

Cover: Ministry of Education Headquarters, Kuwait



Local Connection with International Links

# Concrete News

Concrete News is published by ACI-Kuwait Chapter for sharing information, promoting exchange of technical knowledge amongst its membership, and enhancing the Chapter's position within Kuwait's engineering fraternity.



# ACI Kuwait Chapter

The purpose of the Chapter is to help in furthering the chartered objectives of the American Concrete Institute. The American Concrete Institute (ACI), is a nonprofit international organization that promotes improved technology, technical competence, design, and construction aspects related to concrete for the benefit of society. ACI-Kuwait Chapter was established essentially

Functions

ACI Kuwait Chapter is approved and authorized by the Board of Directors of ACI International to provide the means of furthering the chartered objectives of the Institute in the State of Kuwait. The Chapter is managed by a local Board of Directors whose members serve as Chapter Officers. Chapter membership is open to individuals and organizations with an interest in any aspect of concrete technology. The Chapter is operated through its committees, which are comprised up of volunteers from the membership. Programs are developed by the Committees to help achieve Chapter objectives and to meet the needs of its members. The Chapter may hold several meetings each year and engage in activities that may include:

- Sponsoring educational seminars, short courses or technical workshops.
- Organising or sponsoring training courses for examinations and certification.
- Publishing technical information and newsletters.
- Conducting awards programs for local concrete structures and related distinguished services.
- Special social events.

Benefits

- Chapter members can attend seminars, short courses and workshops organized at reduced fees.
- Free use of ACI publications supplied by ACI International, and which are kept in the Chapter library.
- A forum for members to interact with colleagues and identifying potential sources for cooperation in addressing specific technical problems.

to promote education, standards of technical practice, scientific investigation and research in concrete technology. The Chapter also aims to channel efforts of its members towards a non-profit public service in collecting, correlating and disseminating information for the improvement of design, construction, manufacturing, utilisation and maintenance of concrete products and structures.

#### Committees

The Chapter's affairs and activities are executed through its Committees, which include:

- Technical Committee
- Membership Committee
- Publication Committee
- Social Committee
- Nomination Committee
- ACI-KC Students' Committee

#### Joining ACI Kuwait Chapter

To become a member of ACI Kuwait Chapter, please contact the Chapter Office Manager on the numbers shown below; or download an Application Form from our website. Different categories of membership are available. You will receive a copy of the Chapter Bylaws upon becoming a member. The functioning of ACI Kuwait Chapter is based on mutual interest and voluntarily effort. Its success depends upon the active participation of its members.

#### **ACI Kuwait Chapter**

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Volume 25 / January 2020



# President's Message



ACI-KC President, Dr. Khaldoun Rahal

The production and use of concrete has gone a long way. Two well documented milestones are the invention of "Portland" cement as we know it in 1824, and the use of iron to reinforce the concrete, around 1877.

Since then, we have been learning more and more about concrete and reinforced concrete, but we have not witnessed milestones of the magnitude similar to the invention of portland cement or the use of steel reinforcement. This might be due to the fact that progress was gradual and continuous rather than sudden. The focus of learning was dynamic. At times, the focus was on durability. At other times, interest focused on the use of supplementary cementitious materials, or chemical admixtures, or earthquake resistant design, or strengthening, or the use of non-corroding reinforcement such as fiber-reinforced polymers (FRP).

Recently, we have come to realize that along the past century, we have caused unrepairable damage

to the environment. We have exhausted our natural resources to an unprecedented level. While we share with the world concerns about global warming for example, we also are concerned that the concrete industry cannot be sustained unless drastic measures are taken. Currently, sustainability is at the front of society. With the production of cement causing about 8% of the total amount of carbon dioxide released into the environment, the concrete industry has the responsibility to act for the protection of the environment and for the sustainability of our industry. Every year, the ACI-Kuwait Chapter presents two awards during its Annual Award Banquet: The Award of Excellence and the Award of Achievement. You can read about the deserving awardees in this issue of Concrete News.

ACI-KC will continue to promote and support activities that will help raise awareness of sustainability and of the protection of the environment. We urge all our friends in the Chapter membership to join our efforts.



# Annual Awards 2018-2019

ACI-Kuwait Chapter's Awards Banquet is a highly anticipated and grand annual event during which the Chapter recognizes outstanding projects and individuals. Two honours were bestowed this year. These included the Award of Excellence and the Award of Achievement. The Annual Awards Banquet was held in the Arab Fund Headquarters on 29<sup>th</sup> April, 2019.

The event was organized under the patronage of Her Excellency, Minister of Public Works, Dr. Jenan Mohsen Bushehri. The function was attended by a large number of guests, ACI-KC members and representatives of Kuwait's building and construction industries

#### Award of Excellence

The Award of Excellence is presented annually to a local project of outstanding merit that has been substantially completed over the past two years. The award comprises a trophy, plaque and certificate and is given to the Owners or Developers of the project. Certificates of Excellence and plaques are also presented to the general contractor, the design and supervision consultants, and the main concrete supplier.

This year's award was given to the New Headquarters for Ministry of Education, which was recognised as a distinctive and elegant architectural landmark combining advanced structural and engineering solutions with graceful aesthetics. The award was presented to the developers, Ministry of Public Works, and the Ministry of Education were acknowledged as the Users of this magnificent building.



Her Excellency, Minister of Public Works, Dr. Jenan M. Bushehri







Dr. Saud Al Otaibi ACI-KC President 2018-2019



Aziz Mamuji, ACI-KC Past President: Master of Ceremonies

#### Award of Achievement

The Award of Achievement is presented to an individual to recognize his or her longstanding contribution towards advancing engineering education and research in concrete technology and practice; expertise in a related field; or impact on development in the State of Kuwait.

The award was presented to Ms. Suad Khalid Al Bahar for her lifelong contribution, as an outstanding scientific researcher, in the field of concrete quality, materials and construction technology.

# Certificates of Appreciation

At at the 2019 Annual Awards Banquet, two ACI-KC Board Members who have served the Chapter for more than 20 years were presented with Certificates of Appreciation. The recipients were Dr. Khaldoun Rahal and Mr. Abdul Wahat Rumani.



Her Excellency, Minister of Public Works, Dr. Jenan M. Bushehri, ACI-KC Board members and Award Recipients



# Award of Excellence 2018

ACI-Kuwait Chapter presents the Award of Excellence to a project in recognition of, amongst other aspects, outstanding use of concrete, innovative architectural and structural design, iconic landmarks and high standards of construction.

