

THE UNIVERSITY OF BRITISH COLUMBIA



CURRICULUM VITAE **NEMKUMAR (NEMY) BANTHIA** University Killam Professor

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Brief Bio

Nemkumar (Nemy) Banthia is a University Killam Professor at The University of British Columbia, Civil Engineering Department. He is a Distinguished University Scholar and former Canada Research Chair in Infrastructure Rehabilitation and Sustainability. Dr. Banthia's primary area of research is in Sustainable Concrete Infrastructure with an emphasis on nano-modified fiber reinforced composites, ultra-high performance concrete materials, waste recycling, fracture analysis, earthquake strengthening and sensor based structural health monitoring.

In 2012, Dr. Banthia spearheaded the India-Canada Centre for Innovative Multidisciplinary Partnerships to Accelerate Community Transformation and Sustainability (IC-IMPACTS)—a Research Centre of Excellence—as its Scientific Director and CEO. This Canada-India Center is funded by both Canadian and Indian Governments and has launched over 100 joint Canada-India Research Projects. It has over 50 participating universities, 160 collaborating companies and 260 faculty members receiving research support. Over 1000 PhD students have graduated from the program.

A mentor to many, Dr. Banthia has graduated over 75 Masters and PhD students and has mentored 12 post-doctoral fellows and research associates. He holds 9 patents, has published over 525 refereed papers, and has edited more than 20 volumes. He serves on the Editorial Boards of six international journals and is the Editor-in-Chief of the *J. of Cement and Concrete Composites*— a journal with a 2023 Impact Factor of 10.8 (with a 2023 CiteScore of 18.7). This is the Journal with the second highest impact factor in the domain.

His awards include the *Wason Medal* of American Concrete Institute, *Solutions Through Research Award* of the BC Innovation Council, *Wolfson Merit Award* of the Royal Society of the UK, *Killam Research Prize* from the Killam Foundation, *Horst Leipholtz Medal* of the Canadian Society for Civil Engineering, *Mufti Medal of Excellence* of the International Society for Health Monitoring of Infrastructure, *Leadership in Science and Technology Award* of the Drishti Foundation, *Industry Marvel Award* of the Darpan Society and *Global Citizenship Award* of alumni-UBC. In 2018, Visvesvaraya National Institute of Technology recognized him with Excellence in Technology and Innovation Award. In 2020, IIT-Delhi recognized him with a Distinguished Alumni Award for Contributions to Teaching and Research. More recently, in March 2022, Dr. Banthia received the *Jacob Biely Faculty Research Prize* which is regarded as UBC's premier award for research across all disciplines. More recently, Dr. Banthia received the *Dean's Medal of Distinction* from the Faculty of Applied Science, UBC. In 2023, UBC appointed Dr. Banthia as the *University Killam Professor*, which is the highest honor UBC can confer on a member of its faculty. In its 110 year history, UBC has appointed only 27 University Killam Professors. In April 2024, the BC Achievement Foundation announced Dr. Banthia as the 2024 Community Award recipient. The award honours British Columbians who devote their time and energy to making their communities more caring, dynamic, beautiful, resilient, and inclusive.

Dr. Banthia is a fellow of the American Concrete Institute, Canadian Society for Civil Engineering, Indian Concrete Institute, Canadian Academy of Engineering (CAE), Indian National Academy of Engineering (INAE), and the Royal Society of Canada. He is one of Top 25 'Most Cited in the field of Construction & Building Materials' as per Platinum H- Index.

THE UNIVERSITY OF BRITISH COLUMBIA

**Curriculum Vitae for
Nemkumar (Nemy) Banthia**

Faculty of: Applied Science
First submission: October 1992
Department or school: Civil Engineering

Date of most recent
revisions or verification of
Curriculum Vitae by faculty
member (please initial):

June 10, 2025

NpBanthia

1. BIOGRAPHICAL DATA

Name: Nemkumar Banthia
Present rank: University Killam Professor and Distinguished University Scholar

2. EDUCATION

a) Post-Secondary Education

University or Institution	Degree	Dates
Nagpur University, India	Bachelor of Engineering	1980
Indian Institute of Technology, New Delhi	Master of Technology in Structural Engineering	1982
The University of British Columbia, Canada	Doctor of Philosophy in Civil Engineering Materials	1987

b) Special Professional Qualifications (e.g. Internships, Residences, Specialty Board)

Professional Training

- 1978: Siporex Ltd., Bombay, India (at their high-rise construction site in Bombay using SIPOREX blocks)
- 1979: Gannon Dunkerley, Pune, India (at their sewage treatment plant site in Pune)

c) Titles of theses written for graduate degrees (indicate the degree; name and title of main supervisor for each)

Degree	Title	Name and Title of Main Supervisor
MS	Optimization of Transmission Line Towers	Prof. M. Ragupati, IIT, New Delhi, India
PhD	Impact Resistance of Concrete	Prof. S. Mindess, UBC, Vancouver, BC, Canada

d) Academic awards and distinctions (prior to final degree)

- American Concrete Institute WG Heslop Award: 1983–84; 1984–85; 1985–86; 1986–87
- UBC Graduate Fellowship: 1982–87

3. PROFESSIONAL EMPLOYMENT RECORD AND TEACHING

a) Teaching, professional or research positions held prior to UBC appointment

University, Company or Organization	Rank or Title	Dates
Amrapali Structures*, New Delhi, India	Design and Project Engineer	1980–82
<i>*This is a leading Indian company with projects in the Middle East and Southeast Asia. I was involved in their transmission line tower design and, later, in the execution of a 6 km oil pipeline for Indian Oil Corporation.</i>		
University of British Columbia, Vancouver, BC, Canada	Research & Teaching Assistant	1982–87
Laval University, Quebec, Canada	Attaché de recherche	1987–92

b) Appointment at the University of British Columbia

Date of first appointment	January 1, 1992
Rank at which first appointed	Associate Professor
Subsequent Ranks Including Dates of Promotion:	Professor: July 1, 1997 Distinguished University Scholar: July 1, 2003 Sr. Canada Research Chair in Infrastructure Rehabilitation and Sustainability: June 1, 2006 University Killam Professor: January 10, 2023
Date of Granting of Appointment without Term:	July 1, 1994

c) Teaching

i) Teaching Loads

Session	Course Number	Class Size	Hours Taught/Week			
			Lectures	Tutorials	Labs	Other
Fall 1989	GCI64443*	12	3	0	0	0
Fall 1990	GCI64443*	16	3	0	0	0
Fall 1991	GCI64443*	11	3	0	0	0
Spring 1992	CIVL 220	~100	3	0	4	0
Fall 1992	CIVL 320	~100	3	0	4	0
Spring 1993	CIVL 321	~110	Project course		5	5**
Spring 1993	CIVL 220	~100	3	0	4	0
Spring 1993	CIVL 445	~100	Project course		0	5***
Fall 1993	CIVL 220	~100	3	0	4	0
Fall 1993	CIVL 320	~100	3	0	4	0
Spring 1994	CIVL 321	~110	Project course		5	5**
Fall 1994	CIVL 220	~100	3	0	4	0
Spring 1995	CIVL 321	~110	Project course		5	5**
Spring 1995	CIVL 528	8	2	0		
Spring 1995	APSC 262	~125	3	4	0	0
Fall 1995	CIVL 528	9	2	0	0	0
Spring 1996	CIVL 321	~110	Project course		5	5**
Spring 1996	APSC 262	~125	3	4	0	0
Fall 1997	CIVL 320	~100	3	0	4	0
Fall 1997	CIVL 528	4	2	0	0	0

Session	Course Number	Class Size	Hours Taught/Week			
			Lectures	Tutorials	Labs	Other
Spring 1997	On Sabbatical					
Fall 1998	CIVL 420	21	3	0	0	0
Fall 1998	CIVL 445	~100	Project Course			5***
Spring 1999	CIVL 527	5	2	0	0	0
Spring 1999	CIVL 321	~100	Project Course		5	5**
Fall 1999	CIVL 420	21	3	0	0	0
Fall 1999	CIVL 528	6	2	0	0	0
Spring 2000	CIVL 220	103	2	0	4	0
Spring 2000	CIVL 321	~100	Project Course		5	5**
Fall 2000	CIVL 527	8	2		0	0
Spring 2001	CIVL 220	103	2		0	4
Spring 2001	CIVL 321	~100	Project Course		5	5**
Fall 2001	CIVL 527	10	2		0	0
Spring 2002	CIVL 529	10	2		0	4
Spring 2002	CIVL 321	~100	Project Course		5	5**
Fall 2002	CIVL 527	10	2		0	0
Spring 2003	CIVL 529	10	2		0	4
Spring 2003	CIVL 322	~100	Project Course		5	5**
Fall 2004	CIVL 527	11	2		0	0
Spring 2005	CIVL 322	~100	Project Course		5	5**
Spring 2005	CIVL 529	10	2		0	4
Fall 2005	CIVL 527	7	2		0	0
Spring 2006	CIVL 529	5	2		0	4
Spring 2006	CIVL 322	120	Project Course		5	5**
Spring 2007	CIVL 529	11	2		0	4
Spring 2007	CIVL 322	124	Project Course		5	5**
Spring 2008	CIVL 529	5	2		0	4
Spring 2008	CIVL 322	120	Project Course		5	5**
Spring 2009	CIVL 322	140	Project Course		8	8**
Spring 2010	CIVL 322	140	Project Course		8	8**
Fall 2010	On Sabbatical					
Spring 2011	On Sabbatical					
Fall 2011	CIVL 529	15	2		0	4
Spring 2012	CIVL 322	140	Project Course		5	5**
Fall 2012	CIVL 529	15	2	0	0	5**
Fall 2013	CIVL 529	14	2	0	0	5**
Fall 2014	CIVL 529	18	2	0	0	5**
Summer 2015@	CIVL 322S	33	Project Course		10	10**
Fall 2015	CIVL 529	8	2	0	0	5**

Session	Course Number	Class Size	Hours Taught/Week			
			Lectures	Tutorials	Labs	Other
Spring 2016	APSC 598G****	32	3	0	0	5**
Summer 2016@	CIVL 322S	34	Project Course		15	10**
Fall 2016	CIVL 529	18	2	0	0	5**
Summer 2017@	CIVL 322S	28	Project Course		15	10**
Fall 2017	CIVL 529	24	2	0	0	5**
Summer 2018@	CIVL 322S	40	Project Course		15	10**
Summer 2018@	CIVL 422S	10	Project Course		15	10**
Fall 2018	CIVL 529	28	2	0	0	5**
Summer 2019@	CIVL 322S	20	Project Course		15	10**
Summer 2019@	CIVL 422S	16	Project Course		15	10**
Summer 2019@	CIVL 225L	15	Project Course		15	10**
Fall 2019	CIVL 529	17	2	0	0	5**
Fall 2020	CIVL 529	14	2	0	0	5**
Spring 2021	CIVL 446	48	0	4	0	0
Fall 2021	CIVL 529	14	3	0	0	0
Fall 2022	CIVL 529	13	3	0	0	0
Fall 2023	CIVL 529	18	3	0	0	0
Summer 2024@	CIVL 225S	15	Project Course		15	10**
Summer 2024@	CIVL 322S	12	Project Course		15	10**
Fall 2024	CIVL 529	8	3	0	0	0

* Graduate course at Laval University entitled "Mechanical Properties of Concrete"

** Office/Online meetings with student groups

*** Coordination, organization and meetings with student groups

**** Project Course in Sustainable-Building Science

@ Vancouver Summer Program, Students come from around the world to take courses at UBC

ii) Teaching Philosophy

I have a very simple teaching philosophy: students learn best when they find that the teacher is excited about the topic, the course material is interesting, and the information presented is relevant to their professional needs. Towards the latter, I have attempted to bring in as many practice-oriented issues in my courses as possible (including undergraduate courses) and invite many designers, practitioners, contractors, entrepreneurs, and consultants to speak to our students. I keep my courses simple and relevant and my expectations from the students realistic and reasonable. **In student evaluations for the last five years, I have mostly scored 3.8/4.0 on the question on instructor effectiveness.**

iii) Contributions to Continuing Education

Through seminars and other events, I have attempted to contribute towards the continuing education of practicing engineers, graduate students at UBC and other institutions, business personnel, and technicians. I have delivered over 50 such seminars in the last five years alone. In addition, I have been involved in organizing special sessions/workshops at conferences and conventions and have played an active role in organizing training sessions and students competitions (for example, I have been the faculty advisor at UBC for Concrete Toboggan Races and for the American Concrete Institute's FRP competition; both were winners). I initiated the Fiber Reinforced Concrete Bowling Ball Competition at the American Concrete Institute in 2005 for which I was nominated as the **Mentor of the Year**. Finally, I have been actively involved in the Co-Op program at UBC and was given the **Award of Special Recognition** by Applied Science Co-Op office in 2004.

iv) Specific Contributions to Teaching in the Last 30 Years

CIVL 322: Project Based Learning in Civil Engineering Materials: This is a problem based project course where students in groups of 7-8 carry out a project with the aim of studying a specific problem related to materials performance in structures. I initiated the course in its present form. I also introduced the idea of the end-of-the-term *Poster Presentation*, to which practicing engineers are invited to review the projects and judge them for awards. While this provides the practicing engineers with a first-hand look at our activities, it also gives the students much needed practical feedback on their projects. Often, this interaction has led to jobs for our students with local and national companies.

CIVL 527: Specialized Concretes: This graduate course is offered with practicing engineers and other personnel from the cement and concrete industry in mind. The course looks at special cement-based materials that are fast replacing traditional normal density, low strength concrete in the construction industry. More specifically, high strength concrete, fiber reinforced concrete, lightweight concrete, shotcrete, polymer-modified concrete, soil-cements, roller-compacted concrete, etc., are discussed.

CIVL 529: High Performance Materials in Repair and Rehabilitation of Civil Infrastructure: This graduate course introduces various high performance materials available for repair and rehabilitation, discusses various types and analyses of repairs and present case studies. Discussion is focused on condition assessment, use of non-destructive techniques the use of high performance plain and fiber reinforced concrete and shotcrete, fiber reinforced polymer laminates, wraps, jackets and sprayed composites in repair, strengthening and retrofit of structures. Topics also include: economic factors in repair decisions and case studies. Some site visits are also carried out.

CIVL 220 (Civil Engineering Materials-I) and CIVL 320 (Civil Engineering Materials-II) are the two basic materials courses where I have introduced a number of new ideas and interesting lab activities. In particular, I have made a consistent attempt to invite engineers from the industry to address our students on topics related to industrial production, processing and treatment of traditional and new materials. I have also made a conscious attempt to provide an understanding of the various constraints facing an engineer (including economics) which govern his/her choice of material for a given application. In addition, I strived to provide the students with suitable exposure to the on-going research in civil engineering materials worldwide so that they are fully informed of the emerging technologies.

CIVL 420 (Concrete Technology) is a fourth year u/g elective. Specific topics include: cement chemistry, use of supplementary cementing materials such as fly-ash, silica fume, and blast-furnace slag in concrete, etc., use of chemical admixtures, non-destructive testing, accelerated testing and durability.

CIVL 446 201 (Web-Oriented) is a fourth year Civil Engineering Design Project course focusing on the students' ability to integrate and applicate previously acquired knowledge and skills to find design solutions for a multi-disciplinary civil engineering design project.

CIVL 528 (Advanced Topics in Concrete Technology) is both a practical look at concrete and the new industrial trends and an understanding of its complex fracture behavior through the eyes of an academic. This course is becoming popular with graduate students from other specialties and departments and also with practicing engineers who want to update themselves with regards to new trends in supplementary cementing materials (such as silica fume, fly ash, blast furnace slags, etc.), high performance concrete, fiber reinforced concrete and polymer modified concrete.

APSC 262 (Technology and Society), through a series of invited lectures and tutorials, the students get to debate on the various issues facing society as related to technology. In particular, discussions are held on such issues as reproductive technologies, population explosion and other third world issues, self-sufficiency in food, legal and moral dilemmas of abortion, etc.

d) Principal University and Department Service Responsibilities

Department of Civil Engineering	
TA and Marker assignments for the Department of Civil Engineering	1993–94, 1994–95, 1995–96
Students Awards Assignments	1993–94, 1994–95, 1995–96
Curriculum Committee	1999–2000
Curriculum Committee Chair	2000–01, 2001–02, 2002–03
Group Leader, Materials Group,	1997–2002, 2004–
Member Comprehensive Exam Review Committee	2004–05
Member ARPT Departmental Subcommittee	2004–05

Chair, ARPT Departmental Subcommittee	2005–06
Materials Faculty Search Committee	2005–06
Chair Awards and Honors Committee	2006–08
Department Space Committee	2009–12
3 rd year Advisor	2009–10
Department Hiring Committee	2011–14
Department Awards Committee (Member)	2011–15
Department Salary Review Committee	2011–12
Materials Faculty Search Committee	2013–14
Ad-Hoc Committee on Faculty Hiring	2013
Department Appointments/Re-Appointments/ Promotions/Tenure Committee	2013
Faculty Search Committee: Materials	2014
Awards Committee	2014–16
Department Awards Committee	2016–18
Chair of IRC Hiring Committee	2017
Department Faculty Merit and PSA Review	2017
Chair, Department of Civil Engineering—Environmental Engineering Faculty Search Committee	2019–20
Chair, Department of Civil Engineering Awards Committee	2019–
Chair, Department of Civil Engineering Large Grants Committee	2019–
Executive Committee	2019–
Associate Head (Research)	2023–24
Faculty of Applied Science	
Killam Teaching Prize Committee Committee Chair	1998–99, 1999–2000, 2000–01 2001–02
FORE Faculty Outreach on Research and Education) Event Committee	1998–99
Search Committee for Selection of Head for Metals & Materials Engineering Department	1999–00
Search Committee for Head of Civil Engineering	2002–03
Director, Faculty of Applied Science Office of International Initiatives	2008–14**
APSC Committee on Honors and Awards	2009–11**
APSC TG on Strengthening the Relationship with the Industry; Chair: Prof. Salcudean	2009–11
Faculty Awards Committee	2015–
Faculty First Nations Engagement Committee	2016–
Member of Steering Committee, UBC-TEBO Group of the Clean Energy Research Center, Faculty of Applied Science	2022–23
University	
UBC-UGF Committee	1995
UBC Committee for Selection of Distinguished University Scholar	2003–04
UBC Senate - UBC Senate Admissions Committee - UBC Senate Curriculum Committee - UBC Senate Library Committee	Sept 2005–08 Sept 2005–06 Sept 2006–07 Sept 2007–08

UBC Internal Committee for Canada Research Chair Review and Selection, 2 full-day meetings per year	2006–
Search Committee for Dean of Applied Science	2008
UBC Regional Advisory on India; Chaired by VP Research	2006–18
UBC Committee of International Faculty Advisors; Chaired by VP Research	2009–15
India Advisor to VP Research	2011–17
UBC Distinguished University Scholar Selection Panel	2017
UBC CFI Internal Review Panel	2017
UBC Centre for India and South Asia Research, Executive Committee	2017
UBC GCRC Review panel	2017
Board of Directors – Center for Indian and South Asian Research (CISAR)	2015–2022
UBCO Search Committee for Canada Excellence Research Chair (CERC) in Resilient Infrastructure and Disaster Response	2022–2023
UBC Search Committee for UBC Chancellor	2023-25

e) **Record of leaves of absence (indicate dates, duration, type of leave, and whether paid or unpaid)**

University, Company or Organization at which leave was taken	Dates
National University of Singapore, Singapore Civil Engineering Research Institute, Sapporo, Japan Bekaert Corporation, Zwevegem, Belgium	Jan. 1 1997 to June 30, 1997
National University of Singapore, Singapore Kagawa University, Japan Institution of Engineers, India	July 1, 2003 to June 30, 2004
National University of Singapore Indian Institute of Technology, Chennai	July 1, 2010 to June 30, 2011

