fellow Texans and our Harris County community.

For this, I say 'thank you' for creating opportunities for our residents to sharpen their skills through professional development, for your mentorship programs, and for providing future generations of engineers and architects with thousands of dollars in scholarship funds. By supporting these young professionals, you invest in leaders who will go on to develop and strengthen our roads, infrastructure, and countless other successes for Texas and our local communities.

Beyond the monetary investments, ASIE reminds Houston's current and future leaders that their communities need and value them. When our communities are most in need, ASIE presents solutions by promoting hard work and displaying the desire to serve. With volunteering opportunities and recovery funds, ASIE creates options for community leadership by setting active examples of hard working local leaders. ASIE's leadership traits and practical tools to achieve greater success have impacted our community for the past 25 years, and will continue to impact our community in the years to come."

### **GUEST OF HONOR**



### HONORABLE SYLVESTER TURNER MAYOR, CITY OF HOUSTON

four-year term as Houston's 62nd mayor. Since taking office, Mayor Turner eliminated a \$160 million budget shortfall in record time; led the city's remarkable rebound from Hurricane Harvey; championed historic pension reform; cheered on the 2017 World Series-winning Houston Astros; hosted a successful Super Bowl LI; expanded municipal investments in renewable energy and led the winning bid to host the World Petroleum Congress in 2020.

As the head of the energy capital of the world and the most diverse city in the nation, Mayor Turner has brought a performance-driven approach to the job, creating more responsive, streamlined and efficient delivery of city services while shoring up Houston's financial future. Thanks to his leadership, the Texas Legislature and local voters approved the pension reform package that reduces the city's liability by billions of dollars and provided a "fix" that had eluded the city for 17 years.

One of the mayor's signature initiatives is Complete Communities. which aims to improve the quality of life for residents in all neighborhoods. The mayor's other priorities include filling more than 90,000 potholes on city streets, implementing a six-point holistic plan for addressing homelessness, reducing flooding and improving drainage.

Mayor Turner's civic leadership has been nationally recognized through his service as a member of the U.S. Conference

Elected in December 2015, Sylvester Turner is serving his first of Mayors Transportation and Communications Standing Committee, vice chair of the National Climate Action Agenda, member of the C40 and Global Covenant for Mayor's for Climate and Energy and an advisory board member of the African American Mayors Association. He is also the recipient of the Ohtli Award, the Mexican government's highest honor. Turner has been featured in publications and news outlets such as 60 Minutes, MSNBC, CNN, CNBC, FOX News, Wall Street Journal, Black Enterprise Magazine, Cuba Today Magazine, Ebony, New York Times, Washington Post and USA Today.

> Prior to his election as mayor, Turner served for 27 years in the Texas House as the representative for District 139. He worked on the House Appropriations Committee for 21 years and served as Speaker Pro Tem for three terms. He was appointed to several Budget Conference Committees to help balance the state's budget and served on the Legislative Budget Board.

> Mayor Turner is a life-long resident of Houston and lives in the Acres Homes community where he grew up with eight siblings. He is a graduate of the University of Houston and earned a law degree from Harvard University. He began his law practice at Fulbright & Jaworski L.L.P. and later founded the Barnes & Turner Law Firm.

> Mayor Turner is the proud father of First Daughter Ashley Turner, who is continuing the family tradition of public service in the higher education field.



भारत का प्रधान कोंसल ह्यूस्टन CONSUL GENERAL OF INDIA HOUSTON

September 3, 2019

#### MESSAGE

I convey my warm greetings and best wishes to all, on the occasion of the 25th Anniversary of the American Society of Indian Engineers & Architects (ASIE), on Thursday September 12th, 2019.

I wish to acknowledge the vital role of the American Society of Indian Engineers & Architects (ASIE) in creating many ongoing activities fostering STEM education, providing a leadership platform to future young leaders enabling them to become successful entrepreneurs.

I wish ASIE and all its members a successful Silver Jubilee Gala and many more fruitful years ahead.

(Anupam Ray)

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#### THE STATE OF TEXAS

#### GOVERNOR

To all to whom these presents shall come, Greetings: Know ye that this official recognition is presented to the:

#### American Society of Indian Engineers and Architects

on the occasion of its

#### 25<sup>th</sup> Anniversary

Congratulations on your years of success! Since 1994, the American Society of Indian Engineers and Architects has provided indispensable services to its members and has played an important role in the greater Houston community.

You continue to demonstrate the hard work and commitment that have helped your organization achieve its longevity, and I wish you continued success in the future.

First Lady Cecilia Abbott joins me in extending best wishes.



In testimony whereof, I have signed my name and caused the Seal of the State of Texas to be affixed at the City of Austin, this the  $20^{th}$  day of August, 2019.

Greg Abbott Governor of Texas



#### PROCLAMATION

Whereas, the American Society of Indian Engineers (ASIE) is celebrating its Silver Jubilee Gala on September 12, 2019; 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. 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, Lina Hidalgo, County Judge of Harris County, Texas, hereby proclaim Thursday, September 12, 2019, as

#### American Society of Indian Engineers & Architects Day

in Harris County, Texas, and extend sincere congratulations on the occasion of its 25th anniversary.

In testimony whereof, I hereunto signed my name and caused the seal of Harris County, Texas, to be affixed.

Lina Hidalgo



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 12, 2019, **ASIE** will celebrate its 25<sup>th</sup> anniversary and host its annual gala at the Omni Hotel. 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, Sylvester Turner, Mayor of the City of Houston, hereby proclaim September 12, 2019, 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 29<sup>th</sup> day of August, 2019.

Sylvester Turner Mayor of the City of Houston

### **ABOUT ASIE**





**2019 Executive Committee and Board of Directors (L-R):** Sirish Madichetti, Sekhar Ambadapudi, Vishakha Kaushik, Archana Sharma, Showri Nandagiri, Chaitanya Kasturi, Chetan Vyas, Apoorv Kumar, and Raghu Veturi.

**2019 Board of Advisors (L-R):** Naresh Kolli, Bhavana "BJ" Patel, Virinder Bansal, Sai Gowthami Asam, and Raj Tanwani

**AMERICAN SOCIETY OF INDIAN ENGINEERS & ARCHITECTS (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 holiday 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





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### **ASIE PRESIDENTS**

1994 - 2019







2018: Sai Gowthami Asam



2017: Dinesh Shah



2016: Naresh Kolli



2015: Raj Basavaraju



2014: Sekhar Ambadapudi



2013: Vishal Merchant



2012: Srinivas Chintalapati



2011: Ashish Bagga



2010: Raj Tanwani



2009: Tanu Hiremath



2008: Manjula Krishnamurthy



2007: Ram Gupta



2006: Al Joseph



2005: Abraham Joseph



2004/2002: Sanjay Ram



2003: Sandeep Patil



2001: Vivek Menon



2000: Chad Patel



1999: Virinder Bansal



1998: Ravi Arora







1996/1995: Kirti Sanghani



1994: Hasmukh Doshi







### ASIE BOARD OF DIRECTORS AND ADVISORS

**2019:** Showri Nandagiri (President), Chaitanya Kasturi (Vice President), Chetan M. Vyas (Treasurer), Archana Sharma (Secretary) <u>Directors:</u> Sekhar Ambadapudi, Vishakha Kaushik, Apoorv Kumar, Sirish Madichetti, Raghu Veturi. <u>Advisors:</u> Naresh Kolli, Bhavana "BJ" Patel, Sai Gowthami Asam, Raj Tanwani, Virinder K. "Ben" Bansal