#### The Award

ACI-KC's prestigious Award of Excellence is given to a significant and deserving project that has been substantially completed over the preceding two years. In general the award recognises:

- Outstanding and creative concrete usage
- Innovative architectural and structural design
- Response to cultural considerations and traditions
- Architectural landmarks and iconic structures
- High standards of construction and creative use of concrete
- Renewal and renovation projects, and
- Public appreciation of a project.

## ■ Development Scope

Site Area :  $40,000 \text{ m}^2$ 

Gross Area :  $142,300 \text{ m}^2$ 

Basements(3) : 104,500 m<sup>2</sup>

Population : 3,800 Employees

Floors : 12 floors

Parking : 1,650 cars





Ministry of Education Headquarters



In recognising an outstanding project, the Chapter honours the Developer or Owner of the project, and acknowledges the contribution of design and supervision consultants, the general contractor and main concrete supplier.

The Award of Excellence for Year 2018 was presented to the new Headquarters for Ministry of Education, which was honoured as a distinctive and elegant architectural landmark that combines advanced structural and engineering solutions with graceful aesthetics.

# Historical Background and Vision

The nucleus of Ministry of Education goes back to 1936, at the time of Sheikh Ahmed Al Jaber Al Sabah, when a council of 12 elected members headed by Sheikh Abdullah Al Jaber Al Sabah was established to manage formal education in Kuwait. The council operated from a room in Al Madrassa Al Mubarakiya, but in 1947 they moved to a rented house. In 1949, the building pictured here became their Headquarters. Since then, as expected, their responsibilities and

operations have substantially increased and their present Headquarters and various satellite offices were no longer adequately suited to their work. The need for modern headquarters became inevitable.

In commissioning their new building the Ministry's stated objectives were quite clear. They wanted a world class and sustainable headquarters that could







justifiably be called a workplace of the future. They wanted one central and consolidated facility that would symbolise its commitment towards promoting, enabling, and delivering on their mandate for providing high quality educational services to Kuwait's citizens and residents.

## Design Metaphor and Conception

The Dhow, Kuwait's traditional sailing vessel was adopted as the key design metaphor, as its imagery evokes the nation's rich traditions of fishing, sea trading and ship building.

The outcome is a magnificent architectural icon, the massing of which suggests the vision of dhows passing one another on the open sea. The curvilinear forms gracefully modulate the sheer scale of this large building that will ultimately accommodate over 3500 employees.

The new headquarters is located in South Surrah, in the zone allocated to prominent state buildings. The building is set diagonally on a 40,000 m² site, essentially in response to the path of Kuwait's harsh sun and to optimise on the prevailing shamal







winds. This orientation also helps in opening up its southwestern side, in turn creating a generous shaded arrival and drop-off area.

The building's massing is comprised of 2 curved towers of 11 and 9 floors, with 3 basements totaling about 101,000 m<sup>2</sup> that accommodate 1650 cars. The total built-up area is about 136,000 m<sup>2</sup>.

Although it is extensively sheathed in glass, automatically operated sun-shading devices have been integrated in the façade. These create a protective wall which also helps enhance the building's visual impact.

#### Major Design Features

The main feature is a grand 11-storey skylit atrium that is both, visually and programmatically, the heart of the building. It forms the central reception, communication and circulation space, serving as a vibrant hub for employees and visitors. The voluminous atrium will also accommodate special events, exhibitions, lectures, cultural events and celebratory ceremonies.

The space is capped with inflated ETFE pillows that permit daylight to penetrate across the entire space. A series of hanging stairs, bridges and open decks crisscross the atrium, connecting multiple office levels. This is indeed a lively animated space.

Sustainability considerations have been woven into every aspect of this project, externally and internally, and while daylight penetrates throughout the building, direct harsh sunlight and glare are controlled by a hyperion system in-built into the shading devices. This is an automatic solar-adaptive shading system that helps minimise cooling loads and reduce energy consumption.

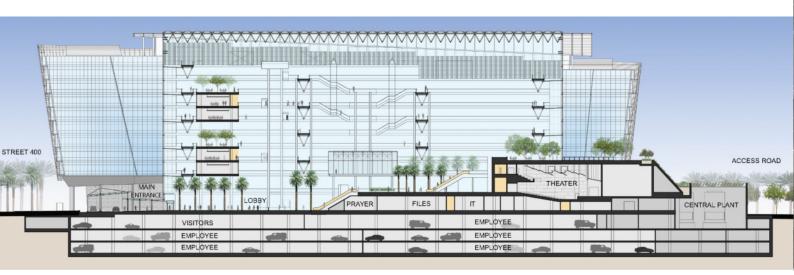
Interiors reflect a comfortable ambience designed to achieve conducive working, breakout and collaborative conditions by using carefully selected colours and materials, as well as controlled natural, general and task lighting. The building also has a 600 seat well-appointed auditorium fitted with the latest audio-visual and translation systems.

All interiors have been furnished with contemporary furniture and the spatial experience is enhanced by effective wayfinding, and a wide range of amenities.

#### Engineering Systems

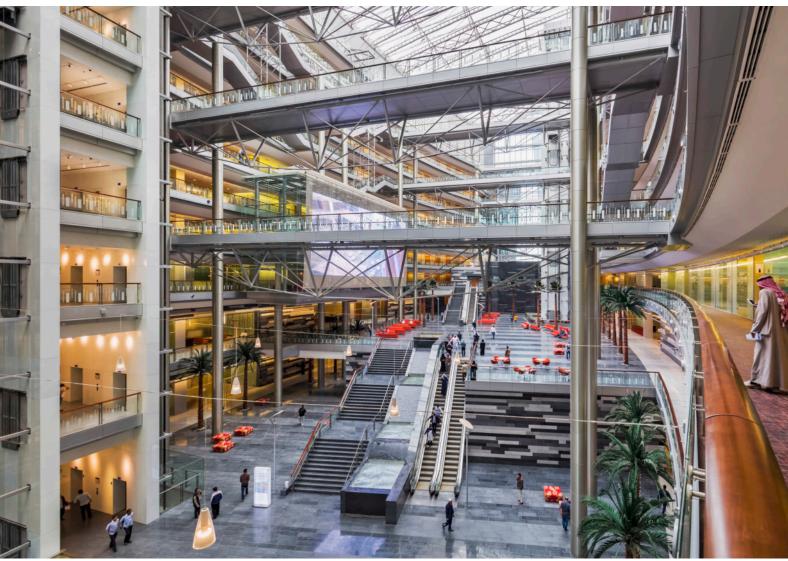
The facades of the building slope outwards 11.00 m and 6.5 m on the north/south and east/west sides respectively. This is achieved by creating stepped external columns that project out 900 mm and 500m at each floor level.