4. ACADEMIC AND PROFESSIONAL AWARDS AND DISTINCTIONS

Award or Distinction	Dates
Hokkaido Development Bureau (Japan): Research Award for Foreign Specialists	1993–94
Science and Technology Agency (Japan): Visiting Fellowship	1996–97
Science and Technology Agency (Japan): Visiting Foreign Specialist Award	1998–99
American Concrete Institute: Wason Medal for Meritorious Materials Research	1997
ASCE's Journal of Composites in Construction: Best Paper Award	2000
Natural Sciences and Engineering Research Council of Canada: Synergy Award for Most Innovative Product (Finalist)	2001
American Society of Civil Engineers: Earth Science Systems Research Award (Best Paper)	2001
American Concrete Institute: Structural Engineering Research Award for Paper: CFRC Permanent Formwork for the Steel Free Bridge Deck (Finalist)	2001
Innovation & Science Council of BC: Frontiers in Science Award	2002
University of British Columbia: Appointed Distinguished University Scholar	2003
Innovation & Science Council of BC: Solutions through Research Award	2003

Award or Distinction	Dates
Business in BC Magazine: British Columbia's Top 25 Innovators	2004
UBC Engineering Co-Op Program: Faculty Recognition Award for Outstanding Mentor	2004
Korean Concrete Institute: Distinguished Researcher Award	2004
Appointed Tier I Canada Research Chair in Infrastructure Rehabilitation & Sustainability	2006-20
Special Honoric Session organized at International Conference on Sustainable Construction Materials and Technologies, Coventry, UK	2007
UBC: President's Award for Public Education through Media (Finalist)	2008
Natural Sciences & Engineering Research Council of Canada: Discovery Accelerator Supplement	2008-12, 2013-18
Royal Society of the United Kingdom: Wolfson Merit Award	2011
Killam Foundation, Canada: Killam Research Prize	2012
Canadian Society for Civil Engineering: Horst Leipholtz Medal	2012
Int. Soc. For Structural Health Monitoring of Intelligent Infrastructure (ISHMII): Aftab Mufti Medal	2013
Int. J. of Civil Structural Health Monitoring: Best Paper Award [Paper in 1:25-35, 2011]	2013
American Concrete Institute: Special Commemorative Conference organized Honour, Mumbai, India	2015
Drishti Canada: Award for Innovations in Science and Technology	2015
Global CSR Foundation: World CSR Excellence Award	2017
Darpan Canada: Industry Marvel Award	2017
Global Nagpur Summit: Global Nagpuri Star Award	2017
Global Nagpur Summit: Award in Science and Technology (Award given by Hon. Nitin Gadkari)	2017
Alumni UBC: Global Citizenship Award	2018
American Concrete Institute: Award to Recognize Service to Concrete Industry at 3 rd Raikar Memorial International Conference, Mumbai, India	2018
Visvesvaraya National Institute of Technology: Alumni Awards – Excellence in Technology & Innovation	2019
Katerva: Sustainable Innovation Award in Materials, Resources and Water category (Finalist)	2019
9 th Int. Conference on Concrete Under Severe Conditions – Environment & Loading, CONSEC2019, Porto Alegre, Brazil: Best Paper Award: (Shared with Dr. Negar Roghanian)	2019
IIT-Delhi: Distinguished Alumni Award for Teaching and Research	2020
Drishti: Special Award for Strengthening Canada-India Bond through Science	2020
Jacob Biely Faculty Research Prize at UBC	2022
APSC Dean's Medal of Distinction	2022
University Killam Professor	2023-
BC Achievement Foundation – 2024 Community Award (given by Lt. Governor of BC)	2024
IIT Alumni Canada-Distinguished Alumnus Award	2024

5. FELLOWSHIPS AND MEMBERSHIPS

Fellowship and Memberships	Dates
Engineers and Geoscientists British Columbia (Professional Chartered Engineer)	Since 1992
Elected Fellow of American Concrete Institute	2003
Elected Fellow of Canadian Academy of Engineering	2004
Elected Fellow of the Indian Concrete Institute	2004
Elected Fellow of the Canadian Society for Civil Engineering	2006
Fellow of the Royal Society of Canada* <i>This is the highest academic honor in Canada.</i>	2011
Elected Fellow of the Indian National Academy of Engineering	2020
Senior Fellow under the PAIR Fellowship Scheme of The Hong Kong Polytechnic University	2024
Woh Huo Fellowship, Government of Singapore @ National University of Singapore	2024-26

6. PROFESSIONAL ACTIVITIES

a) Areas of special interest and accomplishment in discipline

- Cement-based materials and their fiber reinforced composites. This is my primary area of research.
 - Developed a family of fibres for reinforcing Portland cement-based materials. Seven patents issued.
 - Pioneered research in microfiber reinforced cement composites for civil applications. Significant worldwide research activity followed this pioneering effort.
 - Shotcrete, fiber reinforcement, rebound mechanics, optimization. One patent issued.
 - Pioneering work in the development of Eco-Friendly Ductile Cementitious Composites (EDCC) for seismic strengthening. EDCC was used for seismic retrofit of Jamieson Elementary School in November 2017.
 - Ultra-High Performance Concrete (UHPC) – I Coauthored a 508-page Routledge- CRC Book on this topic, the book appeared in Feb 2, 2024.
- Development of experimental techniques
 - Techniques for static and impact testing of cement-based materials, permeability measurements and interface characterization. Several techniques have been adopted by ASTM (C1399, C1609, C1506)
- Fiber Reinforced Polymers:
 - Use of fiber reinforced polymers (FRPs) in new construction and repairs. Developed an entirely new technique of repair using sprayed fiber reinforced polymers. (Articles on this technique appeared in several dailies in Victoria and the Vancouver Sun and the Globe and Mail on Sept 10, 2001, in The Canadian Geographic, Nov–Dec 2001 issue, in New Scientist, October 20, 2001 issue, YesMag, March–April 2002 issue, and another 10 or so international publications including the National Herald of London). The techniques earned the Innovation and Science Council of BC's Solutions Through Research Award in 2003.
 - Durability of FRPs
- Nano-Technology in Functional Materials
 - Pioneering work in the development of cement-based sensors using carbon fibers and double-walled nano-tubes for chemical and strain sensing in concrete structures for structural health monitoring purposes.
 - Development of novel and recycled materials for internal curing in concrete including nano-cellulose
- Carbon-Neutral Concrete
 - Use of waste materials, post-consumer waste products, recycled aggregate and supplementary cementing materials including high reactivity metakaolin in concrete and shotcrete. Development of net-zero concrete materials with bulk of recycled products such as recycled tires, geopolymers

b) Membership in professional and learned societies (including any offices held, committee memberships, etc.)

Society Name	Title or Office	Dates
American Concrete Institute	Committee 544 on Fiber Reinforced Concrete Secretary Chair Chair of TG on Special Projects and Fund Raising	member since 1987 1996–2002 2002–08 2008–11
	Committee 549 on Thin Sheet FRC	member since 1990
	Committee 440 on Fiber Reinforced Plastics	member 1992–99
	Committee 446 on Fracture Mechanics	member since 1989
	Committee 506 on Shotcrete	member since 1996
	Committee 130 on Sustainability Chair of Sub-Committee on ‘Effects of Global Climate Change on Concrete Structures	2013–
	International Advisory Committee (IAC)	2021–
RILEM (Paris)	Committee on Life Time Performance	1987–90
	Committee on Strain Softening	1993–97
	Committee on Test and Design with Steel Fiber Reinforced Concrete	1999–2003
	Committee on Early Age Shrinkage	2000–03
	Committee on HPFRCC	2003–15
	Chair of Committee on FRP-Concrete Interfaces in Repair and Strengthening	2003–15
fib	Committee 8.3 on Fiber Reinforced Concrete	2010–
American Society for Testing and Materials (ASTM)	Committee C09.42 on Fiber Reinforced Concrete	1994–
	Chair of Task Group on Shrinkage Testing C09.42	2000–07
Canadian Society of Civil Engineers (CSCE)	Chair of Materials Division	1996–2002
	Technical Sub-Committee on ACM	since 1991
	Honorary Treasurer	2003–2005
American Society of Civil Engineers (ASCE)	Member	1991–96
	International Advisory Committee for CRSIDE 2020	2019–
Society for Experimental Mechanics	Member	1988–99
Industry Canada — ACMBBS (Advanced Composite Materials for Bridges and Structures) Network	Board of Directors	1991–97
	Head of Task Group on FRP Durability	1993–97
International Institute for FRP in Construction:	On the Council	2003–2018
	Treasurer	2003–08
	Chair of Technical Subcommittee on Durability	2003–2017

Society Name	Title or Office	Dates
CSA: Canadian Highway Bridge Design Code (CHBDC):	Member of Technical Subcommittee on Advanced Composite Materials	1992–
International Society for Structural Health Monitoring of Intelligent Infrastructure (ISHMII)	On the Council	2006–
Canadian Council for Innovation (CCI — Sponsored by Canada Construction Association — Chair Don Whitmore)	On the Steering Committee	2012–2017
ISIS Canada Network Association	President	2011–15
The Fonds de recherche du Québec – Nature and Technologies (FRQNT)	Visiting Committee Expert, Evaluation Committee	2019–
Technology Information, Forecasting & Assessment Council (TIFAC) – DST India	Member of the Steering Committee on ‘Self-Healing Roads’	2020–2022

c) Professional service and experience (consultancies, professional committees, commissions, conferences, visiting professorships, invited lectureships, etc.)

i) *Research Management / Proposal Review Committees*

Network of Centers of Excellence ISIS (Intelligent Sensing of Innovative Structures; www.isiscanada.com)	
Research Management Committee This committee met five times a year and steered the research of this NCE.	2001–10
Theme Leader: Theme 2: Materials and Innovative Structures This theme was one of four themes within this NCE and had fifteen project leaders from thirteen universities. The annual budget of ISIS was approximately 3.2 million and that of Theme 2 was about \$1 million.	2004–10
Durability Committee (Chair)	2005–10
Committee for Development of Guidelines for Product Certification of FRP Materials as Internal Reinforcement in Concrete	2007–10
Committee on Life Cycle Engineering	2006–10
Committee on Development of Guidelines for Repair of Concrete Structures Reinforced with FRP	2008–09
Committee on Education	2006–10
President of ISIS Canada Network Association This is post NCE-ISIS Association responsible for technology transfer.	2011–16
Network of Centers of Excellence: Canada India Research Center of Excellence (IC-IMPACTS) India-Canada Centre for Innovative Multidisciplinary Partnerships to Accelerate Community Transformation and Sustainability (www.IC-IMPACTS.com)	
CEO and Scientific Director	Nov. 2012–

Chair: Research Management Committee This committee meets six times a year and steers the research of this NCE.	2012–
Theme Leader: Safe and Sustainable Infrastructure This theme is one of three themes within this NCE and has a five-year budget of about \$10 million.	2012–
<p>In 2012, I coauthored the successful NCE Proposal for IC-IMPACTS with University of Alberta and University of Toronto.</p> <p>I led the effort to bring Indian Government as a full financial contributor in 2014.</p> <p>In November 2016, I led a successful extension to 2021. Then in February 2020, I led a successful extension of IC-IMPACTS to 2025.</p>	

- Natural Sciences and Engineering Research Council (NSERC) Review:
 - On average two proposals for NSERC Discovery Grant per year. Also, reviewer for NSERC Collaborative R and D Grants and Grants from International Opportunities Fund (since 1987)
 - Member Site Visit Committee to review NSERC Industrial Research Chair Proposal of Prof. Brahim Benmokrane of University of Sherbrook (2000, 2006, 2010, 2014)
 - Member, Site Visit Committee to review NSERC Industrial Research Chair Proposal of Prof. Jacques Marchand at Laval University (2006, 2010)
 - Chair, Site Visit Committee to review NSERC Industrial Research Chair Proposal of Prof. Kamal Khayat of University of Sherbrook (2007, 2014)
 - Chair, Site Visit Committee to review NSERC Industrial Research Chair Proposal of Prof. Doug Hooton University of Toronto (October 2008, January 2015)
 - Member, Site Visit Committee to review NSERC Industrial Research Chair Proposal of Prof. Ammar Yahia, University of Sherbrook (April 2016)
 - NSERC Vanier Scholarship Selection Committee (2010–13)
 - NSERC Vanier Scholarship Program Evaluation Committee (2013–15)
 - Chair of Selection Committee for NSERC-OCE TargetGHG Collaborative R&D Program. The \$12 million funding is available through a collaboration between Ontario Centres of Excellence (OCE) and Natural Sciences and Engineering Research Council of Canada (NSERC). Adjudication of 8 proposals March–June 2017; Final meeting July 16–18, 2017 to select the winners
 - Chair of Ad Hoc Review Committee for NSERC Alliance Grant Proposal entitled “Innovative fibre-reinforced polymer (FRP) composite materials for sustainable concrete infrastructure” NSERC Application Number ALLRP 550723 – 20. With \$3.3 million total funding (2020).
 - Member of NSERC Alliance Society Selection Panel (2022-)
- National Science Foundation (USA) Panel on Proposal Review (1995, 2002, 2021)
- Member International Advisory Panel: Institute of Sustainability and Innovation in Civil Engineering (ISISE), Portugal (2007–14). One site visit per year.
- Member of Site Visit Committee for appraisal of graduate program in Civil Engineering at the Royal Military College of Canada, Kingston, March 2007. Review carried out for Ontario Council for Graduate Studies (OCGS)
- Canada Foundation for Innovation review of proposals (one or two per year since 2002)
- FORMAS (Swedish Research Funding Agency): Reviewed two proposals for the program “Support for Strong Research Environments” in 2004
- Research Grants Council of Hong Kong: Reviewed on an average five proposals per year for the last ten years (seven proposals in 2009–10, five in 2010–11, seven in 2011–12, five in 2012–13, four in 2013–14, seven in 2015–15, two in 2015–16, three in 2016–17, four in 2017–18, four in 2018-19, three in 2019-20, four in 2024-25)
- Proposal Review for The Academy of Finland – Research Council for Natural Sciences and Engineering (two proposals in Feb 2010)

- Quebec – Fonds de recherche sur la nature et les technologies (Program: etablissement de nouveau chercheur ; reviewed one every year)
- Quebec–Projet de recherche en équipe du Fonds 15pprox.15s de la recherche sur la nature et les technologies (FQRNT) Review of proposals in the area of 15ppro civil, construction, bâtiment béton—6 proposals in Feb 2010
- Quebec–Projet de recherche en équipe du Fonds 15pprox.15s de la recherche sur la nature et les technologies (FQRNT); Member of visiting Panel to review Centre de Recherche Universitaire Sur La Infrastructure en Beton (CRIB), Feb 2017
- Member of Review Panel for National Research Foundation, South Africa, (2010–)
- Member of Prime Ministers Review Panel for the Competitive Research Program (CRP) of the National Research Foundation of Singapore. CRP award is for a maximum of S\$10 million per program (2010–17)
- Reviewer for Czech Science Foundation (2013–), seven to ten proposals per year
- Member of Visiting Committee (2014–19) for Evaluation of Department Civil and Environmental Engineering at the National University of Singapore
- Member of the Graduate Review Committee (2017–18), for evaluating the programs offered at the Faculty of Engineering, the University of Alberta
- Chair of NSERC-OCE Target GHG Project Selection Committee. Target GHG is a joint program between Natural Sciences and Engineering Research Council of Canada and Ontario Centers of Excellence with \$7 million total available funding. The Selection Committee met July 16–18, 2017 in Toronto.
- Member of the Natural Sciences and Engineering Research Council of Canada (NSERC) External Reviewer for Discovery Grants (2018–19)
- Member of the Review Committee (2019) for the New Frontiers in Research Fund (NFRF) – Exploration Competition, Ottawa, Canada, March 25–26, 2019
- Member of International Visiting Committee for Evaluation of Department Civil and Environmental Engineering at the Seoul National University, SNU, commissioned by the President of SNU (2019 – 2020)
- Continuing member of the Int Advisory of Dept of Civil and Environmental Engineering at the Seoul National University (2019 –)
- Departmental Academic Advisor (DAA) for Department of Architecture and Civil Engineering at City University of Hong Kong. (2019 – 2024)
- On the Advisory Board of the Centre for Infrastructure and Project Management (CIPM) at IIM-Nagpur (2021 – 2024)
- On the Selection Committee of the NSERC Alliance Option 2 Grant (2022 – 2027)
- Chair of Visiting Committee to Assess the Academic Program at IIT-Delhi, India, Dept of Civil Engineering, March 2025.
- Chair of Visiting Committee to Assess the Traffic Research and Injury Prevention Center (TRIPC) at IIT-Delhi, India, March 2025.

ii) Editorships/Editorial Boards

- Associate Editor of American Society of Civil Engineers, J. of Materials in Civil Engineering (1995–2013)
- On the Editorial Board of Cement and Concrete Composites (UK), published by Elsevier (2000–12)
- On the Editorial Board of Journal of the Indian Concrete Institute (2001–07)
- On the Editorial Board of ASTM Journal of Testing and Evaluation (JOTE), (2006–)
- On the Editorial Board of Bentham Science—Open Materials Science Journal (2009–2016)
- On the Editorial Board of the Indian Concrete Journal (2009–2015)
- On the Editorial Board of Praise Worthy Prize’s International Review of Civil Engineering (IRECE) (2010–2015)
- On the Editorial Board of Materials Sciences and Applications (MSA), Scientific Research Publishing, USA (2010–2018)
- On the Editorial Board of International Journal of Sustainable Materials and Structural Systems (IJ-SMSS), Inderscience Publishers (2010–)
- Associate Editor of Canadian Journal of Civil Engineering (2011–12)

- Associate Editor of International Journal of GEOMATE, Japan (2011–16)
- On the Editorial Board of Scientific World Journal, Hindawi Publishing Corporation (2012–)
- Co-Editor, Advances in Concrete Construction, Techno-Press, (2013–15)
- **Editor-in-Chief, Cement and Concrete Composites (UK) published by Elsevier (2013–): This has been one of the most rewarding experiences since 2013. Since I assumed the role of Editor-in-Chief, the Impact Factor of the journal has increased from 2.24 (2013) to 10.8 (2023).**
- On the Editorial Board of Journal of Sustainable Cement-based Materials, Science Citation Index Expanded (SCIE), (2020–)
- Honorary Editor of Journal of Architecture, Structures & Construction, Springer Nature Publishing (2020–)

iii) Award Selection Committees

- Member, Gzowski Medal Selection Committee of the Canadian Society for Civil Engineering (2007–10)
- Chair, Horst Leipholtz Medal Selection Committee of the Canadian Society for Civil Engineering (2007–10)
- Member, Thompson Award Selection Committee of the American Society for Testing and Materials (ASTM) (2006–09)
- Chair, Best Student Paper Award (Silver Medal) Selection Committee, Protect 2009 Workshops, Hayama, Japan
- Fellowship Selection Committee Canadian Academy of Engineering (2005–07)
- Manning Innovation Award Reviewer 2016
- Fellowship Selection Committee of Royal Society of Canada (2016–18)

iv) Other Review Activities

Journals (About 40 Papers per Year): I am a regular reviewer for the following Journals:

- J. of Smart Materials and Structures
- ACI Structural J.
- Cdn J. of Civil Engineering
- J. of Cement and Concrete Composites UK
- ASTM J. of Testing and Evaluation
- ASCE J. of Engineering Mechanics
- ASCE J. of Structural Engineering and
- ASCE J. of Composites in Construction
- J. of Materials Science
- J. of Measurement Science
- ACI Materials J.
- Concrete International
- J. of Society for Experimental Mechanics
- Int. J. of Fracture
- J. of Cement and Concrete Research
- ASCE J. of Materials in Civil Engineering
- RILEM J. of Materials and Structures
- J. of Advanced Concrete Technology (Japan)
- Construction and Building Materials

Chair / External Examiner for PhD and MAsC Theses (only a representative list)

PhD theses:

- (Chair) Hossein Zargamezhad, Characterization of Powder-Based Pipeline Coating Systems in Wet Environments, University of British Columbia, 2024.
- Xu Lingyu, High-Strength Engineered Cementitious Composites Incorporating Artificial Geopolymer Fine Aggregates, Hong Kong Polytechnic University, 2022.
- Kequan Yu, Ultra-High Performance Engineered Cementitious Composites (UHP-ECC) – Mechanical Behavior Of Material And Structural Members, Hong Kong Polytechnic University, 2019.
- Shakeel Ahmad Waseem, Shear Friction in RCS Concrete, IIT-Roorkee, India, 2017.
- Xiao Yao, Dynamic Behavior of Reinforced Concrete Slabs under Rapid Loading and Low Velocity Impact, Nanyang Technological University, Singapore, 2016.