**2018:** Sai Gowthami Asam (President), Showri Nandagiri (Vice President), Chaitanya Gampa (Secretary), Sirish Madichetti (Treasurer) <u>Directors:</u> Sekar Ambarpudi, Archana Sharma, Tej Kour, Apoorv Kumar, Avinash Patel. <u>Advisors:</u> Bhavana "BJ" Patel, Ravi Arora, Ashish Bagga, Dinesh Shah

**2017:** Dinesh Shah (President), Chetan Vyas (Vice President), Poolkeshi Patel (Treasurer), Gaju Patel (Secretary) <u>Directors:</u> Madhu Kilambi, Chaitanya Gampa, Archana Sharma, Tej Kour, Sirish Madichetti. <u>Advisors:</u> Vishal Merchant, Bhavana "BJ" Patel, Ashish Bagga, Ravi Arora, Naresh Kolli

**2016:** Naresh Kolli (President), Dinesh Shah (Vice President), Sai Gowthami Asam (Treasurer), Gaju Patel (Secretary), <u>Directors:</u> Chetan Vyas, Madhu Kilambi, Poolkeshi Patel, Avinash Patel, Bharat Tailor. <u>Advisors:</u> Showri Nandagiri, Vishal Merchant, Ravi Arora, Bhavana "BJ" Patel, Raj Basavaraju

**2015:** Raj Basavaraju (President), Naresh Kolli (Vice President), Rajesh Tolikonda (Treasurer), Sai Gowthami Asam (Secretary), <u>Directors:</u> Dinesh Shah, Madhu Kilambi, Chetan Vyas, Poolkeshi Patel, Avinash Patel. <u>Advisors:</u> Ravi Arora, Showri Nandagiri, Ram Gupta, Abraham Joseph, Sekhar Ambadapudi

**2014:** Sekhar Ambadapudi (President), Showri Nandagiri (Vice President), Raj Basavaraju (Treasurer), Rajesh Tolikonda (Secretary). <u>Directors:</u> Naresh Kolli, Sai Gowthami Asam, Mahendra Korivi, Harshad Patel, Raghu Dass. <u>Advisors:</u> Dinesh Shah (Chair), Abraham Joseph, Mahesh Wadhwa, Ram Gupta, Vishal Merchant

**2013:** Vishal Merchant (President), Showri Nandagiri (Vice President), Karthik Subramanium (Treasurer), Sekhar Ambadapudi (Secretary). <u>Directors:</u> Amal Dutta, Chetan Vyas, Madhu Kilambi, Rajesh Tolikonda, Raj Basavaraju. <u>Advisors:</u> Ben Bansal, Chintalapati Srinivas, Dinesh Shah, Hasmukh Doshi, Mahesh Wadhwa

**2012:** Srinivas Chintalapati (President), Vishal Merchant (Vice President), Naresh Kolli (Treasurer), Bhavana Patel (Secretary). <u>Directors:</u> Karthik Balasubramanian, Madhu Kilambi, Shekhar Ambadapudi, Showi Nandagiri. <u>Advisors:</u> Ashish Bagga, Dinesh Shah, Hasmukh Doshi, Ravi Arora, Ravi Kaleyatodi **2011:** Ashish Bagga (President), Chad Patel (Vice President), Ravi Yanamananda (Treasurer), Chintalapati Srinivas (Secretary). <u>Directors:</u> Bhavana Patel, Mohan Atluri, Naresh Kolli, Sudhakar Kalaga, Vishal Merchant. <u>Advisors:</u> Raj Tanwani, Ravi Arora, Ravi Kaleyatodi. <u>Corporate Advisor:</u> Abraham Joseph

**2010:** Rajesh Tanwani (President), Ashish Bagga (Vice President), Raghavender Nednur (Treasurer), Srinivas Chintalapati (Secretary). <u>Directors:</u> Chad Patel, Lagnesh Varshney, Ravi Raj, Sudhakar Kalaga, Vaishali. <u>Advisors:</u> Ravi Arora, Tanu Hiremath. <u>Corporate Advisor:</u> Abraham Joseph

**2009:** Tanu Hiremath (President), Rajesh Tanwani (Vice-President), Ashish Bagga (Treasurer), Raghavender Nednur (Secretary) <u>Directors:</u> Chad Patel, Lachhman Das, Lagnesh Varshney, Omesh Malik, Sudhakar Kalaga. <u>Advisors:</u> Manjula Krishnamurthy, Ravi Arora, Sanjay Ramabhadran, <u>Corporate</u> <u>Advisor:</u> Abraham Joseph

**2008:** Manjula Krishnamurthy (President), Charu Jain (Vice President), Tanu Hiremath (Treasurer), Rajesh Tanwani (Secretary). <u>Directors:</u> Ashish Bagga, Chad Patel, Raghavender Nednur, Sudhakar Kalaga, Swapnil Patil. <u>Advisors:</u> Ram Gupta, Ravi Arora, Ben Bansal. <u>Corporate Advisors:</u> Ramesh Gunda and Ramesh Kalluri

**2007:** Ram Gupta (President), Charu Jain (President Elect), Tanushree Hiremath (Treasurer), Rajesh Tanwani (Secretary). <u>Directors:</u> Ashish Bagga, Chad Patel, , Raghavender Nednur, Sudhakar Kalaga, Vishal Merchant. <u>Advisors:</u> Ravi Arora, Virinder Bansal, Albert Joseph. <u>Corporate Advisors:</u> Ramesh Gunda and Ramesh Kalluri

**2006:** Al Joseph (President), Ram Gupta (President Elect), Gaju Patel (Treasurer), Manjula Krishnamurthy. <u>Directors:</u> Girish Thallapragada, Sudhakar Kalaga, Shantanu Patil, Charu Jain, Abraham Joseph

**2005:** Abraham Joseph (President), Sandeep Patil, (Vice President), Manjula Krishnamurthy (Secretary), Gaju Patel (Treasurer), Sanjay Ramabhadran (Past President). <u>Directors:</u> Ramesh C. Garg, Al Joseph, Girish Thallapragada, Sudhakar Kallaga, Shantanu Patil

**2004:** Sanjay Ramabhadran (President), Gaju Patel (Vice President), Vivek Menon (Secretary), Virinder Bansal (Treasurer). <u>Directors:</u> 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). <u>Directors:</u> Ben Bansal, Chetan Vyas, Chandra Sekhar Sripadam, Mohindra Korivi, Raghupati Rao, Sanjay Ramabhadran **2002:** Sanjay Ramabhadran (President), Sandeep Patil (Vice President), Chad Patel (Secretary), Sriram Natarajan (Treasurer). <u>Directors:</u> Virinder Bansal, Vivek Menon, Gautham Chande, Abraham Joseph. <u>Corporate Advisor:</u> Ravi Arora