Hanging stairs in the atrium are formed from rectangular hollow structural steel stringers, which











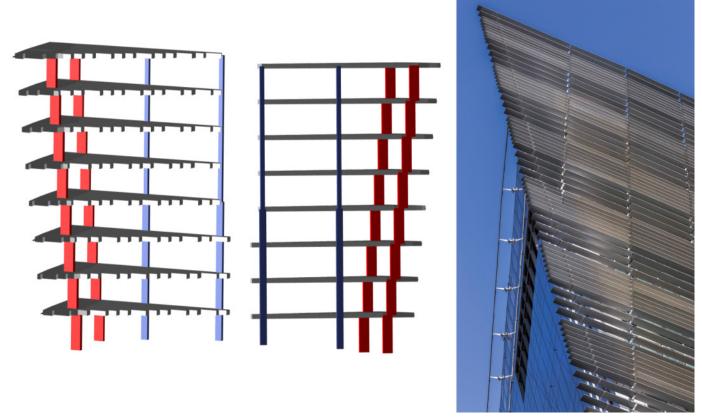
















are supported at the landings by tension rods suspended from cantilevered trusses located at the roof level. Bridges across the atrium are a series of triangular bowstring trusses that support composite slabs, comprised of concrete laid on corrugated steel decking. The lightweight ETFE pillows over the atrium are supported on tension rod structures that span from 20-50 m.

It is no surprise that the building incorporates an extensive array of sophisticated electro-mechanical installations. Carefully and sustainably designed systems within the building include automated environmental and lighting controls, and advanced access control and security systems. Emergency and uninterrupted power supply, integrated building management and monitoring system, comprehensive IT infrastructure, automated solar and controlled motorised blinds. Raised flooring has been incorporated on all office floors.

ACI-KC was advised that MOE Headquarters building has recently received two major Middle East Economic Digest awards. It was awarded as the Social Cultural Heritage Project of the Year, both in the National and GCC categories.

#### Awardees

- Developer;Ministry of Public Works
- UserMinistry of Education
- General Contractor
   Mohammed Abdul Mohsen Al Kharafi
   and Sons
- International Consultant
   Cambridge Seven Associates, USA
- Local Consultant

  Dar Gulf Consult
- Main Concrete Supplier;Kuwait British Ready Mix



Ms. Najla Alghanim receiving the Award of Excellence on behalf of Gulf Consult



# Award of Achievement 2018

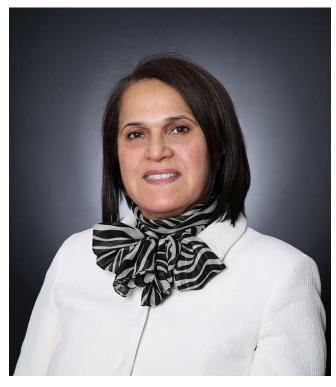
At its Annual Awards Banquet held on 29<sup>th</sup> April, 2019 at the Arab Fund Headquarters, ACI-Kuwait Chapter proudly presented its Award of Achievement for the Year 2018 to a scholar and brilliant scientist. Her career encompasses exceptional commitment as a researcher, patentee, motivator and team player, author, speaker, organisor, trainer, project leader and social worker.

#### Citation

ACI-Kuwait Chapter was indeed pleased to present its Award of Achievement 2018 to its first female recipient, Ms. Suad Khalid Al Bahar. She was honoured for her lifelong contribution as an outstanding scientific researcher, in the fields of concrete quality, materials and construction technology.

Ms. Al Bahar was born in Kuwait in 1957. High school was completed in 1975, and she fondly recalls the schooling system of that time being emotionally, nutritionally, physically and intellectually caring. It promoted moral and social values, and moulded a balanced understanding of life, religion and righteousness.

Kuwait University's Faculty of Engineering was established in 1975 and Ms. Al Bahar was in its first batch of students. After graduating in 1980 with a B.Sc. Civil Engineering degree, she joined Kuwait Institute of Scientific Research (KISR), and this was



Ms. Suad Khalid Al Bahar











the start of a progressively successful and responsible career that has continued to this day.

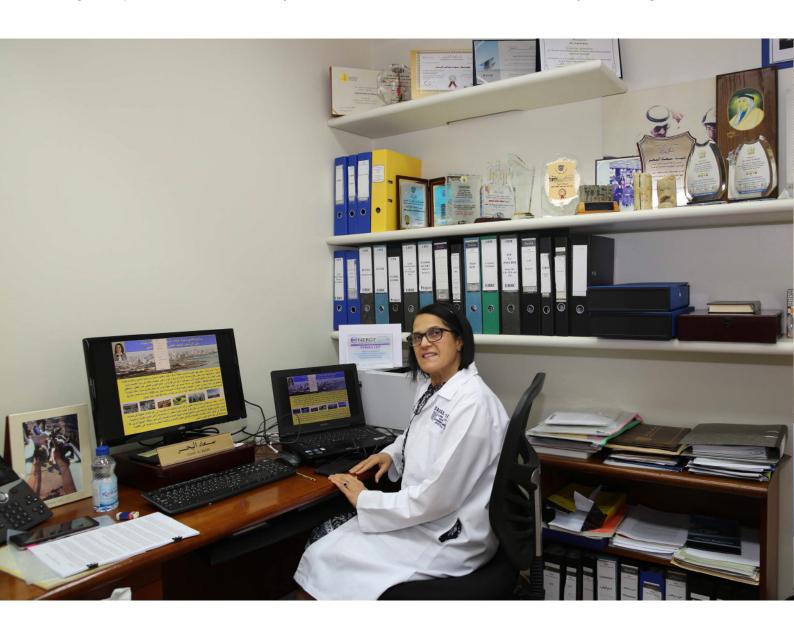
#### KISR

Starting as a Research Assistant in the Petroleum Division of KISR's Materials Application Department, her responsibilities and research work gradually increased in complexity. She was promoted through various research positions, and in January 2005 she became a full-fledged Research Scientist. In October 2010 she was appointed as Manager of KISR's important Construction and Building Materials Program, a position she still holds today.

In the intervening years, following her marriage to a fellow scientist at KISR, she spent about 6 years in Wales, England, accompanying her husband during his doctoral studies there.