- Satadru Das Adhikary, Dynamic Behavior of Reinforced Concrete Beams under Varying Rates of Concentrated and Impact Loadings, Nanyang Technological University, Singapore, 2013.
- N Shajil, Shape Memory Alloy Fiber Reinforced Cement Mortar for Self-Centering and Ductility in Concrete Structures, Indian Institute of Technology, Madras, 2012.
- Wu Jun, Development of advanced pavement materials system for blast load, National University of Singapore, Singapore 2012.
- Lado Riannevo Chandra, Early Age Shrinkage Monitoring of High Performance Cementitious Mixtures using Monolithic and Composite Prism Specimens, National University of Singapore, Singapore, August 2011.
- Kum Yung Juan, Cracking Mode and Shear Strength of Lightweight Concrete Beams, National University of Singapore, Singapore, April 2011.
- Myat Marlar Hlaing, Characteristics of Structural Lightweight Concrete under Short Term Loading, National University of Singapore, Singapore, March 2011.
- Ali Akbarnezhad, Microwave Assisted Production of Aggregate from Demolition Debris, National University of Singapore, Singapore, July 2010.
- Mr. Radhakrishna, Development of Methods of Reproportioning of Fly Ash Based Composites, Visvesvaraya Technological University, Belgaum, India, November 2009.
- Shweta Goyal, Strength and Durability Studies on Silica Fume Concrete, Thapar University, India, March 2009.
- Daneti Saradhi Babu, Mechanical and Deformational Properties, and Shrinkage Cracking Behaviour of Lightweight Concretes, National University of Singapore, Singapore, November 2008.
- Xiaosong Xiao, Fracture Mechanics of Masonry, Dept. of Civil Engineering, University of Calgary, Alberta, Canada, October 2008.
- Lim Hwee Sin, Structural Response of Light weight Concrete Beams in Flexure, National University of Singapore, Singapore, January 2008.
- Ajay B. Yeri, Ductility Improvement of Rectangular Columns using Fiber Reinforced Polymer Composites, Indian Institute of Technology, Bombay, India, March 2006.
- Seow Puay Eng, A Unified Failure Criterion for Normal, High Strength and Steel fiber Reinforced Concrete, National University of Singapore, Singapore, November 2005.
- Robyn Warnock, Flexural Behaviour of RPC Beams, University of New South Wales, Australia, December 2005.
- Hao Junbao, Structural Behavior of Precast Component Joints with Loop Connection, The National University of Singapore, Singapore, April 2004.
- Ehab Shaheen, Innovative CFRC Anchors, University of Calgary, Alberta, Canada, February 2004.
- Santosh Sundararajan, Effect of Hard Impact on Steel Concrete Steel Concrete Composite Sandwich Plates, National University of Singapore, Singapore, September 2003.
- S. Shahidi, Long Term Bond Between FRP and Concrete, Department of Civil and Geological Engineering, University of Saskatchewan, Canada, May 2003.
- Ayman Mohamed Samir Kamel, Experimental and Numerical Analysis of FRP Sheets Bonded to Concrete, University of Alberta, Canada, October 2002.
- Nora Maria de Patta Pillar, Determination of Early Age Properties of Fiber Reinforced Shotcrete to Predict the Cracking Behavior, The University of New South Wales, Australia (Second examination Feb. 2003)
- Zhao Pengjun, The Split Hopkinson Pressure Bar for Testing Concrete and Steel Fiber Reinforced Concrete, Nanyang Technological University, Singapore, September 2002.
- Tan Kuang Leong, Development of An Industrialized Ferrocement Housing System, The National University of Singapore, Singapore, September 2002.
- Cai Lu, Quantitative Relationship Between Permeability and Pore Structure of Cement Paste and Mortar, Nanyang Technological University, Singapore, March 2002.
- Zhang Jing, Prepacked grouting in concrete construction, The National University of Singapore, Singapore, March 2002.

- Nora Maria de Patta Pillar, Determination of Early Age Properties of Fiber Reinforced Shotcrete to Predict the Cracking Behavior, The University of New South Wales, Australia, Feb. 2001.
- Lu Hairong, Tensile Strain Capacity and its Application in Evaluation of Thermal Cracking, National University of Singapore, Singapore, April 2000.
- M.A.K. Basheerkhan, Impact Behavior of Fiber Reinforced Cementitious Composite Slabs, National University of Singapore, Singapore, May 2000.
- Xu Wenyu, Shotcrete in Repairs, National University of Singapore, Singapore, January 2000.
- Wong Sook Fun, Ingress of Chlorides in Concrete, National University of Singapore, Singapore, 1998.

Masters theses:

- MASc thesis: Safer Abbas, Analytical Study of Corroded Steel-FRP Confined Concrete Bond under Fatigue Loading, School of Engineering, UBC-Okanagan, BC, Canada, May 2010.
- Reviewed promotion/tenure cases, an average of six–seven per year for institutes such as Queens University; City College of the City University of New York, USA; University of Manitoba; Arizona State University, USA; Technion Israel; Universitat Sains Malaysia; American University in Cairo; Ben-Gurion University of the Negev, Israel; University of California, Berkeley; University of Waterloo; University of Calgary, National University of Singapore, etc.
- Pre-publication review of books for E and E F and SPON (2000, 2002, 2010)

v) Consulting

Company/Location	Date	Company/Location	Date
Consultant to Kureha Corporation, Japan	1990–95	Buckeye Technologies	2005–14
Bekaert Corporation, Belgium	1990–	Propex Group	2005–09
Novocon International, USA	1991–	Lafarge Concrete	2006
Mitchell Fibercon, USA	1991–92	BASF Switzerland	2007
Harex Steel Fiber, Germany	1991–92	Wildcrete Industries International	2006–10
Shimizu Corporation, Japan	1994–95	Bayland LLC	2009–14
Synthetic Industries	1995	Optiment Concrete Products USA	2009-17
S.K. Industries	1995	Kinematics Pasedena CA	2010
W.R. Grace & Co.	1995	Ministry of Advanced Education, Saudi Arabia	2010
3M Corp.	1996–98	Friesen Floors Abbotsford	2009–10
Recon Building Products	1995–97	ABC Polymer Industries, USA	2009–10
Dupont	1996	Reliance Industries India	2010–15
Schleuderbetonwerk AG, Switzerland	1996	Eng-Tech, Winnipeg	2010–14
TrefilArbed, Luxembourg	1998	Lindsay Kenny LLP	2012–13
Conoco	1999	Canpotex	2012–13
University of Delaware	1999	Hatch Mott McDermott	2012–13
Canadian Standards Association	1999–	Canfor Pulp Ltd	2013–17
Hall Harbor Port Authority	1999	TransLink	2014–15
DOW Chemicals	2000–04	Atlantis Holdings, Inc.	2014–

Polymer Group Inc.	2000	Performance Biofilaments	2015–
Tricon Concrete Finishing Company	1999–2021	Liberty Tire	2014–16
Weyerhaeuser Corporation	2002–06	Tire Stewardship BC	2015–20
Intertech Group	2003–04	Dow Chemicals	2017–19
PSI Technologies	2003–04		

vi) *Conference Involvement*

Year	Position	Conference
1991	Organizing Committee	1 st University-Industry Workshop on Fiber Reinforced Concrete, Québec, Canada
1995	Chairman	2 nd University-Industry Workshop on Fiber Reinforced Concrete and Other Advanced Composites, Toronto, Ontario
1998	International Scientific Committee	Rilem International Conference on The Interfacial Transition Zone in Cementitious Composites, Haifa, Israel
	Technical Committee, Vice-Chairman	CONSEC '98 – 2 nd International Conference on Concrete Under Severe Conditions, Troms, Norway
1999	Member, Scientific Committee	HPFRCC 3 – High Performance Fiber Reinforced Cement Composites, Mainz, Germany
	International Scientific Committee	International Conference on Infrastructure Regeneration and Construction; Improving the Quality of Life Through Better Construction; A Vision for the Next Millennium, Sheffield, UK
2000	International Scientific Committee	ACUN-2 International Composites Meeting: Composites in the Transportation Industry, Sydney, Australia
	Scientific Committee	5 th Rilem Symposium on Fibre-Reinforced Concretes, Lyon, France
2001	Technical Advisory Committee	International Conference on Engineering Developments in Shotcrete, Hobart, Tasmania
	Technical Committee, Chair	CONSEC 01 – 3 rd International Conference on Concrete Under Severe Conditions, Vancouver, Canada
	Technical Committee, Member	Second International Conference on Engineering Materials, San Jose, USA
2002	International Scientific and Engineering Committee	1 st International Workshop on Structural Health Monitoring of Innovative Civil Engineering Structures, Winnipeg, Canada
	Organizing Committee, Chair; Steering Committee	6 th International Conference on Short and Medium Span Bridges, Vancouver, Canada
2003	International Advisory Committee	International Conference on the Performance of Construction Materials in the New Millennium, Cairo, Egypt
	International Committee, Deputy Chair; Scientific Committee, Member	HPFRCC-4 International Workshop on High Performance Fiber Reinforced Cement Composites, Ann Arbor, Michigan, USA
	Scientific and Technical Committee	International Symposia on Celebrating Concrete: People and Practice, Dundee, Scotland
	International Scientific Committee	INCONTEST – 2003 International Conference on Recent Trends in Concrete Technology and Structures, Coimbatore, India
	International Steering Committee	SHIMII 2003 – 1 st International Conference on Structural Health Monitoring and Intelligent Infrastructure, Tokyo, Japan
2004	Organizing/Technical Committee	International Symposium on Advances in Concrete Through Science and Engineering, Evanston, Illinois, USA
	Technical Committee, Co-chair Steering Committee, Member	CONSEC 04 – 4 th International Conference on Concrete Under Severe Conditions, Seoul, Korea

Year	Position	Conference
	Scientific Committee, Member	Rilem International Symposium on Environment-Conscious Materials and Systems for Sustainable Development, Koriyama, Japan
	International Scientific Committee	BEFIB 2004 – 6 th Rilem Symposium on Fibre Reinforced Concrete (FRC), Varena, Italy
	International Scientific and Engineering Committee	Second International Workshop on Structural Health Monitoring of Innovative Civil Engineering Structures, Winnipeg, Manitoba, September 22–23, 2004
	International Scientific and Engineering Committee	CSHM, North American and Euro Pacific Workshop on Sensing Issues in Civil Engineering, Hawaii, November 10–13, 2004
2005	Steering Committee, Co-Chair Technical Committee, Co-Chair	Third International Conference on Construction Materials: Performance, Innovations, and Structural Implications, ConMat'05, Vancouver, August 22–24, 2005
	Organizing Committee, Co-Chair	International Workshop on Innovative Bridge Deck Technologies, Winnipeg, April 14–15, 2005
	International Scientific Committee	Int. Workshop on HPFRCC, Hawaii, May 22–26, 2005
	International Scientific Committee	International Symposium on Bond Behavior of FRP in Structures, December 8–10, 2005, Hong Kong
	International Scientific Committee	ISISSI ⁻ 2005 International Symposium on Innovation & Sustainability of Structures in Civil Engineering-Including Seismic Engineering
2006	Organizing Committee	ECF16 (16 th European Conference of Fracture), Democritus University of Thrace, Greece
	Organizing Committee	Shotcrete for Underground Support, Engineering Conferences International, Whistler, September 12–16, 2006
	International Scientific Committee	Inter. Conference on Civil Engineering Infrastructure Systems, Lebanon, 2006
	International Scientific Committee	Seventh International Congress on Civil Engineering (7 th ICCE) May 8–10, 2006, Tarbiat Modarres University (TMU), Tehran, Iran
	Technical Committee	International Conference on Resource Utilization and Intelligent Systems, Perundurai (Erode), India, January 4–6, 2006
	Technical Committee	7 th International Conference on Short & Medium Span Bridges Montreal, Québec, Canada, August 23–25, 2006
	Scientific Committee	Ferrocement and Thin Reinforced Cement Composites, Ferro-8, Bangkok, February 6–8, 2006
	International Advisory Committee	3 rd Int. Conference on FRP Composites in Civil Engineering, Miami, Florida, USA CICE2006, December 13–15, 2006
2007	Scientific Committee	12 th International Congress on the Chemistry of Cements, Montreal, July 8–13, 2007
	Technical Committee, Co-chair Steering Committee, Member	CONSEC 07 – 5 th International Conference on Concrete Under Severe Conditions, Tour, France, June 4–6, 2007
	International Advisory Committee	Sustainable Construction Materials and Technologies, Coventry, UK, June 11–13, 2007

Year	Position	Conference
	International Advisory Committee	2 nd Int. Conference on Recent Advances in Composite Materials, New Delhi, India, February 20–23, 2007
	International Technical Committee	Int. Conf. on Forensic Engineering: Failure Diagnosis and Problem Solving, Mumbai, India, December 6–9, 2007
	International Scientific Committee	The International Symposium on Innovation & Sustainability. Of Structures in Civil Engineering (ISS'2007), Beijing, China, November 17–19, 2007
	Co-Chair, Steering Committee	PROTECT2007, First International Workshop on Performance, Protection & Strengthening of Structures under Extreme Loading, Whistler, August 20–22, 2007
	International Scientific Committee	6 th International Conference, on Fracture Mechanics of Concrete and Concrete Structures, Catania, Italy, June 17–22, 2007
	Chair International Committee	Int. Workshop on High Performance Fiber Reinforced Cement Composites, HPRCC 5, Mainz, Germany, July 10–13, 2007
	Co-Chair, Organizing Committee	The 3 rd International Conference on Structural Health Monitoring of Intelligent Infrastructure November 14–16, 2007, Vancouver, British Columbia, Canada
2008	International Technical Committee	Int. Conf. on Sustainable Concrete Construction, Ratnagiri, India, February 8–10, 2008
	Technical Committee	Canadian Conf. on Effective Design of Structures, McMaster Uni, May 20–23, 2008
	International Advisory Committee	4 th Int. Conference on FRP Composites in Civil Engineering (CICE-08), Zurich, 2008
	Scientific Committee	Interdisciplinary Workshop on Rockfall Protection June, 23–25, 2008, Morschach, Switzerland
	Scientific Committee	Advances in Civil Engineering (ACE2008), Gazimagusa, North Cyprus, Turkey, September 15–17, 2008
	International Advisory Committee	7 th RILEM Int Symposium on Fiber Reinforced Concrete, BEFIB2008, Chennai, September 17–19, 2008
	International Scientific Committee	5 th Int. Conf. on Advanced Composite Materials in Bridges and Structures, Winnipeg, Canada, September 22–24, 2008
	Scientific Committee	1 st International Conference on Microstructure Related Durability of Cementitious Composites held in Nanjing, China, 2008
2009	Advisory Committee	PROHITECH 2009 International Conference “Protection of Historical Buildings by Reversible Mixed Technologies”, Rome, June 21–24, 2009
	Scientific Committee	4 th Int'l Conf. on Structural Health Monitoring of Intelligent Infrastructure, Zurich, Switzerland, July 22–24, 2009
	Steering Committee	PROTECT2009, 2 nd Int. Workshop on Performance, Protection & Strengthening of Structures under Extreme Loading, Hayama, Japan, August 19–21, 2009
	Co-Chair	ConMat'09, 4 th Intl Conference on Construction Materials: Performance, Innovations and Structural Implications, Nagoya, Japan, August 24–26, 2009

Year	Position	Conference
	International Scientific Committee	ConcreteLife09, 2 nd Int. RILEM Workshop on Concrete Durability and Service Life Planning, Haifa, September 7–9, 2009
	International Scientific Committee	5 th Int. Structural Engineering and Construction Conference ISEC-5, Las Vegas, September 21–27, 2009
	International Scientific Committee	International Conference on Computational Design in Engineering, CODE 2009, Computational Structural Engineering Institute of Korea (COSEIK), Seoul, Korea., November 3–6, 2009
	International Scientific Committee	2 nd Official Regional Conference of International Institute for FRP in Construction (IIFC) APFIS2009, for Asia-Pacific Region, Seoul, Korea, December 9–11, 2009
2010	International Scientific Committee	7 th Int. Fracture Mechanics of Concrete and Concrete Structures, Jeju, Korea, May 23–28, 2010
	Co-Chair Steering Committee and Technical Committee	The 6 th international Conference on Concrete under Severe Conditions of Environment and Loading (CONSEC'10), Mérida, Yucatán, México, June 7–9, 2010
	International Scientific Committee and Awards Selection Committee	International Conference on Sustainable Construction Materials and Technologies, Ancona, Italy, June 28 – 30, 2010
	Academic Committee	7 th International Symposium on Cement & Concrete (ISCC2010), Jinan, Peoples Republic of China, May 9–12, 2010
	Co-Chair Organizing Committee	Inter. Workshop on Heritage Structures, ISHMII, Ottawa, Canada, August 11–3, 2010
2011	Conference Co-Chair	4 th International Conference on Durability of FRPs for Construction and Rehabilitation (CDCC-2011), Quebec City, Quebec, Canada, July 20–22, 2011
	Member, International Committee	International Workshop on High-Performance Fiber Reinforced Cement Composites (HPFRCC 6), University of Michigan, Ann Arbor, USA, June 19–21, 2011
	International Scientific Committee	International Symposium on Innovation & Sustainability in Civil Engineering (ISSS'2011), Xiamen, China, October 28–30, 2011
2012	Scientific Committee	2 nd International Conference on Microstructure Related Durability of Cementitious Composites in Amsterdam, April 11–13, 2012
	Scientific Committee	4 th International Symposium on Bond in Concrete 2012: Bond, Anchorage, Detailing, Brescia, Italy, June 17–20, 2012
	Member, International Advisory Committee	2 nd International Conference on Computational Design in Engineering, Jeju, Korea, November 13–16, 2012
	Scientific Committee	8 th RILEM Int. Symp. On Fiber Reinforced Concrete: Challenges and Opportunities (BEFIB 2012), Guimarães, Portugal, September 19–21, 2012
	Chair, Technical Committee	Fiber Concrete (FIBCON) 2012, Nagpur, India
2013	Scientific Committee	8 th International Conference on Fracture Mechanics of Concrete and Concrete Structures in Toledo, Spain, March 10–14, 2013