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

**2000:** Chad Patel (President), Abraham Joseph (Vice President), Virinder Bansal (Secretary), Sandeep Patil (Treasurer). <u>Directors:</u> Vivek N. Menon, Sanjay Ramabhadran, Vishnu Gupta, Ajay Mallik, Udayan Patel. <u>Corporate Advisor:</u> Ravi Arora

**1999:** Virinder Bansal (President), Rita Amin (Vice President), Abraham Joseph (Secretary), Vishnu Gupta (Treasurer). <u>Directors:</u> Sandeep Patil, Devender Sriviastava, Gaju Patel. <u>Corporate Advisor:</u> Ravi Arora

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**1996:** Kirti J. Sanghani (President), Navin Sheth (Vice President), Ravi Arora(Treasurer), Bharat M. Patel (Secretary). <u>Directors:</u> 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). <u>Directors:</u> Hasmukh Doshi, .Devendra Desai, G.S. Brar,Prakash Chowdhry, Chinrnay Vyas

**1994:** Hasmukh Doshi (President), Kirti Sanghani (Vice President), Navin Sheth (Treasurer), Uday Shah (Secretary). <u>Directors:</u> Bharat Patel, Prakash Desai, BK. Rath, Rajesh Patel, and Atul Patel



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### SCHOLARSHIP PROGRAM



Top L-R: Aseem Chawla, Apoorv Kumar Khare, Praveen Kumar Reddy Padala, Sekhar Ambadapudi, Ravi Arora, Chaitanya Kasturi (Gampa), Sai Gowthami Asam, Ashish Bagga and Amareswara rao Kavuri. Bottom L-R: Tamalee Basu, Priyanka Arora, Meghana Padmanabhan, Nishat Fatima, Anusha Kishtapuram, Raina Sara Jose, Tanvi Pragnesh Parikh and Rahul Sujanani.

#### ASIE SCHOLARSHIP PROGRAM

ASIE started the Scholarship Program in 1998 on a small scale to support students. Since then, we have received overwhelming and generous support from our engineering community, both companies as well as individuals during the Gala events in 1999, 2002, 2009, 2014 and at other ASIE fund raising events. Over the years, the ASIE Scholarship Program has seen increase in scholarship applications and thus expanded our donations and number of awards. This program is to recognize and reward talented and deserving students of Indian origin pursuing engineering or architecture degrees in undergraduate or graduate programs. The annual scholarship program is possible due to generous support from our major sponsors and individual contributors.

ASIE Scholarship Program is very close to our heart and has been successful over the years. Many students have benefited from this program. This is our way to pay it forward to our future generation engineers, architects, and professionals. We are extremely delighted to start a new addition to our program called "Contributed Scholarship Fund" starting this year in celebration of our Silver Jubilee Anniversary. Few ASIE members have expressed interest in this program to continue the scholarship fund on a regular basis in their name or family name to deserving students.

2019 Scholarship Committee is chaired by Sai Gowthami Asam with Bhavana Patel, Apoorv Kumar Khare and Vishakha Kaushik as the committee members. The scholarship awards will be presented to winners at our Annual Holiday Event on November 15th at India House.

#### 2018 SCHOLARSHIP WINNERS

Neha Sahai, BS in Architecture - Rice University Nishat Fatima, BS in Chemical Engineering, UH Raina Jose, BS in Bio Medical Engineering, UH Tanvi Parikh, BS in Mechanical Engineering, UH Meghana Padmanabhan, MS in Computer & Systems Engineering, UH Tamalee Basu, MS in Architecture, UH Anusha Kishtapuram, MS in Electrical Engineering, UH Praveen Padala, MS in Electrical Engineering, UH Rahul Sujanani, PhD in Chemical Engineering, UH Amareswara RaoKavuri, PhD in Bio Medical Engineering, UH Aseem Chawla, PhD in Chemical Engineering, UH

#### 2017 SCHOLARSHIP WINNERS

Parth Mukesh Kumar Joshi, MS in Electrical Engineering, UH Pritam Deshraj, MS in Engineering Management, UH Neethi Anand Gangidi, MS in Subsea Engineering, UH Tejasree Pathak, PhD in Civil Engineering, UH Bhavik Bharatbhai Desai, BS in Civil Engineering, TSU Tanmay Jayendra Thakker, M.Arch , Architecture, UH

#### 2016 SCHOLARSHIP WINNERS

Anika Tanwani, Bachelors in Bio-Med Engineering, UT Austin, Ashesh Srivastava, Master of Science,Subsea Engineering, UH Vikhyath Gattu, Master of Engineering in Civil Engineering, UH Bharat Thakur, Masters in Petroleum Engineering, UH Nitya Mohan, Masters in Petroleum Engineering, UH Kalyani Bhatt, Master in Architecture, Rice University Niteshkumar Mishra, Masters in Electrical Engineering, UH

#### 2015 SCHOLARSHIP WINNERS

Hardik Minocha, Masters in Subsea Engineering Krishna Saladi, PhD in Environmental Engineering Renu Khatri, Masters in Industrial Engineering Nishant Sankhe, Masters in Architecture Sai Anudeep Reddy, Ph D in Civil Engineering Anu George, undergraduate in Chemical Engineering Akshay Deokar, MS in Subsea Engineering Sonika Gahlawat, PhD in Mechanical Engineering

#### 2014 SCHOLARSHIP WINNERS

Priya Patel, Chemical Engineering, UH Abhipray Sahoo, Electrical and Computer Engineering, Rice University 0Ayush Rastogi, Petroleum Engineering, UH 0Rahul Goel, Space Life Sciences, UH 0Vikram Murali, Chemical Engineering, Rice University 0Radhakrishna Kotti, Electrical Engineering, UH 0Krishna Rishi Saladi, Environmental Engineering, UH



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### **ASIE EDUCATION EVENTS**

























### **E-WEEK 2019**



ASIE members with Indian Engineers - Engineering the Future 2019 award winner Ms. Sharvani Dao

#### INDIAN ENGINEERS: ENGINEERING THE FUTURE

Every year ASIE sponsors a scholarship to University of Houston's engineering students of Indian origin who demonstrates strong leadership skills and is active in engineering program activities. This program is facilitated by University of Houston Engineering Alumni Association.

On February 19, 2019 ASIE presented an award "Indian Engineers – Engineering the Future" with a \$500 scholarship to an undergraduate student Ms. Shravani Dao pursuing Chemical engineering at the University of Houston. ASIE team, Vishaka Kaushik, Mahesh Wadhwa, Sirish Madichetti, and Ashish Bagga (UH Alumni Committee) attended the recognition ceremony and presented the Scholarship/Award.