#### Career

Given her passion for her work, it is not surprising that Ms. Al Bahar's professional career encompasses a wide range of activities and accomplishments. Her extensive research work and expertise has covered the study of composite materials, green and recycling technologies, as well as considerable involvement in scientific and technical analytical investigations. A





particular highlight was achieving a US Patent for the utilisation of multiple waste streams to manufacture synthetic lightweight aggregate.

As would be expected, this long research career was also embellished with numerous referred journal publications and conference papers, books and manuals and taking leadership roles in technical workshops, conferences, committees and collaborations with other universities and international organisations.

















The granting of a US Patent in May 2016, for work related to the manufacture of synthetic lightweight aggregate was indeed a commendable achievement. In December 2018, this work was honoured in London as "the Energy Awards 18 Finalist". Commercialisation of this patent is currently underway.





#### Research

In terms of more specific research work, Ms. Al Bahar has been involved in the development and characterisation of innovative composites and construction materials; use of indigenous raw materials and recyclable building wastes as alternative construction materials; performance, deterioration, corrosion and durability of concrete; degradation of polymeric materials; assessment of environment impact on materials; sustainable engineering and green solutions; and development of building codes, guidelines and testing standards.

One significant outcome of her research in pavement technology was the practical application of thiopave, a trial of which was done on a Artal Military Road which leads to Wafra Waste Water Treatment Plant. To its immense credit it still stands today in perfect condition, unlike the many other roads that were severely affected by the havoc caused by heavy rains a few months back.





## Collaboration Training and Awards

An important aspect of her work concerns technical collaboration with other international agencies and universities. Included amongst these are collaboration with Tongji University in Shanghai, China; the 2nd China-Arab

Countries Women's Forum 2017, held in Beijing in September 2019; the Massachusettes Institute of Technology of USA; and various other regional organisations.

She regularly conducts training and is a recipient of a number of recognitions and awards from within and outside KISR. And, of course, a particularly significant event was Ms. Al Bahar becoming one of the founding members of American Concrete Institute's Kuwait Chapter.











#### Passion for Work

In talking to her, some commendable aspects of this humble scholar clearly come across. There is an undeniable passion for her research work. She is an open-minded team player, mentor and facilitator, and gives sincere credit to her colleagues, associates and junior staff. She constantly reminds us that hers is a career in which her colleagues, co-workers and

assistants deserve full acknowledgement and sincere appreciation. Research, she emphasises, is very much a collaborative process.

Finally, one cannot help admire her absolute love for and devotion to her family of four children. Traveling is a hobby, and she also enjoys music, festivals and cooking, and quietly supports various charitable and social activities.





Ms. Suad Al Bahar receiving the Award of Achievement



# Award of Achievement 2017

At its Annual Awards Banquet held on 7<sup>th</sup> May, 2018, ACI-Kuwait Chapter presented its Award of Achievement for the Year 2017 to a distinguished professional whose life's journey is characterized by a successful career as a civil engineer, researcher and author, technical expert and trainer, forensic engineer and contract law specialist, and as a mediator and arbitrator.

#### The Awardee

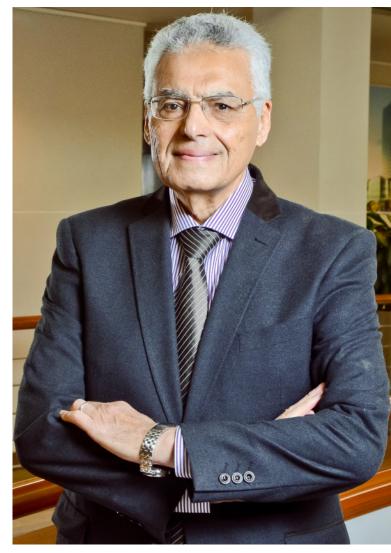
ACI-Kuwait Chapter was proud to present its Award of Achievement 2017 to Mr. Abdulhamid Darwish for his life time contribution towards enhancing professionalism and contract law compliance in engineering practices in the State of Kuwait.

Mr. Darwish's life started in the mid 1930s, on the famous 9th Street in the cozy Cairo suburb of Maadi, a neighbourhood that was home to some of Egypt's great philosophers, poets and politicians. His early schooling was completed during the 2nd World War; and as a young man he witnessed the fall of a king and the start of socialism in Egypt.

Late 1950s and early 1960 were happy years at Cairo University, where his engineering studies were enhanced as a ping pong champion and a long distance swimmer. The B.Sc. Civil Engineering degree he obtained there was followed by a postgraduate diploma in 1964, in Soil Mechanics and Foundation Engineering.

# Early Career and Professional Progress

Following a few years working in Cairo, it was time for professional advancement. In 1970, he came to Kuwait with his wife and child, and through a chance meeting he was introduced to Kuwait Engineering Office. He joined them as a Resident Engineer, and thus began a fruitful and life-long association with what is now one of Kuwait's oldest consulting firms, KEO International Consultants.



Mr. Abdulhamid Darwish





His distinguished career path at KEO was rapidly progressive, as he quickly moved through various increasingly responsible leadership and management positions. After serving as Head of Civil Engineering and Supervision, he became the General Manager of KEO All Plan, a design, testing and surveying subsidiary.

He was thereafter appointed Director of Construction and Administration, and this was followed by other important designations as Deputy Managing Director; Executive Vice President for Special Assessments; and Deputy President. He is currently Deputy to the Chairman.

## Career Highlights

Mr. Darwish's many colleagues at KEO will tell you how good he was and still is as a guide, trainer and mentor.

In late 1980s, while serving as KEO's Deputy Managing Director, he developed an interest in resolving claims, and he soon became a professional witness for the firm.

Following the 1990 occupation of Kuwait and the 1st Gulf War, he was appointed Principal-in-Charge for assessing war damaged projects. This involved preparing design and tender documents for rehabilitating 45 severely damaged building and structures, as well as representing KEO in Kuwaiti courts. This in-depth involvement became the catalyst for his passion for resolving disputes, and their legal implications in engineering and construction practices.

Expertise in dispute resolution was enhanced through vast practical experience, knowledge of the design and construction industry, outstanding analytical ability as well as competence and confidence in conducting negotiations. This, of course, needed effectiveness in communicating complex problems, and he soon developed a well-earned reputation for delivering objective judgements.

His interest in contract law and passion for forensic engineering led to a further post-graduate qualification. A degree in Construction Law and Arbitration, was obtained at Aberdeen Business School, at The Robert Gordon University.

As would be expected, throughout his long career he has completed many in-depth studies and authored various academic papers and publications, some of which have made their way into the Library of Congress in USA.