Year	Position	Conference
	Scientific Committee	FIB 2013 Symposium on Engineering a Concrete Future: Technology, Modelling and Construction in Tel-Aviv, Israel, April 22–24, 2013
	Member, International Advisory Board	SEMC 2013: The 5 th International Conference on Structural Engineering, Mechanics and Computation, Cape Town, South Africa, September 2–4, 2013
	Member, Scientific Committee	International Congress on Materials & Structural Stability CMSS-2013, Rabat, Morocco, November 27–30, 2013
	Member, Technical Committee	Int. Conf. on Recent Advances in Composite Materials, Goa (IIT-Varanasi — Organizer), February 2013
	Member, International Advisory Committee	First International Conference on Concrete Sustainability, ICCS13, Tokyo, Japan, May 27–29, 2013
	Member, International Scientific Committee	6 th International Conference on Structural Health Monitoring of Intelligent Infrastructure (SHMII-6 2013), Hong Kong, December 9–11, 2013
	Chair, Steering Committee	Protect2013, Int. Workshop on Performance, Protection, and Strengthening of Structures under Extreme Loading, Mysore, India, August 26–27, 2013
	Co-Chair	Canada-India Workshop on “Water for Health” Baba Farid University of Health Sciences, Faridkot, Punjab, India, November 7–8, 2013
	Co-Chair	IC-IMPACTS / DBT Collaboration Discussion Workshop: Water for Health: Health Outcomes, Maple at the India Habitat Centre, Lodi Road, Delhi, India, November 11, 2013
2014	Co-Chair – Organizing Committee	The 7 th International Conference on FRP Composites in Civil Engineering, Vancouver, BC, Canada, August 19–22, 2014
	Member, Int. Advisory Committee	Second International Conference on Advances in Materials and Techniques in Civil Engineering, ICAMAT – 2014, Anna University, India, January 9–11, 2014
	Member, International Advisory Committee	International conference on Trends and Challenges in Concrete Structures, TRACCS 2013, Gaziabad, India, 2013
	Member, International Scientific Committee	2 nd FRC International Workshop (1 st ACI – fib Joint Workshop) on Fibre Reinforced Concrete: from Design to Structural Applications, Montreal (Quebec), Canada, July 24–25, 2014
2015	Member of the International Scientific Committee	ISHMII SHMII-7 Turin, Italy, July 1–3, 2015
	Conference Chair	ConMat’15 International Conference on Construction Materials Whistler, BC, Canada, August 19–21, 2015
	Chair Steering Committee	PROTECT2015, Fifth International Workshop on Performance, Protection & Strengthening of Structures under Extreme Loading, Lansing, MI, June 29–30, 2015
2016	Co-Chair – Organizing Committee	7 th International Conference on Advanced Composite Materials in Bridges and Structures, ACMBS-VII, Vancouver, August 2016
	Conference Chair	BEFIB 2016, International Conference on Beton de Fibre, Vancouver, September 19–21, 2016

Year	Position	Conference
	Conference Co-Chair	CONSEC2016 Conference in Lecco, Italy, September 12–14, 2016
2017	Conference Chair	IC-IMPACTS 2017 Research Conference: Discoveries for the Global Economy
	Conference Co-Chair	CDCC'2017, Fifth International Conference on Durability of Fiber Reinforced Polymer (FRP) Composites for Construction and Rehabilitation of Structures, Sherbrooke, Québec, July 2017
	Steering Committee	1 st Workshop on the Joint International Laboratory for Advanced Construction Materials (LACM), Nanjing, China, October 27–28, 2017
	Chair Steering Committee	Protect2017, Guangzhou, China, December 2017
2018	Member of the Scientific Advisory Committee	Workshop on Innovations in Safe and Sustainable Infrastructure (ISSI), Central Building Research Institute (CSIR–CBRI), Roorkee, India, February 26, 2018
	Member of the Technical Committee	5 th International Conference on Civil and Urban Engineering (ICCUE 2018), Barcelona, Spain, March 2018
	International Member of the Advisory Committee	2 nd International Conference on “Recent Research Emerging Trends in Mechanical and Civil Engineering”, Bengaluru, India, July 2018
	Member of the Scientific Committee	12 th International Symposium on Ferrocement and Thin Reinforced Cement Composites – FERRO12, Minas Gerais, Brazil, July 2018
	Member of the Scientific Advisory Board	1 st Conference on Sustainable Solutions for Growth (SSG) 2018, Wroclaw, Poland, September 17–18, 2018
	Member of the Scientific Committee	1 st International Conference on 3D Construction Printing, Swinburne University of Technology, Melbourne, Australia, November 26–28, 2018
	Member of the International Advisory Committee	Structural Engineering Convention (SEC) 2018, India, December 19–21, 2018
2019	Member, International Advisory Committee	River Health: Assessment to Restoration (RHAR-2019), IIT (BHU), Varanasi, India, February 14–16, 2019
	Co-Chair	1 st Interdisciplinary Seminar on Smart & Sustainable Infrastructures (ISSSI 2019), Vancouver, Canada, March 5, 2019
	Member, Scientific Board	International Science and Engineering Community (ISEC), Barcelona, Spain, April 24–25, 2019
	Member, International Advisory Committee	International Conference on Recent Advancements in Civil Engineering and Infrastructural Developments (IC-RACEID-2019), Nagpur, India, May 28–29, 2019
	Chair, Steering Committee	CONSEC 2019, Porto Alegre, Brazil, June 5–7, 2019
	Member of the Technical Committee	5 th International Conference on Sustainable Construction Materials and Technologies (SCMT5), Kingstone, England, July 14–17, 2019
	Conference Chair	Protect2019: 7 th International Colloquium on Performance, Protection & Strengthening of Structures Under Extreme Loading & Events, Whistler, Canada, September 16–17, 2019

Year	Position	Conference
	Conference Chair	2019 IC-IMPACTS Annual Week in India, New Delhi & Ahmedabad, India, December 9-3, 2019
	Member, International Scientific Committee	The 2019 2 nd International Symposium on Architecture Research Frontiers and Ecological Environment (ARFEE 2019), Guilin, China, December 20-22, 2019
2020	Member of the Scientific Committee	3 rd International Conference entitled "Innovative Technologies for Clean and Sustainable Development", Chandigarh, India, February 20–21, 2020
	Organizing Committee Member	International Conference and Expo on Infrastructure and Construction (Infrastructure2020), Kuala Lumpur, Malaysia, June 11–12, 2020 (online)
	Organizing Committee Member	International Conference and Expo On Urban And Civil Engineering (Civil-Engineering-2020), Montreal, Canada, June 15–16, 2020 (online)
	Chair, Steering Committee Chair, International Scientific Committee	ConMat'20 International Conference on Construction Materials, Nagoya, Japan, August 27-29, 2020 (conference cancelled due to COVID-19)
	Member of the Scientific Committee	4 th International Conference on Microstructure Related Durability of Cementitious Composites (Microdurability 2020), The Netherlands, May 20–22, 2020 → October 12-14, 2020 (online)
	Mentor	4 th R.N. Raikar Memorial International Conference & Dhir-Ghosh International Symposium on 'Advances in Concrete: Materials, Design and Construction', Mumbai, India, December 10-11, 2020 (online)
	Technical Committee	Condition Assessment, Rehabilitation and Retrofitting of Structures (CARRS-2020), Hyderabad, India, December 14-16, 2020 (online)
	Advisory Committee	Third International Conference on "Smart Technologies for Energy, Environment & Sustainable Development" (ICSTEESD-2020), online, Nagpur, India, December 18-19, 2020 (online)
2021	Scientific Committee	International Association of Advanced Materials (IAAM), February 17-18, 2021 (online)
	Advisory Committee	Design and Applications of Sustainable Materials in Construction, April/May 2021 (online)
	Organizing Committee Member and Speaker	International Conference on Civil Engineering and Architectural Design (CEAD Germany 2021), Munich, Germany, July 01-03, 2021 (online)
	Organizing Committee	International Conference on Civil, Structural and Environmental Engineering, Lyon, France, September 27-29, 2021
	International Scientific Committee	8 th International Conference on Advanced Composite Materials in Bridges and Structures (ACMBS-VIII), CSCE, Online, August 5-7, 2021
	Scientific Committee	4 th International Conference on Chemically Activated Materials (CAM2021), Hefei, China, August 27-29, 2021
	International Advisory Committee	International Conference on River Health Assessment to Restoration (RHAR 2021), Varanasi (IIT BHU), India, October 22-24, 2021
2022	Advisory Committee	International Conference on Recent Advancement in Infrastructural Development, Water Management and Climate Change (IC-RAIWC-22), Nagpur, India, March 4-5, 2022

Year	Position	Conference
	International Advisory Committee	International Conference on Mechanics, Materials and Structures, Kerala, India, March 12, 2022 (online)
	Technical Committee	11 th International Conference on Short and Medium Span Bridges (SMSB–XI), Toronto, Canada, July 19-22, 2022
	Scientific Committee	Bond in Concrete, Stuttgart, Germany, July 25-27, 2022 (online)
	Scientific Committee	International Symposium on Cement and Concrete (ISCC), Guangzhou, China, November 13-16, 2022
2023	Scientific Committee	Global Meet on Laser, Optics and Photonics (GMOPTICS2024), August 8-10, 2023, Madrid, Spain
	Chair	77 th RILEM Annual Week and the 1st Interdisciplinary Symposium on Smart & Sustainable Infrastructures (ISSSI 2023), Vancouver, BC, Canada, September 4 – 8, 2023
	Scientific Committee	International Workshop on Fiber Reinforced Concrete: from Design to Structural Applications (FRC-2023), Tempe, Arizona, USA, September 18-20, 2023
	International Advisory Committee	3rd International Conference on “River Health: Assessment to Restoration (RHAR 2023), Varanasi, India October 12-14, 2023
2024	Scientific Committee	The 2 nd International Conference on Innovation in Low-Carbon Cement and Concrete Technology (ILCCC2024), London, UK, 8-10 July, 2024
	Chair	9th International Colloquium on Performance, Protection & Strengthening of Structures Under Extreme Loading & Events (PROTECT 2024), Singapore, August 13 – 16, 2024.
	Scientific Committee	Global Congress on Infrastructure and Construction (GCINFRA2024), Dubai, UAE, October 23-25, 2024
	International Advisory Committee.	M-CRInfra2024, Monash University Malaysia, Selangor, Malaysia, December 7,9,10, 2024
2025	Advisory Committee	International Conference on Sustainable Materials, Methodologies, Technologies & Applications in Engineering (ICS2MT-2K25), CVR College of Engineering, Hyderabad, Telangana State, India, January 24-25, 2025.
	Guest of Honour	AIRISE-2025: Artificial Intelligence for Resilient Infrastructure and Sustainable Engineering Materials, Manipal University Jaipur, India, February 6-7,2025.
	International Advisory Committee	International Conference on Recent Advancements in Engineering Materials and Sciences (ICRAEMS), SRM University, Delhi-NCR, Sonipat, India, February 20-22, 2025
	International Scientific Committee	FraMCoS XII Conference, Vienna University of Technology, Vienna, Austria, April 22-25, 2025
	Scientific Board Member	The fourth International Civil Engineering & Architecture Conference (ICEARC 2025), Osman Turan Culture and Congress Center, Karadeniz Technical University, Trabzon, Türkiye, May 17-19, 2025
	Committee Member	Annual Global Summit on Nanotechnology and Materials science, Bern, Switzerland, September 15-17, 2025

Year	Position	Conference
	International Scientific Committee	3rd Edition of DSC, Naples, Italy, September 17-18, 2025
	Scientific Advisory Committee	C3 Symposium, Chicago, USA, October 2-5, 2025
	Scientific committee	Eight International Conference on Durability of Concrete Structures (ICDCS 2025), Edinburgh, UK, 15-17 October.
2027	International Scientific Committee	17th International Congress on the Chemistry of Cements, New Delhi, India, October 18-22, 2027

vii) Invited Papers

1. Banthia, N. "Durability of Ultra High Performance Concrete", 3rd Edition of DSC, September 17-18, 2025, Naples, Italy.
2. Banthia, N. "Advances in the Use of Nano-Materials as Functional Additives and Reinforcements in Ultra High Performance Concrete (UHPC)", 4th R. N. Raikar Memorial International Conference, & Ghosh-Mukherjee International Symposium, Special Technical Session: Nonmetallic Reinforcements for Concrete Structures, Dec 16, 2024, Mumbai, India.
3. Banthia, N. "Towards Carbon-Neutral Civil Infrastructure with Sensors, Cyber-Physical Networks and AI", International Symposium (ICI -IWC 24), January 19-20, 2024, Kolkata, India.
4. Banthia, N. "Adaptive, Functional and Bio-Mimicked Ultra-High Performance Concrete for Smart and Self-Healing Structures", 13th Structural Engineering Convention (SEC-2023), December 7, 2023, VNIT, Nagpur, India.
5. Banthia, N. "Carbon-Neutral Coatings with Biocides for Rehabilitation of Severely Bio-Corroded Sewerage" (Keynote), Condition Assessment, Rehabilitation and Retrofitting of Structures (CARRS-2020), December 10-13, 2023, IIT-Hyderabad, Hyderabad, India.
6. Banthia, N. "Mitigating bio-corrosion in concrete sewer pipes using innovative carbon-neutral biocidal coatings", International Symposium on Life Cycle Maintenance of Concrete Infrastructure, September 25-26, 2023, Hong Kong, China.
7. Banthia, N. "Some Novel Sensors and Smart Materials for Infrastructure Monitoring" (Keynote), 11th International Conference on Structural Health Monitoring of Intelligent Infrastructure (SHMII-11), August 8-12, 2022, Concordia University, Montreal, Canada.
8. Banthia, N. "A Successful Model of Canada-India S and T Collaboration that Inspires Innovation and Promotes Knowledge-Based International Trade" (Keynote), CSCE Annual Conference, May 26, 2022, Whistler, Canada.
9. Banthia, N. "Building and Managing Carbon-Neutral Water Infrastructure with Sensors and Cyber-Physical Networks" (Keynote), Indian Water Works Association (IWWA) International Conclave on Adoption of Green Construction Practices with focus on Water Resource (GCPWR-2022), February 11-12, 2022 (online).
10. Banthia, N. Bhutta, A., Farooq, M. and Jain, S. (Keynote), "Some Advances in Fiber Reinforced Geopolymers under Quasi-Static and Dynamic Loading Along with Radioactive Waste Immobilization". 4th International Conference on Chemically Activated Materials (CAM2021). January 15, 2022 (online).
11. Banthia, N. (Keynote), "Bio-Mimicked, Smart and Functional Cement-Based Composite". Virtual symposium on Construction and Concrete Innovations (vCONcrete22). January 25, 2022. MIT Department of Materials Science and Engineering, and Department of Civil and Environmental Engineering (online).
12. Banthia, N. (Keynote), "Infrastructure, Sensors, Cyber-Physical Networks and Artificial Intelligence". International Conference on Emerging Trends in Civil Engineering (ICETCE 2021). September 2-3 28, 2021 (online).
13. Banthia, N. (Keynote), "Internal Curing of Concrete: Recent Advances, Condition Assessment, Rehabilitation and Retrofitting of Structures" (CARRS-2020). December 14-16, 2020, Hyderabad, India (online).
14. Banthia, N. (Keynote), "Sensing for Safety", 4th R.N. Raikar Memorial International Conference & Dhir-Ghosh International Symposium on 'Advances in Concrete: Materials, Design and Construction', 10-11 December 2020, Mumbai. Banthia, N. (Keynote), Protecting Our Dams, ICOLD20, International Conference on Large Dams, India, Sept 26-Oct 1, 2020, New Delhi, India (online).
15. Banthia, N. (Keynote), "Analyzing Recent Durability Related Structural Failures", Seventh International Conference on Durability of Concrete Structures, ICDCS2020, Jinan, China, Sept 18-20, 2020 (online).
16. Banthia, N. (Keynote), "Adaptive and Bio-Mimicked Fiber Reinforced Cement-Based Composites with Recycled Products", Conference Organized by Solid Waste China, Beijing, China, July 7, 2020 (online).
17. Banthia, N. (Keynote), "Artificial Intelligence and Infrastructure," Gordon Research Conference on Advanced Materials for Sustainable Infrastructure Development, Ventura, CA, USA, February 23-28, 2020.
18. N. Banthia (Keynote), "Low-Carbon, Sustainable Coatings for Prevention of Microbiologically Induced Corrosion (MIC) in Concrete," Conference on Sustainability Concrete Theory and Application, Tongji University, Shanghai, China, May 11-12, 2019.

19. N. Banthia (Keynote), "Adaptive and Bio-Derived Cement-Based Composites for Next Generation Smart Infrastructure," 6th International Conference on Recent Advances in Composite Materials (ICRACM-2019), Indian Institute of Technology, BHU, Varanasi, India, February 25–28, 2019.
20. Banthia, N., Onuaguluchi, O., Cui, D. (Keynote). "Bio-Inspired, Internally Cured Cellulose Fiber Reinforced Concrete for the Next Generation Infrastructure." Durability and Sustainability of Concrete Structures (DSCS 2018), Moscow, Russian Federation, June 6–7, 2018.
21. Banthia, N. and Yoo D.Y. (Keynote). "Cement Composites Under Impacts and Blast Loading: Ontology and Multi-Scalar Response." 6th International Workshop on Performance, Protection & Strengthening of Structures under Extreme Loading (PROTECT2017), Guangzhou, China, December 11, 2017.
22. Banthia, N. (Keynote). "Innovations in Fiber Reinforced Concrete." 1st Workshop on the Joint International Laboratory for Advanced Construction Materials (LACM), Nanjing, China, October 27–28, 2017.
23. Banthia, N. (Keynote). "Advances in Macro, Micro, and Nano Cellulosic Fiber Reinforcements in Concrete." 9th International Symposium on Cement & Concrete (ISCC2017), Wuhan, China, November 1–3, 2017.
24. Banthia, N. (Keynote). "Bringing Smartness and Versatility to Fiber Reinforced Concrete with Micro and Nano-Modifications." CSCE, 6th International Conference on Engineering Mechanics and Materials, CSCE 2017 Vancouver, BC, Canada, June 1, 2017.
25. Banthia, N. (Keynote). "Self-Healing FRCs: Mechanisms and Challenges." MicroDurability2016, International Conference, Nanjing, China, October 2016.
26. Banthia, N. (Keynote). "Sustainable Infrastructure with Smart Materials, Digital Monitors and Sensorial Networks." Concrete under Severe Conditions of Environment and Loading, CONSEC2016, Lecco, Italy, September, 2016.
27. Banthia, N. (Keynote). "Collaborative Infrastructure Research of IC-IMPACTS and Role of Advanced Composites." ACMBS Conference, Vancouver, BC, Canada, August 22–24, 2016.
28. Banthia, N. (Keynote). "Digitization of Infrastructure with Smart Materials and Wireless Networks." IGC MAT 2016: 1st International Conference on Grand Challenges in Construction Materials, UCLA, California, USA, March 2016.
29. Banthia, N. (Keynote). "Canadian Overpass Collapse: Lessons Learnt, International Conference on Forensic Civil Engineering." Nagpur, India, January 21–23, 2016.
30. Banthia, N. (Keynote). "Smart City Dream through Engineered High-Performance Materials." SAFESUST Workshop (A Roadmap for the Improvement of Earthquake Resistance and Eco-efficiency of Existing Buildings and Cities), JRC, Ispra, Italy, November 26–27, 2015.
31. Banthia, N. (Keynote). "Fiber Reinforced Concrete under Impact: Bridging Micromechanics with Macromechanics." *Proceedings* PROTECT2015, Int. Workshop on Performance Protection and Strengthening of Structures under Extreme Loading, Lansing, MI, USA, June 29–30, 2015.
32. Banthia, N. "Infrastructure Needs of Canada." Canada India Infrastructure Forum, Canada-India Foundation, Toronto, Canada, April 24–25, 2015.
33. Banthia, N. "Innovating with India." IITH Center of Excellence in Sustainable Development and IC-IMPACTS, India-Canada Workshop on Sustainable Infrastructure and Materials, Hyderabad, India, January 13, 2015.
34. Banthia, N. "Internal Curing FRC." Gordon Research Conference on Advanced Materials for Sustainable Infrastructure Development, The Hong Kong University of Science and Technology, Hong Kong, China, August 3–8, 2014.
35. Banthia, N. "Bridge Infrastructure in Canada: Status, Challenges, Opportunities, Advances in Sustainable Bridge Infrastructure Management Practices." India-Canada Collaboration Workshop, Delhi, India, February 4–5, 2014.
36. Banthia, N. "Overview, Strategy & National Research Priorities in Infrastructure and Water as Applied to Ganga Project." Integrated Water Management for Ganga: Collaboration Workshop, Delhi, India, February 10–12, 2014.
37. Banthia, N. "Low Carbon Building Materials." Green Technologies for Sustainable and Smart Cities, session organized by the Province of British Columbia, Delhi, India, October 14, 2014.