ASIE members and supporters volunteering as proctors and graders at MathCounts 2019

#### MATHCOUNTS

ASIE members volunteering as proctors and graders at MATHCOUNTS competition organized by The Texas Society of Professional Engineers (TSPE) of Greater Houston area on February 9th 2019 at Flour..

MATHCOUNTS is a nationwide program that promotes math excellence for 6th, 7th and 8th grade students and combines the efforts of education, business, government and the technological community. It is a math skills coaching program based on higher thinking skills development with a series of progressive competitions at local, state and national levels. It motivates students to do well in math and recognizes and rewards them for achievement. The program also gives the math teachers an incentive to excel in their classrooms.

### SCIENCE & ENGINEERING FAIR OF HOUSTON



ASIE members and supporters volunteering as special award judges at SEFH 2019

The 60th Science & Engineering Fair of Houston (SEFH), was held on February 22- 23, 2019 at the G. R. Brown Convention Center. SEFH is a not-for-profit educational organization that provides a unique and beneficial science educational service to Junior and Senior high school students in grades 7-12. SEFH serves as the regional fair for all junior and senior high school students in Harris County and 22 surrounding counties. Major regional fair winners are eligible to compete in the annual International Science and Engineering Fair (ISEF).

ASIE has been an active participant at the Houston Science & Engineering Fair since 1998 as a "Special Award Judging Agency." ASIE judges all engineering projects in the junior, ninth grade and Senior divisions ASIE donates total \$1,000 for this awards each year.

Prize Title	Project	Category	Student Name	School Name
Junior Division Winner - 1st	Fighting Water with H2O	Engineering: Electrical / Mechanical / Civil	Romane Medina Samuel Ramirez	E.A. Olle Middle School
Junior Division Winner - 2nd	Free Energy	Energy & Transportation	Krish Amih	Shotwell Middle School
Junior Division Winner - 3rd	Measuring The Strength of Wood Species	Engineering: Electrical / Mechanical / Civil	Maheen Akhter	Garcia Middle School
Senior Division Winner - 2nd	Automatic Removal of Water from Side View Mirrors	Engineering: Electrical / Mechanical / Civil	Nicholas Posluszny Troy Dutton	Friendswood High School
Senior Division Winner - 3rd	An Algorithm for Analyzing ECG Signals: R-Wave Detection & Heart Rate Calculation	Engineering: Materials & Bioengineering	Raaghav Kavuri	Clearl Lake High School
Senior Division Winner - 3rd	Not a Chinese Hoax: Predicting and Locating the Adverse Health Effects of Global Warming in the United States Using Artificial Neutral Networks	Environmental Sciences	Sarvesh Subramanian	Clear Brook High School

The following are the Awardees in each category:

### **ASIE AWARDS**



Young Engineer of the Year, Chaitanya Kasturi (Gampa) at ASIE's Holiday Event

Chaitanya Kasturi (Gampa) with other Young Engineer of the Year (YEOY) awards recipient during Engineering Week 2019 (E-Week2019)

#### 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 goes to Chaitanya Kasturi (Gampa) P.E., PMP, ENV SP for being awarded the ASIE Young Engineer/Architect of the Year 2019.

Chaitanya Kasturi (Gampa) is a Vice President and Senior Project Manager at Huitt-Zollars, Inc. a full service design firm. She has her bachelor's degree in civil engineering from Osmania University, Hyderabad, India and has a master's degree in civil engineering from the University of Kansas. She has over 15+ years of diversified experience as a civil engineer and has provided design and project management expertise for public agencies and private clients. Ms. Kasturi is a licensed Professional Engineer in Texas and a Project Management Professional (PMP). Ms. Kasturi has been an active member of ASCE, ASIE, NSPE / TSPE for several years. She served as Membership Chair for ASIE in 2017. She has also served on the Scholarship and Fundraising Committee in 2017 and as Secretary for 2018. Currently she is serving as Vice President.

Recent recipients of the award: 2019 Chaitanya Kasturi, PE, PMP, ENV SP 2018 Sirish Madichetti, PE, CFM 2017 Poolkeshi Patel EIT 2016 Sai Gowthami Asam 2015 Naresh Kolli, PE



Dinesh Shah, Hasmukh Doshi with 2018 YEOY Sirish Madichetti



Naresh Kolli, Dinesh Shah, Sai Gowthami Asam, Madhu Kilambi with 2017 YEOY Poolkeshi Patel



Naresh Kolli, Raj Basavaraju, Chetan Vyas, Madhu Kilambi with 2016 YEOY Sai Gowthami Asam



2015 YEOY Naresh Kolli

### **ASIE AWARDS**



L-R: Mahendra Vaishnav, Virinder (Ben) Bansal, Sai Gowthami Asam, Ravi Arora, Bal Sareen, Shri Goyal, Ray Patel, Rajinder Soni, and Ramesh Garg

#### ENGINEER / ARCHITECT OF THE YEAR

There are more than one thousand engineers and architects of Indian origin who reside in Houston Metropolitan area and work in all engineering and architecture related industries.

Many of them have excelled in their fields as entrepreneurs and professional fields of their expertise.. In 2013 ASIE started a new program ASIE Class of Engineers/ Architects of the year awards by honoring prominent senior Indian engineers and architects for their accomplishments and contribution to the society in Houston metropolitan area during last 20+ years.

Here is the list of all architects and engineers that have been honored since 2013.

<u>ASIE Class of 2018 Inductees</u> Ray Patel, AIA; Dr.Shri Goyal PhD; Bal Sareen ME PE; Rajinder Soni PE

<u>ASIE Class of 2017 Inductees</u> Rashmi Desai M. Arch; Ramesh Maini; Harish Jajoo, PE

<u>ASIE Class of 2016 Inductees</u> Umesh Baliga; Danny Shah (Architect); Divyakant Parikh; Jatin Desai, PE; Dinesh Patel

<u>ASIE Class of 2015 Inductees</u> Dr. Krishna Goparaju, PhD, PE; Dr. Sulekh Jain, PhD, PE, MBA; Mahendra Vaishnav, M. Arch ASIE Class of 2014 Inductees Dr.Durga Agrawal PhD, PE; Ram Gupta PE; Randhir Sahni AIA; Sam Kanappan PE; Showri Nandagiri PE

ASIE Class of 2013 Inductees

Ben Bansal PE; Chad Patel PE; Dinesh Shah PE, AIA; Hasmukh Doshi PE; Late Jasbir Singh Sethi PE; Krishna Vavilala PE; Mahesh Wadhwa Architect, RAS; Dr. Narendra Gosain PE PhD; Ramesh Garg, PE, MBA; Rao Ratnala PE; Ravi Arora PE

### **TO EXPLORE BOLDLY: INDO-AMERICAN WOMEN MAKING GIANT LEAPS IN AEROSPACE PROFESSIONS**

DR KAMLESH LULLA HOUSTON, TEXAS

#### Many Women Made History in Aerospace

Sunita Williams. Kalpana Chawla. These names come up when we mention Indo-American women in aerospace professions. In recent years, women have been making rapid strides in global aerospace industry. It was Valentina Tereshkova-a Russian (formerly Soviet) cosmonaut became the first woman to fly to space when she launched on the Vostok 6 mission June 16, 1963. Valentina Tereshkova was the first woman to go into space. In 1963, she spent almost three days in space and orbited Earth 48 times. It took 20 years before an American woman Dr Sally Ride ventured into space in 1983. It took another 14 years before first India-born American woman astronaut Dr Kalpana Chawla made her journey to space in 1997 onboard Space Shuttle Columbia. While these women made history by making space flight journeys, hundreds of women have made enormous engineering and scientific contributions to space programs all over the globe.