Maadi, Cairo, 9th Street



## Personality

Mr. Darwish has been and continues to be actively involved in training, an activity that he greatly enjoys. He does this within KEO, at Kuwait University, and through regular webinars for post-graduate students at the Robert Gordon University. He has also prepared technical guides and conducted seminars for ACI-Kuwait Chapter, of which he is founding member.

Mr. Darwish, famously and lovingly known as the 'Fireman' and the 'Silver Fox' for his ability to diffuse disputes and solve problems, is a charming and elegant man who has taken care good of himself. He maintains a regular regime of swimming and walking, and reading is a favorite hobby. His life's philosophy is to keep thinking young and to continue to pursue new interests, whether work related or not.

Needless to say, he is a committed family man who adores his children. They have all achieved success in their own rights: Osama, the eldest is an IT professional in Canada. Dalia, a Masters graduate of Swansea University is with the United Nations and is based in Kuwait; and Inji, who has amazing writing skills, has a Masters degree in graphic design from United Kingdom.





Mr. Abdul Hamid Darwish receiving the award of achievement from His Excellency The minister of Public works, Husam Abdulla Al Roumi



# Interview

Mr. Gian Carlo Parolo is the Founder and General Manager of Index Trading Company. His company was established in 1979, and today it is one of Kuwait's leading specialist firms involved in designing, manufacturing and installing pre-cast, pre-stressed and glass reinforced concrete elements. ACI-Kuwait Chapter recently had a conversation with Mr. Parolo, during which he provided an interesting perspective into the growth of Kuwait's pre-casting industry.

## Coming to Kuwait

Mr. Parolo came to Kuwait in 1977 as a 29 year old Civil Engineering graduate from Italy's Milano University.

He came here representing the Castelli Company, an Italian company specializing in pre-casting. They, in joint-venture with Messers. Mohamad AbdulMohsen Al Kharafi (MAAK), were involved in the construction of the iconic Kuwait Fund Building that had been designed by SOM of New York. Castelli were responsible for fabricating and installing the building's pre-cast cladding and long-span pre-stressed structural members. Kuwait Fund Building was in fact the first major project in the country to extensively utilize pre-cast elements, and it spearheaded further interest in this technology. Kuwait Pre-cast Building Company was the only other such company operating at that time.

After completion of this building, Castelli separated from MAAK, and a new company was formed in 1979, with Mr. Parolo as its founding director. The company had no name, but while still operating under the auspices of MAAK and with equipment from Italy, it commenced work on the pre-cast cladding for Kuwait University's new Faculty Housing project in Shuwaikh Campus.

#### Index Company

Shortly thereafter the new company became Index Trading Company, and its fast growth coincided with the proliferation of the pre-casting industry in Kuwait. In 1982, Index became involved in Muthana Complex, a major town center project that was designed by a Spanish Consultant and was being managed by Kuwait Engineering Office. The building's original



Mr. Gian Carlo Parolo

design was based on in-situ concrete construction, both for its structure and the 10 cms thick bush-hammered cladding. Such in-situ cladding was obviously going to be a difficult operation, with no guarantee of acceptable construction and finishing quality. The developers therefore called in Index to propose a more workable and reliable solution. They suggested that the cladding be changed to precast members and, 36 years on, even today the quality of the building's exterior has not deteriorated.



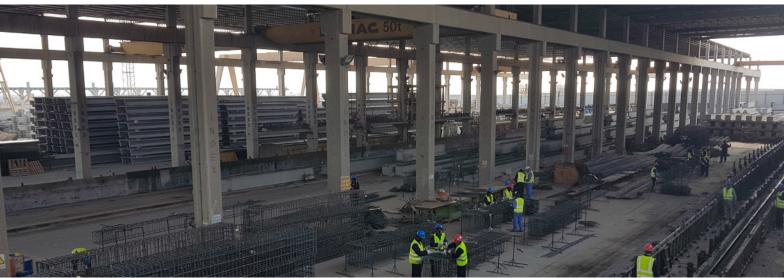
Mr. Parolo believes that this building helped in further solidifying the status of pre-casting as an efficient and effective technology, and making it much more acceptable to consultants and developers. The transition to more common usage of pre-casting in structural design started with car-park buildings in which column free spans of 19-20 m were required. Furthermore, given that the slab design in such buildings is based on repetitive modules, pre-stressed pre-cast beams were an obvious and practical solution. They also had the added advantage of expedited construction.

Quality Assurance

Pre-casting gives assurance of quality and faster completion, albeit at a slight compromise on cost. Mr. Parolo, believes, however that with the experience gained over the past 4 decades, local production capabilities and technical standards are increasing in sophistication, and costs are now fairly comparable to in-situ construction. Also, there is now considerable improvement in the strength, quality and standard of finishes, with much more flexibility in terms of colouring, texturing and resistance to environmental degradation. Index are even designing and fabricating pre-stressed structural members using K350 up to K700 concrete, to satisfy more complex design requirements.

Index Company's 45,000 m² facility is located in Mina Abdulla Industrial Area, and its twelve large-scale production lines and 300 workers are capable of producing over 400 m³ of structural, architectural and grass reinforced concrete pre-cast elements every day. The Company does not itself conduct in-house research, but it remains aware of and takes full advantage of the research and advances being achieved in Europe, North America and other more developed markets. In line with the practices of all well-run companies, Index is concerned about ensuring quality, and invests in the training of its staff.



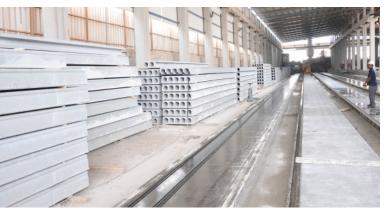




#### Liability and Logistics

ACI-KC asked Mr. Parolo about his experience of working with engineering and design consultants in Kuwait. His answer was understandably diplomatic, that most design firms were quite informed and appreciated the advantages of utilizing this technology. And when the discussion turned to questions of failures and logistics, he explained that while Index would take responsibility for individual members, it is the main design consultants who carry the liability for the structural integrity of the building. In cases where Index are asked to design the entire structural system based on using pre-cast elements, they would appoint an independent consultant to validate their calculations and take statutory liability.

Mr. Parolo emphasises that there is generally no major concern about failures associated with pre-cast components, and their production standards and process are of a calibre and well controlled. Perhaps the only issue is dealing with the rare occurrences of





insufficient spatial tolerances, which then have to be managed at site. This necessitates careful checks at site prior to commencing design and production; and fabrication tolerances are guided by ACI and other applicable codes. He noted, however, that with careful design and production monitoring failures, the need for any on-site remedial measures is not a major problem.