38. Banthia, N. "Durability vs. Toughness." Fiber Reinforced Concrete, Material Properties, Design Guidelines and Applications, Stanford University, Stanford, USA, November 17–18, 2014.
39. Banthia, N. "Innovations in Shotcrete for Repair and Rehabilitation." World-Bank and TEQIP Sponsored Winter-School on Recent Advances in Structural Engineering and Materials, IIT Hyderabad, India, January 14–15, 2014.
40. Banthia, N. (Keynote Paper). "Fiber Reinforced Concrete: From Mechanical Properties to Durability." Proc. 8th International Symposium on Cement & Concrete (ISCC2013), Nanjing, China, September 20–23, 2013.
41. Banthia, N. (Keynote Paper). "Multi-functional Fiber Reinforced Concrete for Sustainable Structures." Proc. International Conference on Trends and Challenges in Concrete Structures (TRACCS2013), Ghaziabad, India, December 19–21, 2013.
42. Banthia, N., Zanotti, C. and Sappakittipakorn, M. (Invited Paper). "Sustainable Fiber Reinforced Concrete for Repair Applications." First International Conference on Concrete Sustainability, ICCS13, Tokyo, Japan, May 2013.
43. Banthia, N. (Invited). "Multi-functional fiber reinforced concrete for sustainable structures." Proc. Fifth International Conference on Structural Engineering, Mechanics and Computation (SEMC 2013), Cape Town, South Africa, 2–4 September 2013.
44. Banthia, N. (Keynote). "FRC as a Structural Material." International Conference on Recent Advances on Composite Materials, Goa, India, February 18–21, 2013.
45. Banthia, N. (Keynote). "Multifunctionality in FRC—the Most Important Criteria." International Congress on Materials & Structural Stability CMSS-2013, Rabat, Morocco, November 27–30, 2013.
46. Banthia, N. (Keynote). FIBCON 2012: Conference on Fiber Reinforced Concrete Global Developments, Ramdaspath, Nagpur, India, February 13–14, 2012.
47. Banthia, N. (Keynote). "Impact Response of Cementitious Composites." International Workshop on Protection and Strengthening of Structures under Extreme Loading, Protect2011, Lugano, Switzerland, 2011.
48. Banthia, N. (Keynote). "Impact and Blast Resistance of Fiber Reinforced Concrete—Some Misconceptions." JSCE Impact Symposium, Fukuoka City, Japan, December 14–16, 2010.
49. Banthia, N. (Keynote). "Fiber Reinforced Concrete: A Fifty Year Journey." Joint ACC-ICI Diamond Jubilee Seminar, Indian Concrete Institute, Kolkata, India, September 18, 2010.
50. Banthia, N. (Invited). "Lessons Learnt from the 2006 Collapse of the Concorde Overpass in Quebec." Forum on Structural Safety, Public Works Research Institute, Tokyo, Japan, August 24, 2010.
51. Banthia, N. (Invited Paper). "Multifunctional Fiber Reinforced Cementitious Composites." Proc. Sixth Materials Science and Technology Conference (MSAT-6), Bangkok, Thailand, August 26–27, 2010.
52. Banthia, N. (Invited). "The US Infrastructure Crisis and Benefits of Fiber Reinforced Concrete." Symposium organized by Montana District Export Council and Montana World Trade Center, Montana, USA, February 12, 2010.
53. Banthia, N. and Meisen, A. (Invited). "The Infrastructure Crisis: A Trillion Dollar Challenge, International Council of Academies of Engineering and Technological Sciences (CAETS)." Bi-Annual Convention—Our Heritage of Natural Resources: Management and Sustainability, Calgary, Alberta, Canada, July 12–15, 2009.
54. Banthia, N. (Keynote). "Fiber Reinforced Concrete for Sustainable and Intelligent Infrastructure." SBEIDCO – 1st International Conference on Sustainable Built Environment Infrastructures in Developing Countries, ENSET Oran, Algeria, October 12–14, 2009.
55. Banthia, N., Azhari, F. and Raheja, B. (Invited). "Piezoresistive Cement-Based Sensors for Real-Time Structural Health Monitoring of Structures During Earthquakes." Proc. 7th CUEE and 5th ICEE Joint Conference, Tokyo Institute of Technology, Tokyo, Japan, March 3–5, 2010.
56. Banthia, N. (Invited). "Piezoresistive FRCs with High Toughness and Dynamic Sensing Abilities for Earthquake Resistant Structures." 6th International Conference on Urban Earthquake Engineering (CUEE-6), Tokyo, Japan, March 3–4, 2009, pp. 241–246.
57. Banthia, N. (Invited Paper). "Fiber Reinforced Concrete for the Arabian Gulf." Proceedings of Advances in Concrete Technology in the Middle East, Dubai, UAE, November 19–20, 2008.

58. Banthia, N. (Keynote). "Durability Enhancements in Concrete with Fiber Reinforcement." (Translated in Slovenian.) Proc. 15th Jubilee Slovenian Colloquium on Concrete, Ljubljana, Slovenia, September 9, 2008.
59. Banthia, N. (Keynote). "Current Innovations in Fiber Reinforced Concrete." Proc. 3rd Asian Concrete Federation (ACF) International Conference, Ho Chi Minh City, Vietnam, November 11–13, 2008, pp. 1–15.
60. Banthia, N. (Keynote). "Bio-Inspired Fiber Reinforced Cementitious Composites for Smart, Sustainable Civil Infrastructure." Proc. 8th International Congress on Advances in Civil Engineering, ACE 2008 (Eds. Ö. Eren, A. Mohamed, A. Günyakti, E. Soyer, H. Bilsel, and M.M. Kunt), Eastern Mediterranean University, Famagusta, North Cyprus, September 15–17, 2008, pp. 5–32.
61. Banthia, N. (Keynote Paper). "Can Advanced Non-Destructive Testing of Structures Avoid Collapses?" In Proc. 3rd International Workshop on Lifetime Engineering of Civil Infrastructure, Honoring the Career of Prof. S. Hamada (Eds. A. Miyamoto, S. Hamada and S.-H. Lee), Ube City, Japan, July 22–24, 2008, pp. 111–128.
62. Banthia, N. (Invited Paper). "Fiber Reinforcement for Blast Resistance." NATO Advanced Research Workshop, Urban Structures Resilience under Multi-Hazard Threats: Lessons of 9/11 and Research Issues for Future Work, Moscow, Russia, July 16–18, 2007.
63. Banthia, N. (Invited Lecture). "The Art of Breaking Things." EMPA: The Swiss Federal Institute for Materials Science and Technology, Switzerland, March 26, 2007.
64. Banthia, N. (Invited Lecture). "Repair and Strengthening of Concrete Structures." REHATEC Conference, Ube City, Japan, November 30, 2006.
65. Banthia, N. (Invited). "Controlling Static and Dynamic Crack Growth Micromechanics in Concrete through Fiber Reinforcement." Yamaguchi University, Japan, November 29, 2006.
66. Banthia, N. "Enhancing Capacity of Concrete Structures using Sprayed Systems." Invited Lecture at Japan Society of Civil Engineers (JSCE), Committee on Rehabilitation, Osaka, Japan, November 25, 2006.
67. Banthia, N. and Mindess, S. (Keynote Paper). "A Decade of Shotcrete Research at UBC: Bringing Science to an Art, Shotcrete for Underground Support." Engineering Conferences International, Whistler, BC, Canada, September 12–16, 2006.
68. Banthia, N. "Infrastructure in Concrete: Challenges in Rehabilitation." Invited Presentation at the Trinity College Dublin, Dublin, Ireland, June 16, 2006.
69. Banthia, N. (Invited). "Understanding Durability of FRPs." ISIS Annual Conference, Calgary, Alberta, Canada, May 3–6, 2006.
70. Banthia, N. (Invited). "HPFRCC Research at UBC." JSCE Annual Convention, Technical Committee on HPFRCC, Japan, September 7, 2005.
71. Banthia, N. (Invited). "Life Cycle Engineering and FRPs." Shimizu Corporation, Japan, September 7, 2005.
72. Banthia, N. (Invited). "Dynamic and Blast Resistance of Concrete." National Defense Academy, Yoko Sukontasukkul, Japan, September 5, 2005.
73. Banthia, N. (Invited). "Shrinkage Cracking: Developments in the Novel UBC Technique." ASTM Comm 9.42 Meeting, Reno, USA, June 13, 2005.
74. Banthia, N. (Keynote). "Forty Years of FRC Research in the Americas." Int. Workshop on HPFRCC, Hawaii, USA, May 22–26, 2005.
75. Banthia, N. (Invited). "Durability of GFRP: Modeling and Long Term Predictions." ISIS Annual Conference, Ottawa, Canada, May 3–6, 2005.
76. Banthia, N. (Invited). "Fiber Reinforced Concrete: Prospects and Promise." Queens University, Kingston, Ontario, Canada, March 29, 2005.
77. Banthia, N. (Invited Paper). "Fiber Reinforced Concrete: State of the Art." 2nd Int'l Symp. On Concrete Technology for Sustainable Development with Emphasis on Infrastructure, Hyderabad, India, February 27–March 3, 2005.

78. Banthia, N. (Keynote Paper). "FRPs for Strengthening and Blast Resistant Design." Int. Conf. on Advances in Composite Materials, Varanasi, India, December 17–19, 2004.
79. Banthia, N. (Invited Paper). "Impact and Blast Protection with Fiber Reinforced Concrete." BEFIB, Varenna, Italy, September 2004.
80. Banthia, N. (Keynote Paper). "Fiber Reinforced Polymers in Strengthening and Blast Resistant Design." Fourth International Conference on Concrete under Severe Conditions, CONSEC04, Seoul, South Korea, June 2004.
81. Banthia, N. (Keynote Paper). "Advanced Repair Technologies." IARMS-3, Singapore, December 2003.
82. Banthia, N. (Keynote). "Choosing a Career." India Club's CareerFest, 2004.
83. Banthia, N. (Keynote Paper). "FRP in Concrete Construction: A New Impetus." International Symposium on Innovative World of Concrete, Pune, India, September 19–21, 2003.
84. Banthia, N., Bindiganavile, V. and Mindess, S. (Invited Lead Paper). "Impact and Blast Resistance of Fiber Reinforced Concrete: A Progress Report." International Workshop on HPFRCC-3, Ann Arbor, Michigan, USA, June 2003.
85. Banthia, N. (Keynote). "Engineers without Borders." Society of Punjabi Engineers and Technologists of British Columbia, BC, Canada, January 26, 2001.
86. Banthia, N. (Keynote). "Why are our Youngsters not Choosing Engineering as a Career." India Club's CareerFest, 2001.
87. Banthia, N. (Keynote Paper). "Fracture Toughness of Fiber Reinforced Shotcrete: Issues and Challenges." International Conference on Engineering Developments in Shotcrete, Hobart, Tasmania, Australia, April 2–5, 2001.
88. Banthia, N. (Keynote Paper). "Sprayed Fiber Reinforced Plastics for Repair and Strengthening." 2nd International Conference on Composites in Transportation Industry, ACUN-2, Sydney, Australia, February 2000.
89. Banthia, N. (Keynote Paper). "Fiber Reinforced Concrete: Present and the Future." Asia-Pacific Specialty Conference on Fiber Reinforced Concrete, Singapore, 1997.
90. Banthia, N. and Bindiganavile, V. (Keynote Paper). "Conceptual Modelling and Experimental Investigation of Cement-based Composites under Impact Loading." International Conference on Future of Civil Engineering, ICCE-2001, Bangalore, India, July 2001.

viii) Presentations (only a representative list)

1. "Sensors and Cyber-Physical Networks for Infrastructure Management" (invited talk), Civil and Environmental Engineering Seminar, Princeton University, NJ, USA, April 4, 2025.
2. "Sensors and Smart Materials for Infrastructure Monitoring" (plenary talk), AIRISE-2025: Artificial Intelligence for Resilient Infrastructure and Sustainable Engineering Materials, Manipal University, Jaipur, February 6, 2025
3. "Safe & Sustainable Infrastructure Theme", IC-IMPACTS Conference: Celebrating 12 Years of Canada-India Collaborations in Science & Technology, Delhi, India, December 10, 2024
4. "3D Printed Concrete: Minding the Gaps" (Invited talk/plenary), 5th International Conference on 3D Construction Printing (5-IC3DcP), Charles K. Kao Auditorium, Hong Kong Science Park, Hong Kong, November 25-27, 2024
5. "IC-IMPACTS: From Co-Innovation to Canada-India Trade", Colloquium on Sustainable Water Management and Climate Change: The Use of Advanced Processes and Artificial Intelligence, UBC, Vancouver, November 12, 2024
6. "3D Printed Concrete: Removing Some Frailties", International Conference on 3D Printing Concrete Materials and Structures (3DPCMS-2024), Hangzhou, China, May 17-19, 2024.
7. "Sensors for Infrastructure for Carbon-Neutrality", Presentation at Princeton University, April 04, 2025.
8. "Surface Activated, Nano-Modified Fibers for Modern Fiber Reinforced Concrete", Drexel University, Philadelphia, PA, November 13, 2023.
9. "IC-IMPACTS Research in Mitigating Bio-Corrosion in Sewer Pipes", IIT-Hyderabad, Hyderabad, India, October 3, 2023.
10. "Adaptive, Functional and Bio-Mimicked Fibers for Modern Fiber Reinforced Concrete", Pacific Centre for Advanced Materials and Microstructures (PCAMM), Victoria, BC, December 10, 2022.
11. "Co-Extruded, Surface Activated Fibers for Fiber Reinforced Concrete", ICDCS 2022, Jinan, China, May 20-22, 2022, (online).

12. "Building Resilient and Carbon-Neutral Communities Post COVID" (invited talk), CSCE Annual Conference, Whistler, Canada, May 26, 2022
13. "India -Canada Bi-Lateral Partnership in Research, Innovation, and Translation: A Success Story" (invited talk), 7th Canada-India Joint Science Technology Cooperation Committee (JSTCC), Ottawa, Canada, May 19, 2022.
14. "Self-Healing and Carbon-Neutral Concrete Materials for Rural Roads and Bridges in India" (invited talk), International Conference on New Technologies and Sustainable Materials in construction of Rural Roads (Low Volume Roads) and Bridges Indian Institute of Technology – Tirupati, May 4-6, 2022.
15. "Bio-Mimicked, Smart and Functional Cement-Based Fiber-Reinforced Composites" (Ambassador Speaker), Thailand Concrete Association's Annual Concrete Conference #17 (ACC17), March 30 - April 1, 2022 (online).
16. "IC-IMPACTS: An Innovation Pipe-Line", Start-up Bridge Canada – Explore Cohort #3, December 8, 2021 (online).
17. "IC-IMPACTS: An Innovation Pipe-Line", Access Canada, September 29, 2021 (online).
18. "Towards Carbon-Neutral Civil Infrastructure with Sensors, Cyber-Physical Networks and AI" (Keynote), Thailand Concrete Association (TCA) Annual Concrete Conference, March 31 – April 2, 2021 (online).
19. "Engineered Nano-Fibrillated Cellulose in Concrete: Valuable Functionalities", American Concrete Institute (ACI) Special Session on Nano Materials, March 31, 2021 (online).
20. "Civil Infrastructure with Sensors and Cyber-Physical Networks", Indian National Academy of Engineering (INAE) Webinar Series, January 7, 2021 (online).
21. "Infrastructure with Smart Materials and IoT Enabled Sensors.", Indian Concrete Institute (ICI) International Webinar – CEMCON 2020 – Advances in Material Testing, Instrumentation & Information Technology in Construction & Monitoring of Concrete Structures, December 11-12 2020, (online).
22. "Surface Activated Fibers for Fiber Reinforced Concrete", fib-ACI Joint Special Session on FRC Applications, fib Symposium 2020 – Concrete Structures for Resilient Society, November 22-24, 2020. Shanghai, China (online).
23. "Ensuring Tunnel Safety through Advanced Structural Systems, Engineering Material and Sensing", Technologies and Policy for Digitalization of Infrastructure with special focus on Tunneling, October 31, 2020, Delhi, India (online).
24. "IC-IMPACTS: India-Canada Research Center – An Overview" Joint Presentation with DST and DBT, India. IC-IMPACTS Annual Research Conference, August 6-7, 2020 (online).
25. "IC-IMPACTS: Canada-India Research Center Science for the People", CEST Club of NIT-Rourkela, July 30, 2020 (online).
26. "Engineered Nano-Fibrillated Cellulose: Further Evidence of Internal Super Curing," ACI Spring 2020 Convention, Rosemont/Chicago, IL, USA, March 29–April 2, 2020.
27. "Smart Infrastructure with Sensors and Cyber-Physical Interfaces", Australian College of Kuwait and Kuwait University, Jan 29, 2020.
28. "AI in Infrastructure" University of Sharjah, Sharjah UAE, Jan 30, 2020.
29. "IC-IMPACTS: Co-Innovating with India in Infrastructure Water and Health," ACI Concrete Convention and Exposition, Cincinnati, USA, October 19–24, 2019.
30. "Influence of Fibres on the Rebar-Concrete Bond: Evidence of Strength and Toughness Enhancement," ACI Concrete Convention and Exposition, Cincinnati, USA, October 19–24, 2019.
31. "Nano-Fibrillated Cellulose for Concrete," ACI Concrete Convention and Exposition, Cincinnati, USA, October 19–24, 2019.
32. "IC-IMPACTS and its Canada-India Bi-lateral Projects in Infrastructure, Water, and Health," Vibrant Goa Roadshow at the Consulate General of India in Vancouver, April 10, 2019.
33. "Composites in Smart Infrastructure," 1st Interdisciplinary Seminar on Smart & Sustainable Infrastructures (ISSSI 2019), Vancouver, March 5, 2019.
34. "Canada-India Research Collaborations," 1st Interdisciplinary Seminar on Smart & Sustainable Infrastructures (ISSSI 2019), Vancouver, March 5, 2019.
35. "UHPFRC and Recent Innovations in Bio-Inspired Matrices, Co-Extruded Fibers and Multifunctional Applications", Nanyang Technological University, Singapore, February 22, 2019.