We saw some examples of these contributions by women in Hollywoood movie version of "Hidden Figures" in the U.S. Plethora of newspaper articles described the important role India's women engineers and scientists played in the Chandrayaan-1&2 and Mangalyaan missions. NASA has a vibrant and diverse workforce with women playing a key role in both engineering and leadership positions. NASA Johnson Space Center has had two women as center directors- a top position in human spaceflight operations. Indian Space Research Organization has women in senior technical and management positions. Of course, there are women in senior engineering and leadership posts in several large and small aerospace companies and contractors such as Boeing, Lockheed, Grumman, SpaceX, and others.

In addition, there are many well-regarded Indo-American women researchers, professors and laboratory directors in our nation's aerospace engineering and space science departments at various universities. Several of these women scholars serve on important advisory boards and national academies.





Sunita Williams, Astronaut

Dr. Meenaxi Wadhwa, Planetary Scientist

#### Opportunities Abound for a New Generation of Indo-American Women

As the global aerospace ecosystems grows and more private and non-governmental players take active role in this sector, there are increasing number of opportunities for women to excel in aerospace professions. The new frontier of privatized space missions to the Moon and deep space missions will need many more technical and managerial experts to propel humanity into deep space.

There are several Indo-American women who are in key roles in American space enterprise- from flight controllers, mission managers, discipline experts to senior scientists and program leaders. They are paving the path for new generation of Indo-American women to join these rewarding and exciting professional initiatives in aerospace industry. The future looks very bright for these bright young minds who pursue their degrees in engineering, science and other technical disciplines. I hope the young readers of this article will be inspired to reach for the stars as they pursue their education in science and engineering disciplines.



Dr Kamlesh Lulla is world-renowned NASA scientist who trained astronauts during the Space Shuttle program. Dr Lulla completed 31 years at NASA as a senior chief scientist and a senior leader. Dr Lulla lives in Houston Texas with his family.

### CONGRATULATIONS TO ASIE ON 25 YEARS!

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### SOME PRACTICAL ADVICE FOR WOMEN ENGINEERS AND ARCHITECTS: 3 THINGS YOU CAN DO STARTING NOW TO HELP YOURSELF SUCCEED

DR. VANESSA PATRICK BAUER PROFESSOR OF MARKETING & LEAD FACULTY OF THE BAUER EXECUTIVE WOMEN IN LEADERSHIP PROGRAM

I care deeply about the advancement of women in the workforce. In corporate America there are now (only) 36 women who head Fortune 500 companies. Although this number is dismal, 36 is better than 24, the number last year. There is a similar pipeline of women in Architecture and Engineering, which parallels that in corporate America in general. Large numbers of women enter the profession, but that number diminishes as the rank increases, leaving much fewer women at the top.

There are many important issues that need to change at the societal and institutional level to achieve gender equality. A fascinating report from the World Economic Forum suggests that it will take 100 years to achieve gender parity. Yes, we need legislature that supports women's rights. Yes – we need institutions to put into place policies that promote and supports working families (both men and women). But what can each of us do now to propel ourselves forward?

I believe that we can all begin to take some small actionable steps to help ourselves succeed. Based on many interactions with working women executives, my involvement in numerous leadership forums as both a participant and a speaker, and, of course from numerous discussions with friends and colleagues, I am going to offer three suggestions that can help you take the first steps now. These are:

1. Learn to say No to the things that you don't want to do

2. Make it a practice to share your accomplishments and communicate your value

3. Invest in self-care to reflect, recharge and rejuvenate.

**1. Learn how to say No effectively:** "No" is a complete sentence. It is a sentence that we need to use more often, despite how hard it is to say. As social beings, we all want to be liked and to fit in. We want to be seen as cooperative and a team player. So when someone makes a request of you, you feel the social pressure to say Yes, because it is the nice thing to do. Research shows that women are more likely to say Yes to workplace requests. But saying Yes to a lot of things often distracts you from what your main work is. I encourage you to think of your career in terms of chapters. Each chapter has different goals and different metrics of success. Think about the chapter you are in. Think about what you want to and have to achieve in this chapter to move onto the next one. Those are your priorities. If you get asked to do things that are not going to move you forward to your next chapter, then you should say No to them.

In my work on empowered refusal, I suggest that when a refusal stems from a person's value's and priorities, the other party is more accepting of the "No" response. In other words, when you say No based on your values and priorities, you come across as more determined and communicate your No with greater conviction.

Saying No to the things you don't want to do also leaves you open to pursue the opportunities that you do care about. Time is a very valuable resource; spend it wisely on the things that matter to you. Say No to everything else.

2. Make it a practice to share your accomplishments and communicate your value: Women shy away from "bragging". I argue that it is not bragging, if you actually did the things you talk about. Unfortunately, many of us believe that if we are good, people will notice what we do and reward us for it. The truth

of the matter is that most people are too busy worrying about what they need to do to pay attention to what you are doing. I recommend the book by Peggy Klaus: "Brag! The Art of Tooting Your Own Horn without Blowing It.

If you are on an important committee and are doing some important work that benefits your organization, take credit for your input. If you received some recognition either formally (an award) or informally (a compliment from a client) make sure that you add it to your CV, share it with your colleagues, even post it on your preferred social media outlet - LinkedIn, Twitter, Instagram or Facebook. Remember - if you have done it, it is not bragging. It is communicating your value.

3. Invest in Self-Care: We are not machines, although we often expect ourselves to be. Recognizing when you need to stop and rest is critical to long-term success. When I mean self-care, it means doing what it takes to look after yourself. I do not mean long vacations, days at the spa or vegging on the beach (although those sound fun)! I mean take the time to do things that you love, that make you feel good. In some recently published work, my co-authors and I found that simple pleasures can buffer small annoyances. There are many daily hassles we experience in our jobs and at work so we need to infuse our lives with small and simple pleasures to help us tide over these pains. It starts with reflecting on what gives you joy and making a point to embrace these moments of pleasure. It could be savoring your first sip of coffee in the morning, while feeling grateful for the new day. It could be walking in the park with your child. It could be watching a movie or an episode of your favorite show without an ounce of guilt. It could be cooking, meditating, reading, sewing, scrapbooking, exercising (yoga, running, zumba), hanging out with a friend....as long as it is something that gives you joy that energizes you and makes you feel good. We need to feel good to be at our creative and energetic best.