Transportation of pre-cast elements, particularly of large and lengthy components from the factory to work sites, is indeed a critical logistical issue that needs proper management. Large members, such as the 43 m long components made for the Jaber Al Ahmed Cultural Centre, are normally transported at night under Police escort. This, as expected, requires prior coordination with the Police and advance confirmation of transportation routes.

#### The Future

In commenting on the future of the pre-cast industry in Kuwait, Mr. Parolo is confident that this technology will continue to thrive here. This is not only because of the quality and time advantages that pre-casting offers, but also because much more design flexibility is now being achieved through innovations in fabrication and erection processes. Steel-based construction does compete, but it is not necessarily quicker, and when fire protection and labour costs are considered, pre-cast construction tends to be less expensive.

The wide-ranging conversation with Mr. Parolo, who incidentally keeps himself fit with very regular exercise, ended with him reminiscing about his time in Kuwait. He recollects that 43 years ago, Kuwait was a 'small' country with large tracks of empty land within its urbanized areas. There were no major highways and expressways, and although 4th Ring Road existed, it had no bridges. And Pearl Marzouk in Ras Salmiya was at that time the sought-after residential address.

He has professionally and socially enjoyed his long stay in the country and he is, as of now, not thinking of retirement. But when he does retire and return to Italy, he and his family of 3 children, and grand-children, will always have fond memories of Kuwait.



# Technical Activities

A number of technical activities were carried out during 2019. These included collaboration in certification programs and courses; seminars and project presentations; and participation in conferences.

## Certification Programs

ACI-Kuwait Chapter, in collaboration with ACTS conducted two certification programs and courses entitled "Concrete Field Testing Grade 1".

#### Consultants' Projects

As part of the seminar program that was initiated by ACI-KC, in which a seminar-cum-presentation is conducted by a local consulting office on one of their significant or landmark projects in Kuwait,

Dar AI-Jazera Consultants presented the AI-Hamra Project.

The program was held on 12<sup>th</sup> February, 2019 and a large group of members and engineers were hosted at Al-Juhaym Diwan. Guests were welcomed by Eng. Ahmad Al-Juhaym and presentation was made by Mr. Ghassan Al Ghawas.



#### Conference Presentations

ACI-KC partially sponsored the "Hot Weather Concreting Conference" that was organized by ACTS and was held on 30<sup>th</sup> April, 2019 and gave two presentations.

Presentations were made by the Chapter President, Dr. Saud Al-Otaibi; and by the Vice President Dr. Khaldoun Rahal.







# ■ Board of Directors 2019-2020

ACI-Kuwait Chapter's Board of Directors for 2019-2020 was elected and formalized during the Annual General Assembly held on 25<sup>th</sup> June, 2019. The Board of Directors comprises eleven officials who are elected by the Chapter's general membership, after being nominated by the Nomination Committee. The President and the Vice-President serve in their positions for one year. Directors are elected every year to serve three-year terms. The members of the Board of Directors for the year 2019-2020 are:

#### ■ Board of Directors 2019-2020

President Dr. Khaldoun Rahal Vice President Dr. Moetaz El Hawary Past President 1 Dr. Saud Al Otaibi Past President 2 Mr. Aziz Mamuji Past President 3 Mr. Bader Al Salman Director /Treasurer Mr. Abdul Wahab Director/Secretary Mr. Mansoor Rao Director Mr. Ghassan Al Ghawas

Director : Dr. Hassan Kamal
Director : Dr. Zafer Sakka
Director : Ms. Dana Drobiova

#### Executive Committees

The Chapter's affairs and activities are managed and executed by various Committees, which include:

- Technical Committee
- Membership Committee
- Publication Committee
- Social Committee
- Nomination Committee
- ACI-KC Students' Committee

#### Technical Committee

Chairperson: Dr. Moetaz El-Hawary

- Identifying technical topics of interest to Chapter Members and arranging seminars, short courses and workshops on various topics.
- Reviewing and submitting to Chapter Members and ACI International, committee reports on subjects of relevance to Kuwait.
- Reviewing proposed revisions of ACI Standards and submitting comments to the Chapter's Board of Directors for submission to ACI International.
- Serving objectives of the Chapter by organizing training courses and technical workshops.
- Promoting local research and testing programmes to resolve technical issues of importance for durable concrete construction in Kuwait.

#### Nomination Committee

Chairperson: Dr. Saud Al Otaibi

 Nominating individuals who have the interest, leadership qualities and willingness to serve the Chapter, for election to the Board of Directors.



#### Students' Committee

Chairperson: Dr. Moetaz El-Hawary

- Operates under the auspices of the Chapter's Technical Committee.
- Activities are generally in line with ACI-Kuwait Chapter objectives.
- Encouraging student participation in all activities of ACI-Kuwait Chapter.
- Student participation guided and organized by an elected Board of Directors, and sub-committees appointed from within their membership.
- Activities include technical and social events and further information can be found on www.ACIQ8. com.

# Membership Committee

Chairperson: Mr. Mansoor Rao

- Recruiting new individual members and organizations.
- Issuing and renewing membership identity cards.
- Publishing and updating Chapter's membership directory.
- Facilitating interaction amongst members and communicating their concerns to the Board of Directors and other Committees.

#### Publication Committee

Chairperson: Mr. Aziz Mamuji

- Publishing periodic newsletters covering the Chapter's activities and providing general information of use to Chapter members.
- Printing and distributing copies of technical reports to Chapter members, as well as to interested individuals and concerned organisations.
- Preparing reports and Chapter news for publication in ACI's Concrete International magazine.
- Managing the Chapter's Web-site.

#### Social Committee

Chairperson: Eng. Dana Drobiova

- Organizing the Chapter's annual events and programmes for members.
- Organizing field trips to major construction projects and industries.
- Arranging participation of the Chapter in selected national events.

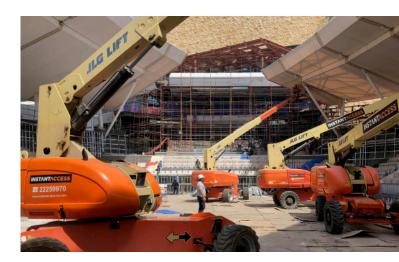


# Social Activities

Site Visit to Sheikh Jaber Al Abdullah Al Jaber Al Sabah International Tennis Complex

A field visit to the construction site of Sheikh Jaber Al Abdullah Al Jaber Al Sabah International Tennis Complex took place on Saturday, 23<sup>rd</sup> March, 2019. The visit was organized by ACI-Kuwait Chapter's Social Committee, which is chaired by Eng. Dana Drobiova.