36. "IC-IMPACTS and its Work in Bio-Inspired Cellulose reinforced Concrete", Centre de recherche sur les matériaux renouvelables, Centre d'étude de la forêt, Laval University, Quebec, February 7, 2019.
37. "Bio-Inspired and Multi-functional Co-Extruded Fibers for Smart Ultra-High-Performance Fiber-Reinforced-Concrete", Hong Kong Concrete Institute, Polytechnic University, Hong Kong, January 7, 2019.
38. "From Bold Innovations to Big Impacts," IC-IMPACTS India-Canada Science & Technology Innovation Summit, Delhi, December 12, 2018.
39. "Current and Future Projects," IC-IMPACTS India-Canada Science & Technology Innovation Summit, Delhi, December 12, 2018.
40. "Deploying Research in Communities," IC-IMPACTS, Rick Hansen Institute and the Indian Spinal Injuries Center Award Ceremony, Delhi, December 11, 2018.
41. "Welcome Address and an Overview of IC-IMPACTS," 2018 IC-IMPACTS Research Conference in India, Delhi, December 10, 2018.
42. "Overview of Infrastructure Projects," 2018 IC-IMPACTS Research Conference in India, Delhi, December 10, 2018.
43. "A Smart City with Resilient, Sustainable and Digitally-Monitored Infrastructure", Invited speaker at the Fourth Annual America-China Real Estate Summit, Vancouver, Canada, April 11, 2018.
44. "Canada-India Co-Innovate in the Domain of Concrete Infrastructure", Invited speaker at the ACI International Forum, ACI Spring 2018 Convention, Salt Lake City, USA, March 25, 2018.
45. "Overview of IC-IMPACTS and Infrastructure Projects", IC-IMPACTS India Workshop Series, Pune, India, December 4–5, 2017.
46. "Update on IC-IMPACTS Projects", 6th India-Canada Joint Science and Technology Cooperation Committee (JSTCC), New Delhi, India, November 15, 2017.
47. "Canada-India Collaborations for Building Smarter Cities", DST-CII India-Canada Technology Summit, New Delhi, India, November 14, 2017.
48. "Social Innovation through University-Industry-Community Partnerships", The Concrete Convention and Exposition, Fall Convention, Anaheim, USA, October 14–18, 2017.
49. "Digitalization of Infrastructure with Smart Materials and Sensorial Networks", International Conference on Innovation in Concrete for Infrastructure Challenges, Nagpur, India, October 6–7, 2017.
50. Smart Cities: What Does that Really Mean, City University, Hong Kong, September 1, 2017.
51. "Digital Monitoring of Critical Infrastructure for Safety and Maintenance", IC-IMPACTS Workshop on the Digital Monitoring of Critical Infrastructure for Safety and Maintenance, Nagpur, India, August 29, 2017.
52. "IC-IMPACTS: Building Smart and Sustainable Cities in Canada and India", China-Canada Symposium on Structural and Earthquake Engineering (CCSSEE 2017), Vancouver, BC, Canada, August 21, 2017.
53. "Recycled Tires in Concrete", 5th International Conference on Durability & Sustainability of Fibre Reinforced Polymer (FRP) Composites for Construction & Rehabilitation of Structures, University of Sherbrooke, Quebec, July 20, 2017.
54. "3S: Sustainable, Safe and Smart Infrastructure", Southeast University, China, April 12, 2017.
55. "Bringing Smartness and Versatility to Fiber Reinforced Concrete with Micro and Nano-Modifications", South China University of Technology (SCUT), Guangzhou, China April 11, 2017
56. "Sustainable Infrastructure with Smart Materials, Digital Monikers and Sensorial Networks", 1st UBC—Korea U—Hanyang U International Workshop on Advanced Structural Systems, Vancouver, BC, Canada, January 10, 2017.
57. "Safe and Sustainable Infrastructure", 2017 IC-IMPACTS Research Conference, Vancouver, BC, Canada, June 10, 2017.
58. "Social Innovation through University-Industry-Community Partnerships", SIBS'17, Vancouver, BC, Canada, May 31, 2017.
59. "Digitally Monitored Civil Infrastructure: A Transverse Paradigm Shift for a Vertically Integrated Sector", Michigan State University, Lansing, MI, USA, March 29, 2017.
60. "Social Innovation through University-Industry-Community Partnerships: Work of Canada-India Research Center of Excellence", ACI International Forum, ACI Spring Convention, Detroit, USA, March 26, 2017.
61. "Nano-Modified Materials and Sensors", Dow Chemical Company, Philadelphia, USA, March 9, 2017.

62. "Smart Cities: What does it Mean" (Keynote), TCS/IIT-B/IC-IMPACTS Workshop on Smart Cities, Mumbai, India, February 24, 2017.
63. "IC-IMPACTS: Building Healthy and Prosperous Communities in India and Canada", World CSR Day, Mumbai, India, February 18, 2017.
64. "Sustainable Infrastructure with Smart Materials, Digital Monikers and Sensorial Networks", 1st UBC-Korea U-Hanyang U International Workshop on Advanced Structural Systems, Vancouver, Canada, January 10, 2017.
65. "IC-IMPACTS, Overview, Management, Partnership Development and Knowledge Translation", Presentations to NCE Monitoring Committee, Ottawa, Canada, November 28, 2016.
66. "Nano-Modification of Fibers for Self-Healing", ACI Committee 544, Philadelphia, USA, October 25, 2016.
67. "Canada-India Research Partnership", Namaste Canada 2016, Vancouver, BC, Canada, September 4, 2016.
68. "IC-IMPACTS fulfilling its Mandate", Presentation to NCE Monitoring Committee, Ottawa, Canada, July 14, 2016.
69. "Sensors Role in Infrastructure", Presentation at National University of Singapore, Singapore, July 5, 2016.
70. "Nanotechnology in IC-IMPACTS's Research", Presentation at IC-IMPACTS Summer Institute on Nanotechnology, University of Alberta, Edmonton, Alberta, Canada, May 28–30, 2016.
71. "IC-IMPACTS – Theme Successes and Opportunities: A View from Theme Leads", Creating Partnerships for Greater Impact, Annual General Meeting of IC-IMPACTS, Vancouver, BC, Canada, March 10–11, 2016.
72. "Thondebavi Thaluk Case Study in Innovative pavements", Creating Partnerships for Greater Impact, Annual General Meeting of IC-IMPACTS, Vancouver, BC, Canada, March 10–11, 2016.
73. "Priorities for the Next 2 years and Focus Moving Forward", Creating Partnerships for Greater Impact, Annual General Meeting of IC-IMPACTS, Vancouver, BC, Canada, March 10–11, 2016.
74. "Sustainable Buildings in the Context of Smart Cities", Malviya National Institute of Engineering, Jaipur, India, February 27, 2016.
75. "IC-IMPACTS and Efforts to Improve Health Care in India", Health Workshop: M-Health: Making Healthcare Available, Accessible and Affordable, Indian Institute of Science, Bangalore, India, December 11, 2015.
76. "M-Health and IC-IMPACTS", Health Workshop: Technologies for Improved Health, Mumbai, India, December 14, 2015.
77. "Comfort, Health, Energy and Safety in Buildings", IC-IMPACTS Infrastructure Workshop: Sustainable and Efficient Buildings in Smart Cities, Mumbai, India, December 16, 2015.
78. "Internet of Things Applied to Infrastructure: Imperatives and Pitfalls", Tata Consulting Services Innovation Forum, San Francisco, USA, November 5–6, 2015.
79. "Section 2 on Materials: Performance Based Specification", CHBDC Technical Committee meeting, Toronto, Canada, October 26–27, 2015.
80. "Application of Optical Sensing Technologies to Bridges", IC-IMPACTS Summer Institute on Optical Sensing, Vancouver, BC, Canada, June 14–21, 2015.
81. "Overview of IC-IMPACTS: Scientific Director's Perspective", IC-IMPACTS Summer Institute on Optical Sensing, Vancouver, BC, Canada, June 14–21, 2015.
82. "Successes of IC-IMPACTS Projects and Action Plan Ahead", Joint Canada-India Science & Technology Cooperation Committee Meeting, Hosted by Ms. Christine Hogan, Deputy Minister of International Trade, Canada, and Dr. Ashutosh Sharma, Secretary Department of Science and Technology, India, Ottawa, Canada, June 12, 2015.
83. "Engaging the Alberta Research Community", IC-IMPACTS, University of Alberta, AB, Canada, May 21, 2015.
84. "Engaging the Community at Large", IC-IMPACTS, University of Alberta, AB, Canada, May 21, 2015.
85. "Collaborations among Different Organizations in the Sector to Create a Critical Forward Movement", Canada-India Education Conference, Co-organized by Shastri Indo-Canadian Institute (SICI) & Université Laval, University of Laval, Quebec, May 15, 2015.
86. "Low Carbon Materials for Safe and Sustainable Infrastructure", Lecture at University of California, Irvine, CA, USA, May 8, 2015.
87. "Canada India Relations in Research and Development via IC-IMPACTS", India Club, Vancouver, BC, Canada, April 26, 2015.

88. "Advent of Undergraduate Research in Engineering Curriculum", UBC Hosted Event for Applicants, Dhaka, Bangladesh, April 2, 2015.
89. "IC-IMPACTS – Creating New Tools for Advancing the Goals and Success of IC-IMPACTS: Framing the Dialogue", Annual General Meeting of IC-IMPACTS, Vancouver, BC, Canada, March 13, 2015.
90. "IC-IMPACTS – The First Two Years", Annual General Meeting of IC-IMPACTS, Vancouver, BC, Canada, March 12, 2015.
91. "International Research Collaboration to Create Healthy Communities: IC-IMPACTS", Presentation to Rt. Honorable Justin Trudeau, Prime Minister of Canada, March 4, 2015.
92. "India's Needs in Water, Infrastructure and Energy", Forum for Global Leadership of India, Ahmedabad, India (as part of Vibrant Gujrat), January 10, 2015.
93. "Educating the Next Generation of Engineers in Infrastructure Management", Stewols Knowledge Forum, Nagpur, India, December 06, 2014.
94. "Is Smart Necessarily Green?", Cleantech & Sustainability Roundtable, Mumbai, IC-IMPACTS and the Province of British Columbia, Mumbai, India (with Premier of BC, Hon Christy Clark), October 17, 2014.
95. "Integrating Sectors for Smarter Cities", IC-IMPACTS and the Province of British Columbia Green Technologies for Sustainable and Smart Cities, Delhi, India (with Premier of BC, Hon Christy Clark), October 14, 2014.
96. "Canadian Model for Collaborative R and D with Industry", Talk to FICCI/ICBC delegation of Vice Chancellors from Indian Institutions, Vancouver, BC, Canada, June 23, 2014.
97. "India, Infrastructure Needs and the PPP Model", INNOVATE | INTEGRATE | TRANSFORM, PAN-IIT 2014 — Toronto Conference, June 6–8, 2014.
98. "Canada's First International Network of Centers of Excellence with India", IC-IMPACTS: Building Healthy Communities in Two Great Nations, Presentation at the RES'EAU-WaterNET Annual Meeting, Whistler, BC, Canada, May 29–30, 2014.
99. "Our Roles and Responsibilities in Building Healthy Communities: Introducing IC-IMPACTS", Indo-African Charity, Mother's Day Celebration and Fund Raiser, May 10, 2014.
100. "Societal Impact of International Academic Collaborations", Canada-India Infrastructure Forum, Organized by Canada India Foundation, April 25–26, 2014.
101. "Parallels in the Infrastructure Needs of Canada and India", Canada-India Infrastructure Forum, Organized by Canada India Foundation, April 25–26, 2014.
102. "International Research Opportunities with Canada India Research Center of Excellence", University of Toronto, ON, Canada, May 14, 2014.
103. "Why Canada India Collaboration Matters", University of Toronto, ON, Canada, May 14, 2014.
104. "Canada India Research Center of Excellence: Making a Difference in the Lives of Millions", Presentation to Faculty of Applied Science, University of British Columbia, Vancouver, Canada, March 21, 2014.
105. "Sustainability, Concrete, and Cracking: The Stitching Adventures of the Annoying Fiber", Prof. Koji Sakai Retirement Symposium, Takamatsu, Japan, March 7, 2014.
106. "IC-IMPACTS: Opportunities for Collaboration on Ganga Clean-Up Project", National Mission for Clean Ganga and IC-IMPACTS Sponsored Workshop on Integrated Water Management for Ganga Basin: Collaboration Avenues, Ministry of Environment and Forests, Government of India, February 10–12, 2014.
107. "Bridge Infrastructure in Canada: Status, Challenges, Opportunities", Advances in Sustainable Bridge Infrastructure Management Practices: India-Canada Collaboration Workshop, Organized by Department of Science and Technology, India, IIT-Roorkee and UBC, Delhi, India, February 4–5, 2014.
108. "FRPs in Infrastructure", FOSROC Ltd. Organized Training Course for Engineers in Advanced Composites, Bangalore, India, February 7, 2014.
109. "IC-IMPACTS and Health Initiative", IC-IMPACTS/DBT Collaboration Discussion Workshop, Water for Health: Health Outcomes, Maple at the India Habitat Centre, Lodi Road, Delhi, India, November 11, 2013.
110. "IC-IMPACTS: Opportunities for Collaboration", Presented to TEQIP Delegation from India, Organized by Ministry of International Trade, BC, Canada, October 28, 2013.
111. "New Test Method for Assessing Repair Bond" (Presented with Dr. C. Zanotti), Fall Convention of American Concrete Institute, Innovation in Conservation, Phoenix, AZ, October 20–24, 2013.

112. "Canada India Research Center of Excellence at UBC: Research Collaboration in Safe and Sustainable Concrete Infrastructure", at Cement Sustainability Initiative (CSI) Forum 2013, Sustainable Construction: Building Tomorrow's World, Vancouver, BC, Canada, October 1–2, 2013.
113. "An Overview of the new Canada-India Research Centre of Excellence: A New Model in International Collaboration", Synergy 2013 Education Conference, Toronto, ON, Canada, October 3–4, 2013.
114. "Use of Fiber Reinforced Polymers (FRPs) in Concrete Construction: From Internal Reinforcement to Strengthening", Symposium organized by Association of Consulting Civil Engineers, Indian Concrete Institute and ACC Cement, Bangalore, India, August 28, 2013.
115. "High Toughness Strain-Hardening Cementitious Composites for Seismic Applications", 2013 UBC-Tongji-CSRN Symposium Modern Solutions to Seismic Risk Mitigation: A Sino-Canada Joint Effort to Deal with a Challenging Problem, Vancouver, BC, Canada, August 18, 2013.
116. "Physics Behind Failure of Repairs", ACI BC Chapter Spring Seminar, May 10, 2013.
117. "Canada India Partnerships—IC-IMPACTS Research", Canada India Research Center of Excellence Outreach, Roorkee, Nagpur and Mumbai, India, February 2013.
118. "Advances in FRC Research and Development", Dow Chemical, Midland, Michigan, USA, March 22, 2012.
119. "FRC for Sustainable Indian Infrastructure", Indian Concrete Institute, Kolkata, February 16, 2012.
120. "Smart FRC: Hype and Promise", Indian Concrete Institute, Bangalore, India, February 17, 2012.
121. "Why Don't Our Structures Last as Long as We Design Them For?" ISIS Canada Network Association, Workshop, Whistler, BC, Canada, September 22–23, 2011.
122. "Shotcrete for Rehabilitation – Science and Art", Ecuador Concrete Association, Quito, Ecuador, January 10, 2011.
123. "Why Concrete Needs Fibers?" Queens' University, Belfast, Northern Ireland, February 17, 2011.
124. "Sustainable and Smart Fiber Reinforced Concrete", Indian Society of Structural Engineers and Institution of Engineers India, Mumbai, India, February 15, 2011.
125. "Sustainable and Smart Fiber Reinforced Concrete: A Long Walk to Excellence", Indian Association of Structural Engineers, Mumbai, India, February 10, 2011.
126. "Lessons Learned from the Concorde Overpass Collapse", National University of Singapore, Singapore, December 20, 2010.
127. "Advances in FRC Research", National University of Singapore, Singapore, October 19, 2010.
128. "Fiber Use in Concrete: Business Case", Reliance Industries, Mumbai, India, November 9, 2009.
129. Chloride Binding in FRCs", ACI Committee 544 Meeting during ACI Spring Convention, Chicago, IL, USA, March 23, 2010.
130. "Green FRCs", University of Brescia, Italy, June 11, 2009.
131. "Difficulties in Testing FRCs", American Concrete Institute, Manitoba Chapter, Canada, January 20, 2009.
132. "Thermoporometry Based Evidence of Pore Refinement and Durability Enhancement in Cellulose FRC", ACI Committee 544 Meeting, San Antonio, TX, USA, March 17, 2009.
133. "Sprayed FRPs", Meeting of ISISE, University of Minho, Portugal, October 3, 2008.
134. "FRPs and Infrastructure", Indian Concrete Institute, India, 2007.
135. "Reducing the Carbon Footprint of Indian Cement Industry", Visvesvaraya National Institute of Technology, Nagpur, India, December 12, 2004.
136. "New Infrastructure Materials", "Blast and Impact Resistance" and "Durability of FRPs in Singapore Like Environment", Three lectures presented at National University of Singapore, Singapore, December–January 2003.
137. "Innovations in Concrete Admixtures", Indian Institution of Engineers, Nagpur Center, India, December 2003.
138. "Innovative Materials for Civil Engineers", "Fracture Growth Studies" and "Repair and Strengthening our Crumbling Structures", Three presentations respectively to undergraduate students at Kagawa University, graduate students at Kagawa University and to construction industry, Japan, July 2003.
139. Lectures on Advanced Composite Materials, Three City Lecture Tour, Indian Concrete Institute, Delhi, Nagpur and Chennai, India, December 2002.
140. "Learning from Past Failures", King Mongkut Institute of Technology, Bangkok, Thailand, December 20, 2002.

141. "Sprayed Materials for Rehabilitation", Centre d'Expertise et de Recherche en Infrastructures Urbaines, Infra 2002, University of Sherbrooke, Quebec, Canada, November 2002.
142. "Sprayed Cement-Based and Polymer Based Composites", University of Alberta, Alberta, Canada, October 2002.
143. "Why Repairs Fail", CANMET Workshop on Repair and Rehab, Toronto, ON, Canada, April 12, 2002.
144. "Seismic Strengthening of Bridges", University of Auckland, New Zealand, January 2002.
145. "Rehabilitation: Need of the Hour", EPIC Seminar on Rehabilitation, Vancouver, BC, Canada, November 2001.
146. "UBC Research in Advanced Materials", Kagawa University, Japan (with Dean Isaacson as part of Inter-University Collaboration), 2001.
147. "Interfaces in Concrete", Indian Institute of Technology, Bombay, India, November 2001.
148. "Specifying Concrete for Durability", Institution of Engineers, Nagpur, India, October 2000.
149. "Teaching Materials to Engineering Students", Tokyo Institute of Technology, Japan, October 2000.
150. "Permeability of Concrete", South-East University, Nanjing, China, May 2000.
151. "Load Testing of Retrofitted Structures", Hua Kok Corporation Singapore, Singapore, May 2000.
152. "Strain-Rate Effects in Concrete", Hokkaido Development Bureau, Japan, December 1999.
153. "Fatigue Response of Bridge Decks", Osaka University, Japan, 1999.
154. "Transport Properties of Concrete", Kagawa University, Japan, 1999.
155. "Not Your Grandfather's Concrete!", Indian Concrete Institute, India, 1998.
156. "What's an Ideal Fiber for Reinforcing Concrete?" Bekaert Corp., Belgium, 1997.
157. "Physical Properties of FRC", Polytechnical University of Catalunya, Barcelona, Spain, 1997.
158. "Testing Fiber Reinforced Concrete", Trefil Arbed, Luxembourg, 1997.
159. "Sensing for Trouble", EMPA, Switzerland, 1997.
160. "Bond-Slip Debacles", University of Ghent, Belgium, 1995.
161. Singapore Ministry of Defense, 1997.
162. "Repair Bond and its Measurement", Novocon Corp., Chicago, USA, 1995.
163. "Silica Fume in Concrete", Institution of Engineers, India, 1995.
164. "Recycled Aggregate in Concrete", Civil Engineering Research Institute Hokkaido Development Bureau, Japan, 1994.
165. "Electrical Properties of Concrete", Northwestern University, Chicago, USA, 1993.
166. "Transport Properties of Concrete", The Chinese Inst. Of Civil & Hydraulic Engineers, Taiwan, 1992.
167. "Influence of Steel Properties on FRC Bond Slip", Singapore Concrete Institute, Singapore, 1992.
168. "Transport Properties of Concrete", Indian Institute of Technology, New Delhi, India, 1991.
169. "Conventionally Reinforced Concrete under Impact", Potsdam University, New York, USA, 1990.
170. "Why Machine Foundations Crack", Bhilai Institution of Engineers, India, 1989.

ix) Miscellaneous Professional Activities

- Five-Day course at Guru Ghasidas National University in Bilaspur, India. Part of a PhD course on: Repair, Rehabilitation and Strengthening of Concrete Structures Using High Performance Cement-Based Materials. February 13–17, 2018.
- Seven-Day Summer School at Politecnico di Milano – Lecco CAMPUS as part of PhD course in Structural, Seismic and Geotechnical Engineering, Course Title: Fibre Reinforced Concrete—Materials Characterization and Structural Design. July 4 – 9, 2014.
- Three-day Graduate Course at South East University in Nanjing, China, on Repair and Rehabilitation, September 26–28, 2013.
- Taught a Graduate Course (CE 5886 Topics in Concrete Engineering: Specialized Concrete), National University of Singapore, Singapore, Aug–Nov 2010.
- Taught a One-day Course on Impact and Blast Resistance of Concrete, Thailand Concrete Institute, Bangkok, August 25, 2010.