Most people's response to this recommendation is "I don't have the time". My response to them is two-fold: 1. The philosophical response: We all have the time to do the things we think are important and want to do. Make self-care a priority. 2. The pragmatic response: Use your fringe time. Fringe time is the short time between things. I found the book Fringe Hours (by Jessica Turner) really helpful in this regard. When you have 10 minutes for the next meeting, should you check your phone or mindlessly browse Facebook? Use that fringe time for selfcare. You can do a walking meditation while walking to that meeting across campus. You can step outside for a brief walk after lunch. You can stop by your favorite bookstore to simply browse through books in between running errands. You can buy yourself a bunch of flowers. You refresh your diffuser with new oil and enjoy the wafting scent while you work. Bottomline: I believe that self-care does not require huge amounts of time, it just requires regular doing. It is the oxygen mask that keeps us happy and productive.

To learn more strategies and ways to advance yourself in your career, please consider taking the Bauer Women in Leadership Program (https://www.bauer.uh.edu/executive-education/ open/women-in-leadership.php). We have designed this program especially to help you advance in your careers and achieve professional success!



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### BAYOU CITY HOUSTON-DEVELOPMENT BOOM AND CHALLENGES TO CONTROL FLOOD

MANWAR HOSSAIN, PE SENIOR PROJECT MANAGER KENALL INC

According to US Census, population of Harris County increased 14.8% from 4,093,188 (Year 2010) to 4,698,619 (Year 2018). Number of housing units increased from 1,598,698 (Year 2010) to 1,788,240 (Year 2018). Other than hurricanes and tropical storms, development over the years created many drainage issues to reduce flood hazards in the Harris county. Based on data since year 2000, average rainfall rate for the Harris County is approximately 50 inches, but this varies from low of 25 inches to high of 80 inches. Flow runoff increased dramatically and created complexities to manage flood water. Following are the major drainage concerns for the Harris county.

- · Flat slopes to drain floodwater faster.
- Major bayou creeks with large drainage areas flowing through downtown Houston.
- Backwater effects from the outfalls e.g. tailwater of Ship Channel outfall prevents drainage from major bayous.
- Lower capacities of bayou as overbanks have been developed.
- Numerous culverts and bridges preventing free flow of flood water
- Adjacent areas of major reservoirs (Addicks and Barker) have been developed. The outfall channel (Buffalo Bayou) has less capacity in case of higher release rates from the reservoirs. Downstream areas were normally flooded when USACE had to release flows from the reservoirs after hurricanes and tropical storms.



Yearly Total Rainfall from Year 2000 to Year 2018 (Source: Bush International Airport)



Network of Drainage Channels of Harris County

Harris County Flood Control District, FEMA and City of Houston adopted many projects to reduce flooding hazard to population and properties, which includes technical and non-technical measures.

- Improvement of real time flood forecasting and flood warning systems.
- Information management to develop public awareness associated with flood hazard.
- Channel improvement this include channel cross-section and channel alignment.
- Regional detention ponds to divert flow from the channels and release later.
- Future tunnel projects with pumping systems to drain floodwater faster.
- Buyout of properties to reduce flood hazard.
- Stricter regulations for the improvements in the floodplain.
- Use of better resolution elevation (LiDAR data) for hydrologic and hydraulic analysis.
- Incorporation of 2-dimensional HEC-RAS model for floodplain modeling and mapping.





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### **WOMEN IN ENGINEERING**

#### SAI GOWTHAMI ASAM ASIE PRESIDENT, 2018

Ever since Engineering was recognized as a profession and began to be taught as a formal academic discipline in the late 18th, and early 19th centuries, it has been a well-accepted fact that Engineering is a male dominated field. Women, across the world from several generations have taken a long journey since then until today to prove themselves and have marked their names. The journey still continues in the 21st century with a long road ahead to achieve equality.

The word "Engineering" was first used in the 15th century as a military term to describe the creation of devices for war such as launching projectiles. During the Renaissance, engineering took on a more civilian role and involved the construction of Italian canals, roads and bridges in France, hence the creation of civil engineer.

Before Engineering was recognized as a formal profession, women with engineering skills turned to inventing. One of the earliest women inventors was Hypatia of Alexandria. In the early 15th century, Hypatia invented several scientific instruments, including the hydrometer, an instrument used to measure specific gravity of liquids. Englishwoman Sarah Guppy patented a design for safer suspension bridge foundations in 1811 and had 10 other patents. In 1813, Tabitha Babbitt, from Massachusetts, invented the first circular saw.

In 1876, Elizabeth Bragg, graduated from the University of California at Berkley with a degree in Civil Engineering and became the first woman engineering graduate from USA. In 1893, Bertha Lemma became the second woman engineering graduate with her degree in Mechanical Engineering from Ohio State University.

Few years later, women in India started making great strides as well. The first woman to receive degree in engineering was Ms. A.Lalitha. She received her degree in Electrical Engineering in 1944 from the University of Madras even before India got independence. She was a young widow with a young kid at that time.

A rise in the number of women in engineering didn't occur until World War II (1939-1945), when men went off to war and industries needed professionals at home to engineer planes, ships, and supplies for the war effort. As this appears to be a good change, unfortunately many universities did not allow women to apply for admission into engineering programs until early 20th century.

In 1903, twin sisters Mary and Sophia Hutson both completed the requirements for the four-year civil engineering degree at Texas A&M University. Though women at that time were denied admission, the twins were able to enroll in the program because their father was a professor at the university. At graduation, they were awarded certificates of completion, not actual degrees. In 1963, Texas A&M finally opened doors to women. Ninety-nine years after the twins completed their degrees, their sons accepted diplomas on behalf of their mother at a commencement ceremony in May 2002.

According to U.S Census Bureau and National Center for Science and Engineering Statistics (NCSES), in year 2014-2015, Texas stood second to California in giving 6700 Bachelor's degrees in engineering out of which only 20% were women.

Catalyst, a global non-profit organization which builds workplaces that work for women, by working with some of the world's most powerful CEOs and leading companies listed that in year 2014-2015, women earned 18% bachelors', 25% Master's and 23% PhD degrees in Engineering and Engineering Technologies. The numbers are not very encouraging.

Few women are earning degrees in STEM (Science, Technology, Engineering and Mathematics) areas and they still remain a minority of STEM workers in the United States. In 2015, women made up only 24 % (less than one quarter) of those employed in STEM occupations. Based on the statistics, we can see there is a substantial gender gap in the Engineering Industry.

Fewer women in the industry means fewer mentors and role models to young girls who aspire to pursue career in STEM areas. I was the only female student in most of my engineering courses and research team while pursuing my master's degree. I did not have any female peers, or mentors. It didn't get any better after I graduated and entered the engineering industry either. Being the only female engineer at my workplace for a long time, I have been looking for a female mentor in the industry myself for several years. It is hard to find.