A large group of ACI-KC members were welcomed by Mr. Amgad Skeik, the Project Manager from Tamdeen Shopping Centers, the developers of the complex. Mr. Skeik commenced the visit with an informative presentation about the project. When completed, the 250,000 m² plus complex will serve as the headquarters of Kuwait Tennis Federation, and will comprise a 5200 seat multi-purpose covered arena; a 1,545 seat centre court; eight open-air courts; 7 indoor tennis courts; 2 squash courts; a tennis academy; a fitness centre; a 5-star hotel; and a large variety of retail and dining outlets. An air-conditioned bridge will connect the complex to the existing 360 Mall.







Sheikh Jaber Al Abdullah Al Jaber Al Sabah International Tennis Complex



The presentation was followed by an extensive tour of the site during which Mr. Skeik explained interesting design aspects and details of the project. ACI-KC wish to thank him and the team from Tamdeen Shopping Centers for conducting this well-organised visit to the tennis complex premises.

#### Annual Dinner

ACI-KC's Annual Dinner for the year 2018 was deferred to early 2019, and was held at the

address by Ms. Dana Drobiova, Chairperson of the Social Committee, and this was followed by a brief presentation on Hycete Technology by the sponsers of the evening. The speeches and

Millennium Hotel on 29th January, 2019.

The function commenced with a welcome

the sponsers of the evening. The speeches and presentation were followed by games and prizes were distributed to the winners. The evening concluded with Ms. Drobiova wishing everyone

well for the New Year and, of course, a great buffet

dinner.









# ACI-KC News

## **Certificates of Appreciation**

At at the Annual Awards Banquet 2018-2019, held on 29th April, 2019 two ACI-KC Board Members who have served the Chapter for more than 20 years were presented with Certificates of Appreciation by Her Excellency Dr. Jenan M. Bushehri, Minister of Public Works. The recipients were Dr. Khaldoun Rahal and Mr. Abdul Wahat Rumani.





Dr. Khaldoun Rahal and Mr. Abdul Wahat Rumani receiving their Certificates of Appreciation

# Press Coverage

The Annual Awards Function held in April 2019 was generally acknowledged as an unqualified success. It received considerable coverage in local newspapers, and some excerpts are reproduced here.





# بوشهري: حريصون على مواكبة العصر في تكنوُّلوجيا «الخرسانة»







في التصميم والإنشا المرتبطة بالخرسانة. وقال إن دورنا كف الكويات منذ بداية عا



للخرسانة، فرع الكوب استكمال استعداداته لأقامة حفل توزيع جوائزه السنوية برعاية وزيرة الاشغال العامة وزيرة الدولة لشؤون الاسكان الدكتورة ج السخال المساعة السابعة مساء غد الاثنين، في مبنى العربية بالشويخ.

وقسال رئيس المعه فرع الكويت، الدكتور أن الجائزة الأولى ستكون شروع المحلى المتميز المعماري والإنشاد . والتنفيذً. وأضاف أنّ الجائزة الثانية للإنجاز



من خلال مسيرتها عطاء متميزا وإبداعا مشهودا، في مجالات ذات علاقة

في تشجيع النطوير التقنم ونشر ثقافة المستجدات فم عالم تكنولوجيا الذ اءات، مض التعليم و المعرفة والتدريد سائه وتجميع و تبادا المعلومات لخدمة تطوير والتصاميم آلمس

من الأشخاص والما

دولية غير ربَّحية تس

رحية سمباني بكافة انواعها في دولية الكويت. ماشيا " واشار إلى أن هذه الجوالم

| كتب علي العلاس |

معهد الذرسانة الأميركي نظم حفله السنوى

لتلبية احتياجات النمو الاقتصادي

جنان: تكنولوجيا الخرسانة ضرورية

www.alraimedia.com

قالت وزيرة الاشتغال وزيرة الدولة لشوون الاسكان جنان رمضان، أن «تكنولوجيا الخرسانة وصناعتها تظهر فى كل ما نراه من ابداعات معمارية باشكالها الفنية المختلفة وإحجامها وارتفاعاتها الشاهقة، اضافة الى تنمية البنى التحتية»، معتبرة أن تكنولوجيا الخرسانة من المستلزمات الضرورية لتلبية احتباحات النمو الاقتصادي

العدد 4106 / الأربعاء 1 مايو 2019م / 26 شعبان 1440هـ

الحكومة الجاد على دعم مثل هذه الانشطة التي تساهم في خدمة وتنمية البلاد. من جانبه، قال رئيس فرع الكويت لمعهد الخَرُسانة الامّيركي سعود العتيبي، إن «المعهد مؤسسة مهنية عَالَميَّة غير ربحية مقرها الاساسى في الولايات المتحده الأميركية وتمتد انشطتها وفروعها، تهدف لتشجيع التطوير التكنولوجي والكفاءة التقنية في التصميم والأنشاءات

المرتبطة بالخرسانة». وأضاف العتيبي: «دورنا في

الجريدة.

local@aljarida.com

# الجراح: علاقاتنا مع السعودية الموري: تطوير البنية التحتية ضرورة للنمو الاقتصادي عميقة في مختلف المجالات

#### بحث تبادل الخبرات الأمنية مع المملكة

أكد نائب رئيس مجلس الوزراء وزير الداخلية الشيخ خالد الجراح أمس الاول عمق العلاقات بين الكويت والمملكة العربية السعودية في مختلف المجالات.

بي تبيين صادر عن الإدارة العامة للعلاقات والإعلام جاء ذلك في بيان صادر عن الإدارة العامة للعلاقات والإعلام الأمني بـ«الداخلية، عقب استقبال الجراح رئيس جامعة الأمير نايف العربية للعلوم الأمنية بالسعودية الدكتور عبد المجيد البنيان، الذي يقوم بزيارة رسمية للبلاد للاطلاع على أحدث المناهج النظرية والعلمية في المجال الأمني والدورات التدريبية

ووفّقًا للبيان، فقد تم التباحث حول سبل تعزيز أوجه التعاون شترك وتبادل الخبرات والمعلومات مع جامعة نايف العربية «التي تُعد منارةً عربيةً في الدراسات والبحوث الأمنية».