- Taught a week-long course at University of Brescia, Italy on Condition Assessment of Structures, June 2009.
- Taught a ten-day course at the National Defense Academy, Yokosuka, Japan on Repair and Strengthening of Concrete Structures, September 1–10, 2005.
- Taught a two-day course in Singapore to Industry on Repair and Strengthening of Concrete Structures. Twenty-five industry students attended. January 8–9, 2004.
- Represented Canada on Technical Missions to EMPA, Switzerland (1995), University of Ghent, Belgium (1995).
- Part of Canadian Delegation to Tsukuba, Japan for 2nd Canada-Japan Workshop on Code Provisions for the Use of Adv. Comp. Materials in Bridges and Structures (1995).
- Invited to two-day “Think-Tank” organized by Industry Canada – ACMBS Network, Halifax and MTO, Downsview, on Innovative Applications of ACM in Civil Engineering at Gravenhurst, Ontario (1994).
- Part of Canadian delegation at Canada-US Workshop on Code Compatibility in the Field of Advanced Composite Materials, Montreal, Quebec, August 1996.
- Part of Canadian delegation at Canada-US Workshop on Research Needs in the Field of Advanced Composite Materials, Montreal, Quebec, August 1996.

x) Public Service and Experience

- Volunteer at Dugout Vancouver (a charitable food outlet) (2019-2020)
- Keynote Lecture at India Club’s AAA Awards Banquet for Top Grade 12 Students, September, April 26, 2015.
- Volunteer at St. Georges School, 2011.
- Volunteer for FOOD FOR LIFE program of International Soc for Krishna Consciousness ISKCON (2008–) serving food at various outlets in Downtown Eastside (40 approx. 4 hrs per week since 2008).
- Volunteer for Canadian Cancer Society (2008—2010).
- Volunteer at UBC Hospital (2007–2009).
- Volunteer at West Point Grey Academy School (2001–2004).
- Volunteer at Dugout (a charitable food outlet) (2000) (2007–2016).
- Keynote Lecture at Society of Punjabi Engineers and Technologists of BC, January, 2001.
- Keynote Lecture at India Club’s CareerFest, March, 2001.
- Keynote Lecture at India Club’s CareerFest, March, 2004.
- Keynote Lecture at India Club’s AAA Awards Banquet for Top Grade 12 Students, September 2004

7. FUNDING

a) Dr. Banthia's Lifetime Research Funding:

\$61 M CAD Aggregate. Mostly from NSERC, NRC, NCE, Industry Partners, Metro Vancouver and from University of British Columbia and University of Toronto.

Source		
NSERC Equipment (with M. Pigeon)	DFAIT, Japan Science and Technology Fund with University of Tokyo (with A. Mufti, B. Bakht and T. Uomoto)	NSERC-Tricon Ltd. University/Industry Collaborative R&D (with D.R. Morgan)
FCAR (Quebec)	ALIVA Switzerland Donation of Wetmix Shotcrete Equipment, Dosing Unit, and accessories	NSERC Funds for Technology Diffusion Activity
Operating Grant	Joint Grant from Kuraray International and Dupont Corporation	NSERC-Recon Building Products, University-Industry Collaborative R&D
Kureha Corp., Japan	Synthetic Industries, USA (Grant)	COVID-19 Supplemental Funding for Canada-India Research Center of Excellence
(non-competitive)	NSERC-Novocon Int. CRD Project	
Bekaert Corp., Belgium	NSERC-Master Builders Technology (CRD)	Natural Resources Canada
NSERC-Tricon Ltd. University/Industry Co-op R&D (with M. Pigeon, M.R. Krishnader and R. Angers)	Canadian Foundation for Innovation (CFI) Institutional Innovation Fund with Synthetic Industries, USA,	NSERC CRD with Gracom Corp.
NSERC Funds for Technology Diffusion Activity	NSERC Research Grant	NSERC Research Tools and Instrumentation, Equipment Grant
NSERC Operating	Synthetic Industries, USA (Grant)	NCE: Canada India Research Center of Excellence (N. Banthia: -Principal Investigator and Scientific Director)
UBC-NSERC Equipment	NSERC, Equipment Grant	University of British Columbia
NSERC-Ciment St-Laurent University/Industry Collaborative R&D (with M. Pigeon, Laval University)	Synthetic Industries, USA (Grant)	University of Toronto
NSERC-Novocon Ltd. University/Industry Collaborative R&D (with S. Mindess)	NSERC-Novocon International – Synthetic Industries (CRD)	Laval University
Professional Partnerships Repairs Program with Powertech Corp. (non-competitive)	NSERC Discovery Grant	Queen's University
NSERC-Japan Science & Technology Fund with CERI, Sapporo, Japan	NSERC Network of Centers of Excellence: ISIS (Intelligent Sensing for Innovative Structures) Principal Investigator: A. Mufti	Nanjing Institute for Intelligent Additive Manufacturing Co. Ltd

b) Grants received as Co-Investigator

Source
NSERC R&D with Cement St-Laurent (with M. Pigeon)
NSERC Equipment (with M. Pigeon)
FCAR Team Grant (with M. Pigeon and M.-A. Berube)
NSERC Equipment (with M. Pigeon, M.R. Krishnadev and J.M. Conrad)
FCAR Centre (CRIB) (with M. Pigeon)
FCAR Centre (CRIB) (with M. Pigeon)
FCAR Team Grant (with M. Pigeon)
NSERC Equipment Grant (With C. Ventura and others)
NSERC Equipment Grant (K. Elwood & others)
NSERC CREATE (Hodgson et al.)
NSERC CRD with Liberty Tire Recycling (with S. Alam as PI)
International Central Networks and Partnerships Grant (ICNPG) (with Karnika De Silva)
Hokkaido University (with Michael Henry)
UBC Cluster Funding (PI: Tony Yang)

8. TRAINING OF HIGHLY QUALIFIED PERSONNEL

a) Theses supervised so far

Author	Title (Abbreviated)	Supervisor	Co-Supervisor	Degree	Start/Finish
J. Sheng*	High volume fraction microfiber reinforced cements: concepts, strength and toughness	N. Banthia		PhD	94/96
S. Dubeau*	Use of microfiber reinforced cements in thin repairs	N. Banthia		MASc	89/91
A. Maha *	Restrained shrinkage in cement-based composites	N. Banthia	M. Pigeon	MASc	90/92
J.F. Trottier*	Fundamental studies of reinforcing mechanism in macrofiber reinforced concrete	N. Banthia		PhD	89/92
M. Boulfiza*	Modelling strain-hardening in cement composites	N. Banthia		MASc	90/93
A. Moncef*	Uni-axial tensile response of microfiber reinforced cements	N. Banthia		MASc	91/93
K. Chokri *	Impact resistance of some cementitious composites	N. Banthia	Y. Ohama, Japan	MASc	91/93
A. Roy*	Influence of microcracking on transport properties of concrete	M. Pigeon	N. Banthia	MASc	93/95
N. Yan	Fiber-Matrix Interfacial Studies	N. Banthia		MASc	93/95
I. Genois	Fracture Studies in Micro-Fiber Cements	N. Banthia		MASc	93/95
R. Heere	Evaluation of Shotcrete Repairs on BC Dams (<i>Professional Partnerships Program- BC Hydro</i>)	N. Banthia		MASc	93/95
M. Azzabi*	Durability of micro-fiber reinforced cements	M. Pigeon	N. Banthia	PhD	93/96
R. Cantin*	Fibre Reinforced Concretes for Canadian Climates	M. Pigeon	N. Banthia	PhD	93/97
B. Bissonnette*	Creep in Tension as Applied to Thin Repairs	M. Pigeon	N. Banthia	PhD	93/97
H. Armelin	Studies in Shotcrete Kinematics	N. Banthia		PhD	93–97
P. Gupta	Impact Resistance of Shotcrete	N. Banthia		MASc	95–97
M. Boulfiza	Constitutive Modeling in Cement Composites	N. Banthia		PhD	92–98
C. Chan	Recycled Aggregate in Shotcrete	N. Banthia	J. Atwater	MASc	96–98
V. Bindiganavile	Silica Fume and HRM in Dry-Mix Shotcrete	N. Banthia		MASc	96–98
A. Dubey	Bond-Slip in HP Polymeric Fibers	N. Banthia		PhD	94–99
K. Campbell	Shrinkage Cracking in Shotcrete	N. Banthia		MASc	95–99
S. Ross	Fiber Reinforced Plastic Retrofits	R Sexsmith	N. Banthia	MASc	99–01
A. Boyd	Sprayed FRP in Repairs	N. Banthia		PhD	95–01
M. Johnson	Durability of Sprayed FRPs	N. Banthia		MASc	98–02
P. Sukontasukkul	Impact Resistance of Confined Concrete	S. Mindess	N. Banthia	PhD	96–02
S. M. Soleimani	Flexural Response of Hybrid FRC	N. Banthia		MASc	00–02
R. Gupta	Synergy in Very High Strength Hybrid FRC	N. Banthia		MASc	00–02
V. Bindiganavile	Strain-Rate Effects in Macro-Polymeric FRC	N. Banthia		PhD	98–03
F. Majdzadeh	Self-Compacting High Performance Concrete	N. Banthia		MASc	00–03

Author	Title (Abbreviated)	Supervisor	Co-Supervisor	Degree	Start/Finish
L. Sorelli	Fracture Toughness of FRC with Emphasis on Hybrid Fiber Systems	Dr. G. Plizzari, Uni. Of Brescia, Italy	N. Banthia	PhD	00-03
R. Martazavi	Seismic Response of Sprayed Fiber Composite Retrofitted Joints	N. Banthia		MASc	98-04
R. Chacko	Carbon Fiber Reinforced Cement Sensors	N. Banthia		MASc	03-05
K. Dolan	Sprayed FRPs as Protective Coatings	N. Banthia		MASc	01-06
A. Bhargava	Permeability of Stressed Fiber Reinforced Concrete	N. Banthia		MASc	04-06
Sayed M. Soleimani	Impact Response of Shear Strengthened RC Beams with Sprayed FRPs	N. Banthia	A. Mufti	PhD	02-06
T. Lin	Structural Health Monitoring of Safe Bridge	N. Banthia	A. Mufti	MASc	01-07
S. Talukdar	FRP Strengthening of Timber Girders	N. Banthia		MASc	06-08
R. Gupta	Shrinkage Cracking in Fiber Reinforced Concrete	N. Banthia		PhD	02-08
Yashar Khalighi	Bond Micromechanics in FRP Repairs	N. Banthia	R. Vaziri/A.Mufti	PhD	02-09
Aidin Zadeh	FRP Concrete Bond: Thernography and Direct Pull-Off Tests	N. Banthia		MASc	07-09
Faezeh Azhari	Cement-Based Sensors with Carbon Nanotubes	N. Banthia		MASc	05-09
Manote Sappakittipa-korn	Corrosion of Steel in Repaired Structures	N. Banthia	S. Mindess	PhD	04-10
Sirine Maalej	Transport Phenomenon and Microstructure in Concrete	Dr. Zoubeir Lafhaz [Ecole Centrale De Lille, France]	N. Banthia	PhD	08-10
Mohsen Ghafghazi	Towards Comprehensive Interpretation of the State Parameters from Cone Penetration Test In Cohesive Soils	N. Banthia	D. Shuttle	PhD	05-11
Tasnuba Islam	Study of Some Parameters Affecting the Measured Flexural Toughness of Fiber Reinforced Concrete	N. Banthia		MASc	09-12
Cristina Zanotti	HPFRCC for Repair	Dr. G. Plizzari, Uni. Of Brescia, Italy	N. Banthia	PhD	08-12
Sudip Talukdar	Influence of Global Warming on Concrete Structures	N. Banthia		PhD	08-13
Sahar Ranjbar	Internal Curing in Sustainable Cementitious Materials	N. Banthia	S. Mindess	MASc	10-13
Adriano Reggia	Compton Scatter for Corrosion Detection	Dr. G. Plizzari, University of Brescia, Italy	N. Banthia	PhD	08-13
Francesco Cavarretta	Rate Effects in Piezo-resistive Sensors	N. Banthia	Dr. M. di Prisco, Politecnico di Milano, Italy	MSc	15-16
Mohammed Farooq	FRP Fiber for Concrete	N. Banthia		MASc	13-16
Yuan Yan	Bond Between EDCC and Masonry	N. Banthia		MASc	13-16

Author	Title (Abbreviated)	Supervisor	Co-Supervisor	Degree	Start/Finish
Yang Du	Durability performance of eco-friendly ductile cementitious composite (EDCC) as a repair material	N. Banthia		MASc	14–16
Ricky Ratu	Role of Fiber Coatings in FRC	N. Banthia		MASc	10–16
Sittisak Jamnam	Rubbarized Concrete and Impact Resistance	Piti Sukontasukkul, King Mongkut University of Technology Thailand	N. Banthia	PhD	13–16
Md Salamah Meherier	Investigation of Mechanical and Durability Properties of Cement Mortar and Concrete with Varying Replacement Levels of Crumb Rubber as Fine Aggregate	Shahria Alam, UBC-O	N. Banthia	MASc	13–16
Brigitte Goffin	Detecting Corrosion in Epoxy Coated Rebar	N. Banthia		PhD	11–17
Negar Roghanian	Biocidal Nano-Coatings for Waste Water Pipes	N. Banthia		PhD	12–18
Salman Soleimani-Dashtaki	Seismic Strengthening of Unreinforced Masonry Walls using Sprayable Eco-Friendly Ductile Cementitious Composite (EDCC)	N. Banthia	C. Ventura	PhD	11–18
Qiannan Wang	Fracture Modeling in EDCC	Dr. Sun Wei, Southeast University, Nanjing China.	N. Banthia	PhD	11–18
Cui Dong	Carbonation Front Modeling using CT Scans	Dr. Sun Wei, Southeast University, Nanjing China	N. Banthia	PhD	13–18
Tahmineh Teymourian	Chemical Sensors for Concrete Structures	N. Banthia		PhD w/d (M.Eng)	16–18
Kishoare Tamanna	Utilization of recycled rubber particles and recycled coarse aggregates as partial replacement of fine aggregates and natural coarse aggregates in concrete	Shahria Alam, UBC-O	N. Banthia	MASc	17–19
Anupam Choudhary	Self-repair mechanisms in concrete	N. Banthia		MASc	17–20
Bardia Kabirifar	Repair Durability	C. Zanotti	N. Banthia	PhD	18–21
Alex (Zilong), Deng	Performance of Concrete at Cryogenic Temperatures	Dr. Jiang Zhengwu Tongji University, China	N. Banthia	PhD	14–21
Qian Chen	Cryogenic Response of Concrete	Zhengwu Jiang, Tongji University	N. Banthia	PhD	18–21

Author	Title (Abbreviated)	Supervisor	Co-Supervisor	Degree	Start/ Finish
Chaohui Zhang	Numerical and analytical modeling of fiber-matrix bond behaviors of high performance cement composite	C. Shi	N. Banthia	PhD	19–21
Ruilin Cao	Using in-situ observation to understand the leaching behavior of Portland cement and alkali-activated slag pastes	Y. Zhang	N. Banthia	PhD	19–20
Mohammed Farooq	Development of a Scour Sensor for Bridges	N. Banthia	F. Azhari	PhD	16–23
Bei He	Cryogenic Response of Concrete	Z. Jiang	N. Banthia	PhD	21–23
Shubham Jain	Potential of aluminosilicate geopolymer cements towards green building and sustainable urban development	Tom Troczynski	N. Banthia	PhD	17–23
Luay Almnini	3D Printed Concrete with Lightweight Artificial Aggregate	N. Banthia		MASc	21– 24
Darshan Chowdary Kandra	Bio Corrosion in Concrete using Geopolymer Coatings with Novel Biocides	N. Banthia		MASc	21– 24
Chao Liu	Printability Control and Mechanical and Shrinkage Properties of 3D Printed Foamed Concrete	Y. Zhang	N. Banthia	PhD	20-24
Binbin Huo	Self-Healing Concrete	Y. Zhang	N. Banthia	PhD	20–24
Hao Pan	Study on the microstructure and properties of bioinspired high toughness cement-based materials	C. Miao	N. Banthia	PhD	22–24

PhD = 42

MASc = 38

b) Theses in Progress

Author	Title	Supervisor	Co-Supervisor	Degree	Start/ Finish
Robert Shilton	Sprayable Geopolymer for Sewer Rehabilitation	N. Banthia	-	PhD	18–
Anurag Krishna	3D Concrete Printing in Cold Canadian Climate	N. Banthia		PhD	19–
Shen Wang	Enhancement in Inter-Layer Bond in 3D Printed Concrete	N. Banthia	Y. Zhang	PhD	21–
Naila Nabila Orchy	The Solar Panel Mounting Structure: the Study of Increasing the Buildability of a Large-Scale 3DPC Solar Panel Base	N. Banthia		MASc	21–
Xujia You	Development of Smart Concrete used as Sensors and Patches for Monitoring Durability	N. Banthia		PhD	23–

c) Other Training of HQP

Post-Doctoral Fellows/Research Associates		
Researcher/Year	Title of Research Project	Present Position
Dr. N. Nandakumar, (1995–1997); (1999–2001)	Sprayed fiber reinforced plastics in repairs, etc.	Sr. Engr., CONOCO, USA and then Manager R and D. James Hardy Building Products, Fontana, California
Dr. Mohamed Al-Asaly, (1993–1996)	Impact, FRP grid reinforcement, etc.	Project Engineer, Saudi-Arabia
Dr. Cheng Yan, (1993–2000)	Fiber reinforced concrete: strain-rate effects	Educational Consultant
Dr. Zhengwu Jiang (Aug 2007—Aug 2008)	Abrasion and Impact Resistance Durability of FRC	Professor, Tongji University, Shanghai, China
Dr. Cristina Zanotti (Dec 2012—Jan 2015)	Repair Performance	Associate Professor, Civil Engg. UBC
Dr. Obinna Onuaguluchi (March 2014—)	Internal Curing in Concrete	Research Associates with Dr. Banthia
Dr. Aamer Bhutta (August 2014—2022)	Geopolymers with Fibers	Head of R and D, Aramco, Saudi Arabia
Dr. Doo-Yeol Yoo (Jan 2015—Jan 2016)	HPFRCC under Impact	Asst Professor, Yonsei University, South Korea (Feb 2016 onwards)
Dr. Paulo Borges (March 1, 2015—2016)	Durability of Geopolymers	Assistant Professor at the Federal Center for Technological Education of Minas Gerais, Brazil
Dr. Negar Roghanian (Nov 2018—January 2019)	Bio-Corrosion in Concrete	R&D Engineer, MetroTesting, Vancouver, Canada
Dr. Salman Soleimani-Dashtaki (June 2018–April 2023)	Seismic Resistant of Unreinforced Masonry	Post-Doctoral Fellow with Dr. Banthia
Dr. Shubham Jain (2023–December 2023)	BioCorrosion in Concrete	Post-Doctoral Fellow with Dr. Banthia

Post-Doctoral Fellows/Research Associates		
Researcher/Year	Title of Research Project	Present Position
Dr. Salman Soleimani-Dashtaki (April 2023– September 2024)	Siesmic Retrofit of Masonry	Research Associate with Dr. Banthia

