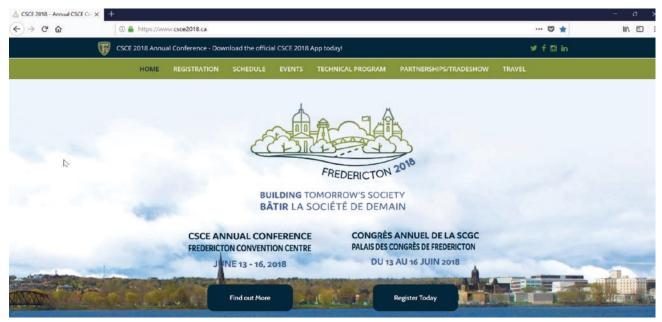
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## 出席 加拿文主尔王强學會 2018年第第 (CSCE 2018) 紀實

張家瑞/資訊委員會委員、鋪面工程委員會委員、國立宜蘭大學建築與永續規劃研究所教授陳世晃/鋪面工程委員會委員、國立中央大學土木工程學系教授兼副系主任

本會議為加拿大土木工程學會(Canadian Society for Civil Engineering, CSCE)2018 年年會(會議網站 https://www.csce2018.ca/,2018 年 6 月 13 ~ 16 日),會 議地點位於加拿大 New Brunswick 省首府 Fredericton 市內的 Fredericton Convention Centre (FCC),包含加拿大總理 Justin Trudeau 及加拿大 Fredericton 省國會議員 Matt Decourcey 皆致大會賀詞歡迎各界蒞臨。本屆會議主題為「建立明日的社會(Building Tomorrow's Society)」,分享有關明日社會中基礎建設的設計、建造和修復等課題的最新技術與研究成果,包含土木工程、建築、環境、材料、自然災害、結構和運輸等主題,提供與會者擴大專業技術知識的機會,並能與來自世界各國的專業人士建立社群網絡。

本屆會議除年會本身的 General Conference 外, 按往例與 6th International Structural Specialty、6th International Disaster Mitigation Specialty、7th International Materials Specialty、12th International Transportation Specialty、16th International Environmental Specialty 共五大研討會聯合舉辦,大會另於6月13日安排整天的 Envision 軟體(應用於包含機場、橋梁、水壩、綠色基礎建設、碼頭、發電廠、道路、水資源處理設施等所有類型基礎建設的永續及韌性評估)付費教育訓練及認證課程。除正規的議程規劃外,大會更精心安排學生的競賽及授獎活動,包含 National Civil Engineering Design CAPSTONE Competition、National Student Chapter Leaders Workshop、Student Paper Competitions、Student Awards Luncheon等。本屆會議收錄來自783位作者的365篇論文,安排於87個口頭簡報場次(Technical Sessions)進行發表:



會議網站(https://www.csce2018.ca/)

- General Conference: 26 個場次,共發表 109 篇論文
- 6th International Structural Specialty: 23 個場次,共發表 94 篇論文
- 6th International Disaster Mitigation Specialty: 7 個場次,共發表 32 篇論文
- 7th International Materials Specialty: 16 個場次,共發表 63 篇論文
- 12th International Transportation Specialty: 8 個場次, 共發表 35 篇論文
- 16th International Environmental Specialty: 7 個 場次,共發表 32 篇論文

大會邀請多位學有專精的教授和產業專家,針對 基礎建設相關課題進行深入且精闢的專題演講,年會 部分邀請到的四位專題講者及講題如下:

Alan Perks

Past President of the CSCE and leader of the CSCE President's Task Force on Accessibility

講題: Interactive Panel Discussion - "What Lies Ahead?"

• Don Rusnak MP

Parliamentary Secretary to the Minister of Indigenous Services

講題:Infrastructure Challenges Facing Indigenous Communities

• B.F. Spencer, Jr.

Nathan M. and Anne M. Newmark Endowed Chair of Civil Engineering, University of Illinois at Urbana-Champaign

講題:State-of-the-Art and Practice for Monitoring of Bridge Infrastructure in the USA



於 Fredericton International Airport 機場與抵達貴賓合影(右四 為 Prof. Susan L. Tighe, President of CSCE)

Gaëtan Thomas

President and Chief Executive Officer of NB Power 講題: NB Power Commitment to First Nations' Engagement: Key to Future Successful Projects and Economic Development

此外,7th International Materials Specialty 邀請到的四位專題講者及講題如下:

Michael Thomas, Ph.D., P.Eng., FACI, FICT
 Professor at Department of Civil Engineering, University of New Brunswick