من جانبه، أشاد الدكتور البنيان بالمستوى المتميز للمناهج التعليمية والتدريبية للعسكريين والمدنيين في الكويت، مؤكدا صرص السعودية على تبادل الخبرات والمعلومات مع وزارة

الداخلية الكويتية بغية ترسيخ الأمن. حضر اللقاء وكيل وزارة الداخلية الفريق عصام النهام والوكيل المساعد للشوَّون القانونية والبحوث والدراسات اللواء ماجد الماجد والوفد المرافق للضيف.

#### ● سيدالقصاص

أكدت وزيرة الأشغال العامة وزيرة الدولة لشؤون روي ريان بوشهري الإسكان د. جنان بوشهري أن «تكنولوجيا الخرسانة وصناعتها تظهر في كل ما نراه من إبداعات معمارية بأشكالها الفنية المختلفة وأحجامها وارتفاعاتها الشاهقة، إضافة الى تنمية البنى التحتية، فهي من المستلزمات الضرورية لتلبية احتياجات النمو الاقتصادي وتحسين مستوى جودة الحياة في مختلف دول

العالم». وقالت بوشهري، خلال وقالت بوسهري، — ... الحفل التكريمي السنوي لمعهد الخرسانة الأميركي "كست مالذي أقدم مساء " فرع الكويت"، والذي أقيم ما ن الأول تحت رعانتها، إن

المؤسسات العلمية والمهنية والمنظمات الدائدة عالميا اهتمت بصناعة الخرسانة وتطويرها وعمل الأبحاث العلمية التي من شانها مواكبة العصر ومتغيراته، فيما يتعلق بصناعة الخرسانة

وزيرة الأشغال متوسطة الحضور في حفل معهد الخرسانة

رعت الحفل التكريمي السنوئ لمعهد الخرسانة الأميركي

واستخداماتها. و أضافت: «اننا در يصون

على تطوير وتنمية قدرات العاملين في هذا المجال المهني، وتثقيفهم في مجال صناعة الخرسانة، إضافة إلى أن الحكومة حريصة على دعم مثل هذه الأنشطة، وما تساهم فيه من خدمة وتنمية للبلاد». من جانبه، ذكر رئيس معهد

الخرسانة سعود العتيبي أن

المعهد الأميركي للخرسانة مؤسسة مهنية عالمية، تهدف إلى تشجيع التطوير التكنولوجي والكفاءة التقنية ي التصميم والإنساءات رتبطة بالخرسانة. و أوضح العتيبي أن «هذه الاحتفالية خاتمة لأنشطتنا

السنوية، حيث نقدم الحائرة

الأولى لمشروع متميز من حيث التصميم والتنفيذ والادارة، وذلك لم يكن ليتحقق لولا تضافر جهود المشاركين فيه و ابداعهم»، مضيفا أن «الحائرة الثانية نقدمها للشخصيا المتميزة، وتمنح لمن قدم خلال مسيرته عطاء متميزا وابداعا

السياسة

# المحلية

الأربعاء 26 من شعبان 1440هـ - الموافق 1 مايو (أيار) 2019م (السنة 51) العدد (18028)





كرمت الفائزين بجوائز المعهد الأميركي لعام 2018

# بوشهري: جادون في دعم الأنشطة العلمية لصناعة الخرسانة

■ كتب- محمد غانم:

أكدت وزيرة الأشفال العامة وزيرة الدولة لشوون التحك وريود الاستخداد التحكومة وادة في دعم الانتظام العلمية بمجال صناعة الفرسانة والإنشاء والتعمير ،" وفدمة تنمية البلاد بقيادة سمو أمير البلاد سياح الأحمد.

الشيخ صباح الأممد. والقات بوشين في كلمة لها خلال رعايتها وحضورها مثل تكريم المميد الأميزي للفرسانة الظائرين بهوائزه المنوية أول أمس في مقر المنتدوق العربي الإتماء الالتصادي والابتمامي، أن تكاولوبيا الفرسلة ومناعتها تظير في كل مائزاه من لبداعات معملية المكالها المنتج المختلفة وأمجامها ولوتطائبا الشامقة، أضافة الى تتمية البنى التحتية، موكدة أنها من المستازمات لتلبية النمو

ودعت جميع الموسسات العلمية والمهنية والمنظمات الرائدة الى الاقتداء بالصناعة العالمية بكلفة المجالات لمواكبة العصرومتغيراته فيما يتعلق باستخدامات الخرسانة على الخرسانة على مايقوم به من جهود في سبيل تطوير وتنمية قدرات العاملين في هذاالمجال وتثقيقهم في مجال صناعة الغرسانة".

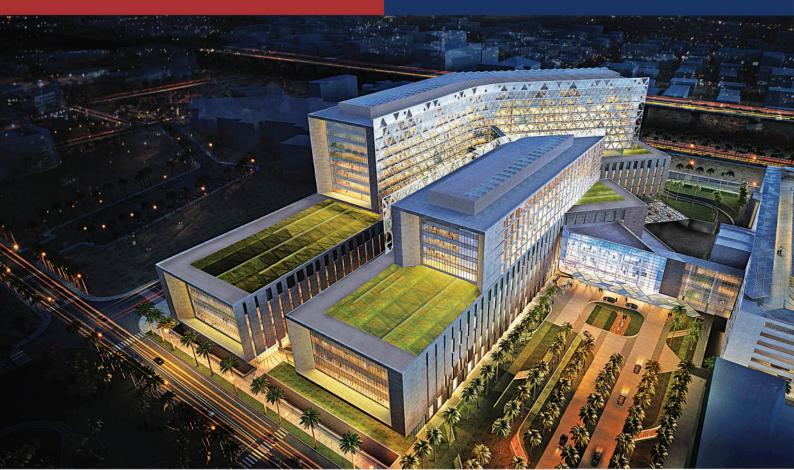
الفرسانة". . يحروه قد رئيس فرع المعيد بالكويت الدكتور سعود العنيس أهمية نشر تظلة المستجدات يتكنولوميا الفرسانة في مجال التصاميم أن جوائز المعيد السنوية تقمم تغيير المشروع المتعين من ميث التحميم والتنفيد والدارة، وترسخ مرس الماليين في المجال على الإبداع، مضيط أن الجائزة الثانية تقدم للشخصية المتميزة التي قدمت غلال مسيرتها عطاء وابداعا مشهودا.



💻 وزيرة الأشغال العامة وزيرة الدولة لشؤون الإسكان د-جنان بوشهري تكرم الفائزين بجوائز معهد الذرسانة

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# Membership

ACI-KC appreciate the support of various Consultants and Companies in Kuwait.















































