Women have came a long way against all odds from being denied admission into the colleges, applying for jobs in maledominated industry, and even the right to vote for that matter until 1920 to holding key positions in the engineering industry today. However, based on the recent statistics, we are not quite there yet. There is more work to do as a team to make these numbers better and make women more active and visible in the industry.

Each and every woman in the industry make a significant impact either directly or indirectly by their accomplishments and visibility. In this age of instant connectivity and visibility, we all women and men as leaders can take action to inspire, motivate each other to make these numbers better in coming years so our daughters, grand daughters and great grand daughters will be in a better place.

I would like to leave you all with a powerful quote by Ms, Katherine Johnson, NASA Research Mathematician who turned 101 years recently. She played a significant role in calculating trajectories, launch windows and emergency return paths for Project Mercury, the first human spaceflight program in the United States (1958-1963).

"I NEVER HAVE TAUGHT ANSWERS. I TEACH YOU WHAT THE PROBLEM IS, HOW TO ATTACK IT. IF YOU ATTACK IT PROPERLY, YOU WILL GET THE ANSWER." As engineers and professionals we all know how to attack the problem at hand, we will get the answer for this challenge as well.

### **GALA EMCEE**



As the senior content producer, Deepi Sidhu is the lead writer for HoustonTexans.com and is host on Texans TV and Texans Radio.

Sidhu co-hosts 'Texans Buzz', which airs on Saturday nights in the fall on ABC-13/KTRK following the late local news. The host of the social media weekly wrap-up 'Likes N Stuff', Sidhu also co-produces popular segments such as Kid Reporter and Player Reporter. With a background in radio, Sidhu assists on the programming and production side for all of the offseason and in-season Texans radio shows, which air daily on SportsRadio 610.

Prior to joining the Texans organization, Sidhu worked for the f agship station, SportsRadio 610. She wrote for CBS Houston and SportsRadio 610 websites, covering local professional and college sports. From the age of 15, Sidhu has been involved in radio broadcasting.

She had a weekly radio show on KPFT Houston, GenerAsian Radio, which she co-hosted and produced for 11 years. Sidhu also has been a freelance writer for multiple outlets including CNN.com and CNN's Headline News site, HLN.com.

Sidhu graduated from Purdue University with a bachelor's in electrical engineering and then attained her Master of Business Administration from the University of Houston in 2002. Sidhu has resided in Houston for over 21 years. She and her husband, Sham, have three sons.



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### TEMPERING THE TEMPORARY: IMPROVING THERMAL COMFORT AND SAFETY IN RELIEF SHELTERS

SHREEJAY TULADHAR BUILDING SIMULATION ANALYST/DESIGNER PAGE SOUTHERLAND PAGE, INC.

On April 12th, 2015 a powerful 7.8 magnitude earthquake struck Nepal. The earthquake and its aftershocks forced me and my family to live in temporary shelters for about a month, exposed to the range of temperature swings hot during pre-monsoon summer and chilly at night. Fortunately, my family was safe. I was due to start graduate study in the US the following fall. My experiences of living in a temporary shelter and the fact that millions of people worldwide continue to live in such shelters for years on end motivated me to research improving thermal conditions in the shelters.

A temporary shelter is meant as an early recovery shelter until a more permanent shelter solution is found. It is the second phase; the first is an emergency shelter (e.g. a tent or tarp)- meant to last 1-2 weeks with permanent re-construction marking the final phase. Despite guidelines encouraging climate responsive designs, similar temporary shelters are frequently deployed across substantially different climates, resulting in anecdotes of unbearable interior temperatures. An example of this trend is the UN partnering with the IKEA foundation to develop a flat packed pre-fabricated shelter to be deployed globally. According to interviews with organizations involved in this sector, current shelter responses are built under time and cost constraints and comfortable thermal conditions is not a high priority. According to Anshu Sharma, co-founder of SEEDS India a non-profit agency involved in design and implementation of post-disaster recovery shelters says he witnessed expensive pre-fabricated shelters that were helicoptered into a remote, high-altitude sites in the Indian Himalayas and later abandoned in the winter due to unbearable interior temperatures.

For the research, in order to test the climate-appropriateness, thermal computer simulations were performed on fourteen of the most common shelter types, testing these designs in thirteen different climate zones. Five of the shelter and their respective climates were from South Asia – Afghanistan, Pakistan, Sri Lanka, Nepal and India. Evaluating these shelters based on adaptive thermal comfort threshold temperatures proved inadequate as interior temperatures frequently far exceeded this threshold. Adaptive thermal comfort standard is a relatively newer standard from ASHRAE (American Heating, Refrigerating and Air-Conditioning Engineers) that changes the threshold based on outdoor condition and is suited more for naturally ventilated buildings. Threshold for regular ASHRAE

thermal comfort standard stays the same throughout the year with temperature ranging from 67°F [19°C] to 82°F[28°C] and humidity from 20% to 80%. 95°F[35°C] and 54°F[12°C] has been proposed for the upper and lower "health risk" temperature threshold to evaluate thermal safety of the temporary shelters. The limits are based on data suggesting that vulnerable population, i.e. the elderly, sick and small children, are susceptible to cardiovascular problems, strokes and other health risks in sustained conditions above or below this temperature. thermal simulation was used to test improvements to temporary shelter design and synthesize new designs.











#### **Retrofit/modification strategy**

As a strategy to improve existing shelter design in cooler climates during winter, the A-frame shelters deployed in Kashmir, India during the 2014 floods were modified with addition of natural insulating material like rice hulls which is an agricultural waste. Passive solar strategy was used, which involves of storing daytime solar heat gain in concrete or mud floors and additional water barrels exposed through window and roof openings which gets re-radiated at night when it is colder. Passive solar strategy coupled with roof insulation gets the interior conditions out of the health risk threshold and approaching adaptive comfort threshold. The thermal simulations helped guide the thickness of the rice hull insulation as after certain thickness there is not much improvement in interior temperatures.

#### On-site locally sourced material redesign

A shelter was redesigned for a hot and humid climate. Strategy of an attic zone to act as a thermal buffer space and improved buoyancy ventilation to keep the interiors below the health risk temperature of 95°F[35°C].

#### **Discussion & Conclusion**

In the field of building simulation and building simulation research, we tend to focus on large, complicated, highperformance buildings. Yet, several compelling reasons exist for expanding this focus to include temporary shelter design. First, when dealing with such vulnerable populations (e.g. the elderly. sick, children) and health or living conditions, the stakes are very high. Currently cost is the primary driver of shelter design, thermal safety and comfort must be prioritized The climate data used for the simulations represent typical conditions based on recent 20 years. Climate change will exacerbate the problem of thermal safety and comfort as conditions will be more extreme with much hotter summers and colder winters. . This study demonstrated that simulation can be an effective tool to improve thermal safety and comfort in shelter design. Moreover, simulation can be a strategic policy tool to aid decisions to match shelter types to appropriate climates, improving both safety and the effective use of resources.

The article is based on the research and paper of same title coauthored by Prof. Holly Samuelson, Harvard Graduate School of Design- Joelle Jahn- WSP and Shreejay Tuladhar- Page Southerland Page to be published in Building Simulation 2019 Journal by International Building Simulation Associations (IBPSA).