講題:Achieving 100-Year Design Life for Reinforced Concrete in Aggressive Marine Conditions

Mansour Solaimanian, Ph.D., P.E.
 Senior Research Associate, Geotechnical and Materials
 Engineering Director of the Northeast Center of
 Excellence for Pavement Technology, Pennsylvania State
 University

講題:A Look into Thin Asphalt as a Tool for Pavement Preservation

• Shamim A. Sheikh, Ph.D., P.Eng, FACI, FCSCE. FEIC, FCAE

Professor, Department of Civil and Mineral Engineering, University of Toronto

講題: Seismic Upgrade of Concrete Structures with External FRP

Sina Varamini, Ph.D., P.Eng
 McAsphalt Industries Limited, Toronto, ON

講題: Effect of Asphalt Binder on the Long-Term Pavement Performance



開幕典禮: Prof. Susan L. Tighe 致詞 (President of CSCE (2017-2018))

大會亦提供展覽攤位,以下為 15 個參展的學研機構及廠商:

- CHI (https://www.chiwater.com/Home)
- CPCI (http://www.cpci.ca/)
- CSCE (https://csce.ca/)
- CSCE 2019 (http://csce2019.ca)
- Kryton (https://www.kryton.com/)
- Mageba (http://www.mageba-group.com/en/)
- McMaster University (https://www.eng.mcmaster.ca/civil)
- Measurand (http://www.measurand.com/)
- OSCO Construction (http://www.oceansteel.com/)
- Reinforced Earth (http://www.reinforcedearth.ca/ta/wRE-CO\_en.nsf)
- S-Frame (https://s-frame.com/)
- SNC Lavalin (http://www.snclavalin.com/en/index.aspx)
- Soleno (https://soleno.com/)
- T2 Utility Engineers (http://www.t2ue.com/)
- V-Rod (http://www.vrodcanada.com/)

大會安排兩處工程參觀,一為 Mactaquac Dam,另一為 Kings Landing。Mactaquac Dam 是加拿大大西洋沿岸第二大水力發電廠,發電量為 653 MW,約佔 New Brunswick 省電力需求的 15%,80 年代早期大壩的混凝土發生鹼砂反應(alkali-silica reaction, ASR)開始破壞,迄今每年花費數百萬美元減緩膨脹並延長結構使用壽命。Kings Landing 則是加拿大有名的遺址景點,該遺址保存 1820~1920 年間 300 英畝原始的博物館房屋、超過 70,000 件工藝品及超過 40 個各式展品,遺址內還包括一個花費 380 萬美元翻修的 19 世紀大壩。



Kings Landing 工程參觀,圖為經翻修後的 19 世紀大壩



大會展場

加拿大土木工程學會現任理事長為 Prof. Susan L. Tighe (2017 ~ 2018), Prof. Tighe 為 Department of Civil & Environmental Engineering, University of Waterloo 教 授,也擔任該校 Deputy Provost and Associate Vice-President, 負責 Integrated Planning and Budgeting, 並擔 任校級研究中心 Centre for Pavement and Transportation Technology (CPATT) 的 Norman W. McLeod Chair。 Prof. Tighe 的學術及專業領域包含 Sustainable pavement engineering and management . Long life infrastructure . Application of asset management to highway and airport operations 'Designing and building safer roads and airfields \Life cycle economic analysis as a tool for infrastructure management and evaluating materials > Solar technology in roads and pavement infrastructure 等。 國內社團法人中華鋪面工程學會(Chinese Society of Pavement Engineering, CSPE) 與 Prof. Tighe 有多年的 研究合作及友情,其也曾多次來臺提供專題演講及 實務經驗的交流指導,此次很榮幸獲其邀請,投稿 "Unsaturated Polyester (UP) Resin Mixed with Aggregates as the Surface Course for Permeable Pavements" (安排於 Bituminous, Pavement and Geotechnical Materials 場次發 表 ) 及 "The Influence of Asphalt Rheological Behavior and Durability of Recycled Asphalt Concrete under High Viscosity RAP and High Addition"(安排於 Panel Discussion: Building Tomorrow's Society through Improving the Quality of our Roads 場次發表)兩篇論文並親赴參與 CSCE 2018 盛會。本學會王炤烈理事長特委託攜帶親筆 簽名之信簽及賀禮,祝賀 Prof. Tighe 及 CSCE 2018 大會 順利成功, Prof. Tighe 接獲信簽及賀禮立即表達由衷感 謝之意,並特別於專題演講前向所有貴賓及與會者宣達 本學會祝賀之意,順利完成兩學會間的友誼交流。