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### PAST PRESIDENT'S PERSPECTIVE OF LUCE BAYOU INTERBASIN TRANSFER PROJECT CANAL

RAJ TANWANI, PE ASIE PRESIDENT, 2010 GUNDA CORPORATION



Typical Canal section showing private bridge crossing.

#### Introduction

It is a matter of immense pride when our ASIE member firms are chosen to lead strategic projects in the Houston area. I had the honor and pleasure to lead this important and historic project to secure and bring drinking water to Houston for future generations. The project was for the Coastal Water Authority.

The Luce Bayou Interbasin Transfer Project (LBITP) is one of the largest raw water supply projects in the Greater Houston area. This project will transfer 500 million gallons per day (MGD) from the Trinity River to Lake Houston. Transfer of this raw water supply to Lake Houston is intended to meet the increased demand for surface water. Expansion of treatment capacity at the Northeast Water Purification Plant (NEWPP) is required to allow for the mandatory conversion from groundwater to surface water. Lake Houston and NEWPP cannot meet future demands at their current capacity. The LBITP will provide the additional raw water resources necessary to satisfy these demands.

#### Challenges

The biggest challenges encountered for the design included:

- Designing the canal to maintain earthwork balance, i.e. cut and fill quantities are almost same
- Maintaining the existing drainage patterns across the new canal
- Crossing multiple oil and gas pipelines
- Crossing three (3) TxDOT highways and multiple small roadways
- Providing connectivity for landowners divided by the canal construction
- Maintaining water level in the canal even when the pumps are turned off at the pump station
- Maintaining consistent design across all five (5) canal segments

#### Solution

Gunda Corporation (GUNDA) served as Program Manager for the development of 23.6 miles of earthen open canal to convey the raw water to Lake Houston. As the Lead Canal Designer for this \$120M project, GUNDA managed five (5) separate engineering teams, consisting of nearly thirty (30) engineering consultants and also designed the downstream segment which included the drop structure, two (2) water control gates, seven (7) siphon crossings, one (1) bridge, one (1) TxDOT crossing, and coordination of crossings for three (3) pipeline corridors. In managing these segment teams, GUNDA was responsible for overall quality management, outside agency coordination, and project controls including project schedule and cost management.

Intricate coordination was required with other consultants including oil and gas pipeline coordinators, pump station access road design consultants, SCADA consultants, private bridge design consultants, maintenance facility design consultants, electrical power design consultants, and pipeline design consultants.

GUNDA managed field investigations including engineering surveys and soils testing, and the analyses for elements applicable to the overall canal design, which include; standards development, investigations and recommendations for the specialty water level control gates, investigation of two irrigation systems, extensive landowner coordination and right-of-entry permitting, geotechnical fault investigation, canal hydraulics modeling, and construction planning. The canal is designed to maintain a constant water depth through a series of six (6) water level control gates.

During the engineering of the project, several unique challenges were identified and overcome. These included:

- Strategically managing and balancing the earthwork in order to control and reduce construction costs
- Analysis of the entire corridor drainage patterns to reduce the number of drainage crossing structures
- Minimization of impacts to adjacent property owners such as rice farm irrigation systems by designing drainage crossings at strategic locations and designing distribution
- Designing automatic level control gates so that the gates close when pumps are turned off at the pump station. These six (6) control gates are the largest installed in any canal system in the State of Texas.
- Managing procurement of water control gates to ensure the utilization of one (1) gate manufacturer across all construction projects
- Put in private bridges for landowners who had property on both sides of the canal

Additionally, a cost/benefit analysis was conducted for lowering the existing oil and gas pipelines. An economical solution was offered in which four (4) siphons would be installed consisting of four (4) 96" pipes each, saving approximately 35% in construction costs.

On the project, we had a great working relationship with the Client Project Manager and their team, the General Contractors and the Construction Manager. The final project came in approximately 20% below the original cost estimate and was delivered on schedule resulting in one Happy Client.

The final project came in approximately 20% below the original cost estimate and was delivered on schedule.



Largest Water Control Gate in Texas being installed.



Typical Drainage Siphon Crossing



Roadway Siphon Crossing

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### **GALA ENTERTAINMENT**

#### KRUME ANDREEVSKI (PIANIST)

Krume Andreevski is a pianist based in Houston, TX. He holds a doctorate degree in piano performance from the University of Houston. Although primarily a classical musician, he also performs jazz, rock and popular music. He works as a pianist for the Houston Ballet; choir accompanist for Houston Saengerbund; and a music instructor for San Jacinto College. www.krumeandreevski.com krumea@gmail.com



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#### CREATIVE MEMORY RASHMI MURTHY, AIA, RID, LEED AP BD+C

Deep purple, the color and not the heavy metal band, has on more than one occasion, reminded me of roasted Singharas (water caltrop) sold in carts on the streets of Delhi. The Singhara vendor would come by only once in a while, and when he did, lest he disappeared, my little sister and my friends and I would run behind him to buy as many as possible with our pocket money. My subconscious associates good memories of me enjoying this fruit with my friends. It has been decades since I have eaten a Singhara, and yet, I not only remember its dark color vividly but also its subtle flavor and how oddly amorphous and delectable it was. Experiences, thoughts, actions when recalled, however simple they may seem at that moment, become the foundation for newer experiences and creative thinking. One way to develop this creative mindset, is to act, do and make. Thomas Edison, most known for his invention of the incandescent light bulb, and other inventions like the phonograph and motion picture, had an impressive 1093 patents to his name. He apparently used to write down and sketch his ideas often and would use these ideas to build new ones. In his lifetime, he had filled 3500 notebooks with ideas and drawings, which is about an entire notebook a day; every day; for almost 10 years.

Similarly, Joshua Foer, a US memory-champion and Ted talk speaker says that new ideas build on existing ideas, concepts and perceptions that you have stored in your mind for years.

The word **"Thinkering"** from Michael Ondaatje's novel, The English Patient, refers to generating new concepts while tinkering with objects. If one is trying to resolve a mind-bending issue, though it may seem facetious, washing dishes may very well clue one in to a resolution.

When we draw examples from areas other than our own, a wider range of creative outcomes are possible. Visual arts, music, creative writing, dance, sports, nature, all these and more we can enjoy and get inspiration from. With the explosion in digital content and through varied digital media, access to almost all kind of information is at our fingertips. So, one can foster creativity by letting ideas seep into us from all these sources and by building upon them to create our own. We can also develop this creative memory through unique and shared experiences, varied cultural expressions and through stories that connect us to each other.

So, the next time you eat something delicious, watch a good Bollywood movie, feel enticed by the shops with lacquer bangles studded with colorful stones around Charminar or get enchanted by the silky-smooth vibrancy of Mysore silks, you may want to ponder on what it is you have added to your very own library of creative memory, to be retrieved, days, months, decades later, even if it is only to inspire you to color your hair purple.



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