與專題講者之一 Dr. B.F. Spencer, Jr. (Nathan M. and Anne M. Newmark Endowed Chair of Civil Engineering, University of Illinois at Urbana-Champaign) 合影



兩位作者代表學會王炤烈理事長致贈 Prof. Susan L. Tighe 祝賀信簽及茶葉禮盒



## 中國土木水利工程學會

Chinese Institute of Civil and Hydraulic Engineering

Add: 4P, No. 1, Sec. 2, Ren' ai Rd., Zhongaheng Dist., Taipei City 103, T AlWAN Tel: +886-2-2392-6325 Fac+886-2-2396-4280 E-mail: public@tiche.erg.tw

To: Prof. Susan Tighe.

President of Canadian Society for Civil Engineering (CSCE)

From: Mr. Jaw-Lieh Wang

President of Chinese Institute of Civil and Hydraulic Engineering (CICHE)

Dear Prof. Tighe,

I am glad to hear Prof. Jia-Ruey Chang & Dr. Shih-Huang Chen are invited by CSCE to attend the annual conference and present their papers. Currently, Prof. Chang and Dr. Chen are teaching in National Ilan University and National Central University, respectively. Prof. Chang is the member of CICHE Information Technical Committee. Both Prof. Chang and Dr. Chen are the members of CICHE Pavement Engineering Committee. Their expertise is not only in information technology applied in engineering but also in highway engineering and management. We are very honor to have them as our members.

CICHE is the professional society civil and hydraulic engineers and scholars in Taiwan, and has very close interaction with ASCE (American Society of Civil Engineers), JSCE (Japan Society of Civil Engineers), KSCE (Koran Society of Civil Engineers), MACE (Mongolian Association of Civil Engineers) and all other members from ACECC (The Asian Civil Engineering Coordinating Council), we often joint each other's annual meeting and hold the international conference together to exchange the scholar research, experiences of engineering design and construction, and training our young engineer global view.

It is our sincere wish that in the future CICHE can have the opportunity to invite CSCE to joint our international conference and/or visit you to exchange the researches or experiences. So please allow me to ask Prof. Chang and Dr. Chen give you CICHE brief introduce and a small gift, and hope we can have the opportunity to meet each other in the near future.

Sincerely yours,

Dong. I Lik

Jaw-Lich Wang, P. Eng. President of CICHE

本學會王炤烈理事長祝賀信簽

本屆會議主題為「建立明日的社會(Building Tomorrow's Society)」,首位專題演講講者、也是 CSCE 前理事長 Alan Perks(1998-1999)主持的 Interactive Panel Discussion中,對於明日的社會提出「What Lies Ahead?」的討論議題,引發許多與會者不同的迴響,包含「Sustainability, Social Justice, & Accessibility(永續性、社會正義、可及性)」、「Sustainability, Resilience, & Avoidance(永續性、韌性、災害及風險規避力)」等皆是與談人提出的思考方向,而此正符合國內積極推動之「前瞻基礎建設計畫」,包含建構安全便捷的「軌道建



專題演講: Alan Perks (Past President of the CSCE)

設」、因應氣候變遷的「水環境建設」、促進環境永續的「綠能建設」、營造智慧國土的「數位建設」、加強區域均衡的「城鄉建設」、「因應少子化友善育兒空間建設」、「食品安全建設」、和「人才培育促進就業建設」共八項建設的方向,亦與本學會民國 106 年年會暨 2017 土水國際論壇(民國 106 年 12 月 1、2 日)之「建構永續工程、培養永續工程師(Sustainability of Civil Engineering in Practice and Professional Development)」的年會主題相吻合。此外,本屆會議亦揭示土木工程應逐步聚焦於跨領域、跨專業、跨規模之連結性(connectivity)課題,並應正視明日的社會對土木工程帶來如下之挑戰,提供國內土木水利工程先進參考。

Paradigm	Old	New
Problem	Few, big, urgent     Common to majority     Clear	<ul><li>Plethora, small-scale, distant in time</li><li>Differ by societal segment</li><li>Connectivity</li></ul>
Solution	• Technical • Single, robust investment • Simple	<ul> <li>Change institutions, behaviours, culture</li> <li>Distributed investments, experiment</li> <li>Complex</li> </ul>

下屆 CSCE 2019 (會議網站 http://csce2019.ca/, 民國 108 年 6 月 12-15 日 ) 將於 Montréal 的 Sheraton Laval and Convention Centre 舉辦,與會人員相約 CSCE 2019 見!



相約 CSCE 2019 於 Montréal 見!