*Research Engineers / **Visiting Students / ***Visiting Professors		
*S. Samani: 1999–2001	**T. Nishimura (Japan, 1999–00)	**M. Burgos (Peru, 1999–00)
**Yukiko Hattori (Japan, 2000–01)	Bian Rongbin (China, 2000–01)	**L. Sorrelli (Italy, 2001–02)
**Shingo Hayakawa (Japan, 2001–02)	**So Suwa, (Japan, 2002–2003)	**H. Hibino (Japan, 2002)
**M. Wada (Japan, 2002)	**Emilie Fledrich (France, 2001)	**Vincent Simon (France, 2002)
Clement Bulte (France, 2002)	** Jose Turmo, University of Catalunya (Spain, 2000)	* Zhengwu Jiang, Tongji University, (China 2008–2009)
*Fariborz Majdzadeh (2003–2006)	*Lok Lam (2003–04)	**Rachida Moussabih (France, 2003)
**Willy Breda (France, 2004)	**Maxime Trocme (France, 2004)	**Phillip Tam (2004)
***Prof. J. van Mier (ETH, Switzerland, 2003)	***Prof. H. Higashiyama (Kinki University, Japan, 2005–06)	***Prof. K. Kovler, (Technion, Israel, 2005) ***Prof. D. Yanklevsky, (Technion, Israel, 2005)
**Myra Khairallah (France, 2005)	**Jean-Christophe Van Houtte (France, 2005)	**Yassine Dabouz (France, 2006)
Isabelle Jussot (France, 2006)	**Sébastien Beaurty (France, 2006)	*Prof. N. Gowripalan (Australia, 2006)
**Aline Darguesse (France, 2007)	**Frederic Delautre (France, 2007)	**Idriss Rahali (France, 2007)
**Sarah Delbar (France, 2008)	**Paul Martial (France, 2008)	**Ryan Hamdan (France, 2008)
*** Prof. Josee Bastien, Laval Uni. 2008–2009	*** Prof. Dr. Koichi KOBAYASHI, Gifu University, Japan 2008–2009	** Sirin Maalej [Ecole Centrale de Lille (ECL, France) and Ecole Nationale d'Ingénieurs de Tunis (ENIT, Tunisia)]. (2009–2010).
Junyang Wong (Tongji, China, 2009)	**Ju-Von Lee (Jinju University, Korea, 2010)	*Prof. Young-Soo Yoon, Korea University, Seoul (2009–2011)
**Brahmjot Raheja (IIT, Delhi, May–August 2009)	**Saakshi Mahajan (IIT, Delhi, May–August 2010)	*Jane Wu (2009–2019)
**Adrien Drochon (France, 2010)	**Sylvain Lioux (France, 2010)	**Marta Cordioli (University of Brescia, Italy 2011)
Laura SALEZ (France, 2011)	**Bérenger DOREL (France, 2011)	*Hiroki Tamai (Kyushu University, Japan, 2011)
* Mahsa Banei (2012)	** Blawal Isgar (France, 2012)	***Dr. Satoshi Takaya (Kyoto University, 2012)
Jean-Lou Herve (France 2013)	Matheus Clemes (Brazil, 2014)	Sasan Soleimani-Dashtaki (June 2018–December 2018)
* Ricky Ratu (2016–2024)	*Ferya Moayedi (2016-)	Chen Qian (Tongji University, Shanghai, P. R. China, 2018–2019)
**Flavie Martin (July 2017-September 2017)	Anjali Gupta (June 2019–December 2019)	Harika Maddu (June 2019–December 2019)

Rahul Raj Kundanati (June 2021– April 2023)	Kirsty Gillies (April 2024 – November 2024)	
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UBC Undergraduate Research Summer Assistants		
David Man Kit Woo (2001 and 02)	A. Law (2002 and 03)	Shabnam Hosseini (2001)
Lionel Austin (2006)	Sahar Ranjbar (2009)	Mana Navai (2007)
Philip Tam (2007)	Aidin Zadeh (2007 and 2008)	Alden Kung (2008–2010)
Roxana Sadaat-Mousavi (2010)	Belden Kung (2009)	Max Scruton (2011)
Dernanto Mirwan (2011)	Levin, Michael (2013)	Rushat Agarwal (2014)
Stecy Montlouis-Calixte (2014)	Brian Gregory Tingley (2016)	Yan Zhou (2015–16)
Sasan Soleimani-Dashtaki (2017)	Ardehshir Sadeghi (2017–18)	Yan Zhou (2017–18)
Sandeep Arcot (2017)	Yaxing Yang (2018–19)	Three students from France (2018)
William Jap (2019)	Janis Garnier (2023)	Elliott Royer (2023)
Vivek Sharma (2024)	Elliott Mugnier (2024)	Lenny Le Guen (2024)

9. PUBLICATIONS

Name in full: BANTHIA, Nemkumar
Department or school: Civil Engineering
Faculty of: Applied Science

a) Books/Edited Volumes/Special Journal Issues

1. Shi, C., Wu, Z., Banthia, N. Ultra-High Performance Concrete: Design, Performance, and Application. *CRC Press*, February, 2024.
2. Banthia, N., Soleimani-Dashtaki, S., Mindess, S., (Eds), Smart and Sustainable Infrastructure: Proceedings of the 1st *Interdisciplinary Symposium on Smart and Sustainable Infrastructure (ISSSI 2023)*, Vancouver, Canada, September 4-8, 2024.
3. Banthia, N., Takewaka, K., Miao, C., Hamada, H. (Eds), Proceedings of ConMat'20, Advances in Construction Materials, Fukuoka, Japan, August 27-19, 2020.
4. Banthia, N., Kodur, V., and Soleimani-Dashtaki, S. (Eds), Proceedings of *7th International Colloquium on Performance, Protection & Strengthening of Structures under Extreme Loading & Events – PROTECT 2019*, Whistler, Sept 16-17, 2019.
5. Yoo DY, Banthia N, Fujikake K, Kim YH, Gupta R. Editorial. "Fiber-reinforced cement composites: mechanical properties and structural implications." *Advances in Materials Science and Engineering*, 2018 (Article ID 8395461): 1–2.
6. Wu, B., Zhang, H.-Y., Kodur, V. and Banthia, N. (Eds.). 2017. Performance of Materials and Structures Under Extreme Conditions. Proc. of PROTECT 2017 – *7th International Workshop on Performance, Protection & Strengthening of Structures under Extreme Loading*, Guangzhou, China, 11–12 December 2017, Procedia Engineering Volume 210, Elsevier LLC, ISBN: 978-1-5108-5598-4; pp. 652.
7. Banthia, N. 2017. Editorial. *J. of King Saud University – Engineering Sciences*, 29(4): 301.
8. Yoo, D-Y., Banthia, N., Fujikake, K., Borges, P.H.R., Gupta, R. 2017. "Advanced Cementitious Materials: Mechanical Behavior, Durability, and Volume Stability." *Advances in Materials Science and Engineering*, July 2017 (Article ID 5862531): 2.
9. Banthia, N., di Prisco, M., Soleimani-Dashtaki, S. (eds.). 2016. "Fiber Reinforced Concrete: Continuing and Promising Developments." Proceedings of the *BEFIB2016 Conference*, Vancouver, BC, Canada, September 19–21, 2016.
10. Kodur, V., Banthia, N. (eds.). 2015. "Response of Structures under Extreme Loading." Proc. of the *PROTECT2015 – 5th International Workshop on Performance, Protection & Strengthening of Structures under Extreme Loading*, East Lansing, MI, USA, June 28–30, 2015, pp. 1016.
11. Banthia, N., et al. (eds.). 2015. "Construction Materials." Proc. of the *Int. Conf. on Construction Materials (ConMat'05)*, Whistler, BC, Canada, August 19–21, 2015.
12. Suresh, N. and Banthia, N. (eds.). 2013. Proc. of the *Protect2013 – 4th International Workshop on Performance, Protection & Strengthening of Structures under Extreme Loading*, Mysore, India, August 26–27, 2013.
13. Banthia, N. and Mufti, A. (eds.). 2010. "Advanced in Conservation of Heritage Structures." Proc. Of the *3rd ISHMII Workshop*; August 11–13, 2010, pp. 497.
14. Dubey, A. and Banthia, N. (eds.). 2010. *Fiber Reinforced Concrete in Practice*. Special Issue, *American Concrete Institute*, Detroit, Michigan; CD-ROM, 268: 182.
15. Banthia, N. (guest ed.). 2009. Special Issue, *Indian Concrete Journal on Fiber Reinforced Concrete*, 83 (10): 52.
16. Sonoda, Y., Banthia, N., Fujikake, K. 2009. "Structures under Extreme Loading." Proc. of the *2nd International Workshop on Performance, Protection & Strengthening of Structures under Extreme Loading*, Shonan Village, Hayama, Japan, August 19–21, 2009, Published by The National Defense Academy, Japan.
17. Banthia, N., Mindess, S., Fujikake, K. (eds.). 2007. "Structures under Extreme Loading." Proc. of the *1st International Workshop on Performance, Protection and Strengthening of Structures under Extreme Loading*, Whistler, BC, Canada, August 20–22, 2007, Published by University of British Columbia.
18. Toutlemond, F., Sakai, K., Gjør, O., Banthia, N. (eds.). 2007. "Concrete under Severe Conditions: Environment and Loading." Proc. of the *5th International Conference on Concrete under Severe Conditions: Environment and Loading*, CONSEC'07, Tours, France, June 4–6, 2007, Laboratoire central des Ponts et Chaussées, 2, pp. 1121–1128.
19. Mufti, A., Neale, K., Shrive, N., Banthia, N. (guest eds.). 2007. Special issue of *Canadian J. of Civil Engineering on Intelligent Sensing for Innovative Structures (ISIS, Canada)*, 34(3): 267–471.
20. Srivastava, V., Singh, M., Banthia, N., Mufti, A. (eds.). 2007. Proc. of the *3rd Inter. Conference on Recent Advances in Composite Materials*, New Delhi, BHU Press, Feb 2007, pp. 1428.
21. Banthia, N., Benmokrane, B., Karbhari, V. (eds.). 2006. Durability Monograph: "Durability of Fiber Reinforced Polymers in Civil Infrastructure". Published by *Canadian Network of Centers of Excellence on Intelligent Sensing for Innovative Structures (NCE-ISIS)*, ISIS Canada, 2007, pp. 248.

22. Banthia, N., Mufti, A. (eds.). 2005. "Innovative Bridge Deck Technologies." Proc. of the *International Workshop on Innovative Bridge Deck Technologies*, September 2005, pp. 263.
23. Banthia, N., Uomoto, T., Bentur, A., Shah, S.P. (eds.). 2005. "Construction Materials." Proc. of the *Int. Conf. on Construction Materials (ConMat'05) and Mindess Symposium*, University of British Columbia, Vancouver, BC, August 2005, Abstracts + CD ROM, pp. 484.
24. Oh, B.H., Sakai, K., Gjør, O., Banthia, N. (eds.). 2004. "Concrete under Severe Conditions: Environment and Loading IV." Proc. of the *4th International Conference*, Seoul, Korea Concrete Institute (2 Volumes), 2004, pp. 2333.
25. Lok, T.S., Banthia, N. (eds.). 2003. "Fiber Reinforced Materials." Proc. of the *3rd Asia-Pacific Specialty Conference on Fibre Reinforced Materials*, Changsha, Hunan, China, November 17–18, 2003.
26. Banthia, N. (guest ed.). 2003. Special Issue of the *Indian Concrete Institute Journal on FRP in Concrete Construction*, 3(4): 69.
27. Brett, P., Banthia, N., Buckland, P. (eds.). 2002. Proc. of the *6th International Conference on Short and Medium Span Bridges*, Canadian Society for Civil Engineering, SMSB- VI, Vancouver, 2002, pp. 1509.
28. Banthia, N., Tatnall, P., Criswell, M., Folliard, K. (eds.). 2003. *Fiber Reinforced Concrete: Innovations for Value. ACI SP-216, American Concrete Institute*, 2003: 240.
29. Banthia, N., Sakai, K., Gjør, O.E., (eds.). 2001. "Concrete under Severe Conditions: Environment and Loading III." Proc. of the *International Conference, CONSEC'01*, Vancouver, University of British Columbia, BC, Canada, 2001, pp. 2403.
30. Peled, A., Shah, S.P., Banthia, N., (eds.). 2000. High Performance Cement-Based Thin Sheet Products. Special Technical Publication, *American Concrete Institute*, SP-190, 2000: 214.
31. Banthia, N., MacDonald, C., Tatnall, P. (eds.). 1999. Structural Applications of Fiber Reinforced Concrete. Special Technical Publication, *American Concrete Institute*, SP 182, 1999: 257.
32. Banthia, N. 1998. Editorial. *Cement and Concrete Composites*, 20: iii–iv.
33. Gjør, O.E., Sakai, K., Banthia, N. (eds.). 1998. "Concrete under Severe Conditions: Environment and Loading II." Proc. of the *International Conference, CONSEC'98*, Norway, E&FN SPON, United Kingdom, 1998, pp. 2208.
34. Banthia, N. (guest ed.). 1998. FRC under Severe Conditions of Environment and Loading. Special issue, *J. of Cem. & Concr. Composites (UK), Elsevier Applied Science*, 1998: 20.
35. Banthia, N., Bentur, A., Mufti, A. (eds.). 1998. Fiber Reinforced Concrete: Present and Future. *CSCE*, October 1998: 217.
36. Stevens, D.J., Banthia, N., Gopalaratnam, V.S., Tatnall, P. (eds.). 1995. Testing of Fiber Reinforced Concrete. *American Concrete Institute*, Detroit, Michigan, ACI Special Publication No. 155: 254.
37. Sakai, K., Banthia, N., Gjør, O.E. (eds.). 1995. "Concrete Under Severe Conditions: Environment and Loading I." Proc. of the *International Conference on Concrete Under Severe Conditions of Environment and Loading, Sapporo, CONSEC'95*, Japan, E&FN SPON, United Kingdom, 1995, pp. 1612.
38. Banthia, N., Mindess, S. (eds.). 1995. "Fiber Reinforced Concrete: Modern Developments." Proc. of the *2nd University-Industry Workshop on Fiber Reinforced Concrete and Other Advanced Composites*, Toronto, March 1995, University of British Columbia, 1995, pp. 417.
39. Banthia, N. (ed.). 1991. Proc. of the *First Canadian University-Industry Workshop on Fiber Reinforced Concrete*, Quebec City, 1991, pp. 245.

b) Refereed Journal Publications: (HQP Underlined)

1. Piao, R., Woo, S.Y., Lee, D., Banthia, N., Yoo, D.Y. 2025. Investigating the effect of carbon fiber dosage on the mechanical and thermoelectric properties of ultra-high-performance fiber-reinforced concrete. *Journal of Sustainable Cement-Based Materials*. **In Press**.
2. Kim, S., Lee, S. W., Oh, T., Choi, H. J., Piao, R., Banthia, N., Yoo, D.Y. 2024. Introduction of calcium carbonate-coated steel fiber in ultra-high-performance fiber-reinforced concrete and its effects on reducing steel fiber volume fraction. *Composites Part B: Engineering*. **In Press**.
3. Zhang, Y. Zhu, Z. Zhang, Y., Banthia, N. 2025. 3D printing technology in concrete construction. *Nature Reviews Clean Technology*. April 2025.
4. Wang, W., Zhang, Z., Banthia, N. et al. 2025. Next-generation green intelligent self-sensing geopolymer composites for enhancing construction security and sustainability: A review. *Composites Part B: Engineering*. Vol 295. April 2025. 112191
5. Lee, S. W., Park, J., Lee, D., Chun, B., Banthia, N., Yoo, D.Y. 2024. Beneficial effect of recycled tire powder incorporation on the tensile performance of strain-hardening alkali-activated concrete. *Construction and Building Materials*. Vol. 464. February 2025.140115.

6. He, B., Zhu, X., Zhang, H., Wang, A., Sun, D., Banthia, N., Jiang, Z. 2025. Nano-engineering steel fiber for UHPC: Implication for varying cryogenic and elevated exposure. *Cement and Concrete Composites*. Vol.156. February 2025. 105851.
7. Shilton, R., Wang, S., Banthia, N. 2025. Use of polysaccharides as a rheology modifying admixture for alkali activated materials for 3D printing. *Construction and Building Materials*. Vol. 458. January 2025. 139661
8. Onuaguluchi, O., Wang, S., Ratu, R., Banthia, N. 2024. Bond strength and flexural performance of repair composites incorporating nanofibrillated cellulose (NFC) modified mortar. *Materials and Structures*. Vol. 58 (15). December. 2024.
9. Dong, E., Jia, Z., Jia, L., Rao, S., Zhao, X., Yu, R., Zhang, Z., Gao, Y., Wang, W., Zhang, Y., Chen, Y., Banthia, N. 2024. Modeling fiber alignment in 3D printed ultra-high-performance concrete based on stereology theory. *Cement and Concrete Composites*. Vol.154. November 2024.105786.
10. Ali, H.A., Sun, K., Lu, J.X., Poon, C.S., Shilton, R., Banthia, N. 2024. Functionalizing heavy metal contained incinerated sewage sludge ash in recycled glass-based alkali-activated materials for sewer environment. *Construction and Building Materials*. Vol. 450. 8 November 2024.138724. DOI: <https://doi.org/https://doi.org/10.1016/j.conbuildmat.2024.138724>.
11. Liu, C., Zhang, Z., Jia, Z., Cao, R., Wang, W., Banthia, N., Chen, C., Xiong, Y., Chen, Y., Zhang, Y. 2024. Quantitative characterization of bubble stability of foam concrete throughout extrusion process: From yield stress, viscosity and surface tension point of view. *Composites Part B: Engineering*. Volume 284. September 2024. 111724.
12. Jain, S., Onuaguluchi, O., Banthia, N., Troczynski, T. 2024. Advancements in immobilization of cesium and strontium radionuclides in cementitious wasteforms – A Review. *Journal of the American Ceramic Society*. Vol 108. September 2024.
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c) Papers In Preparation or Submitted to Refereed Journals

1. Ali, H. A., Sun, K., Sun, X., Poon, C. S., Banthia, N. 2024. Utilizing incineration sewage sludge ash for antibacterial alkali-activated materials. *Journal of Environmental Science and Technology*. **Submitted.**
2. Lee, S. W., Park, J., Lee, D., Chun, B., Banthia, N., Yoo, D. Y. 2024. Tensile performance enhancement of strain-hardening alkali-activated concrete through the incorporation of recycled tire powder. *Cement and Concrete Composites*. **Submitted.**
3. Lee, S. W., You, I., Banthia, N., Yoo, D. Y. 2024. Effect of LCDGP/BFS Ratio on the Microstructure and Mechanical Properties of Ultrahigh-Performance Alkali-Activated Concrete Containing Straight and Hooked Steel Fibers. *Cement and Concrete Research*. **Submitted.**
4. Yoo, D. Y., Soleimani-Dashtaki, S., Banthia, N. 2023. Tensile Strain-Hardening Effect on Flexural Behavior of Reinforced UHPFRC Beams. *Composites Part B: Engineering*. **Submitted.**
5. Shi, C., Zhang, C., Li, K., Hu, X., Banthia, N., 2023. Advances in Numerical Simulation of the Failure of Fiber-Reinforced Concretes: a Comprehensive Review. *Cement and Concrete Composites*. **Submitted.**
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9. Kim, G. W., Oh, T., Lee, S.K., Lee, S.W., Banthia, N., Yoo, D. Y. 2023. Hybrid fiber reinforced ultra-high-performance geopolymer concrete with various sand-to-binder ratios. *Composites Part B: Engineering*. In Preparation.
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11. Lee, S.K., Oh, T., Banthia, N., Yoo, D. Y. 2023. Benefits of Nano-CaCO₃ in Strain-Hardening Geopolymer Composites (SHGC) Under Tension. *Cement & Concrete Composites*. In Preparation.

d) Patents

1. Banthia, N., Krishnadev, M.R. (Inventors), Metal Fiber with Optimized Geometry for Reinforcing Cement Based Materials, US Patent # 5443918, issued August 22, 1995.
Patent registered in 26 other countries. Patent covers a family of high performance steel fibres for reinforcing concrete. Tricon Ltd. Of Toronto has licensed the technology. Fibers produced based on this patent have exceeded all commercial fibers in Canada based on sales.
2. Banthia, N., Armelin, H.S. (Inventors), Concrete Reinforcing Fiber, US Patent # 5965277, issued October 12, 1999.
The patent covers a family of metal fibers for shotcrete reinforcement. An option agreement is in place with Synthetic Industries. In May 2000, the company agreed to license the technology. Based on the market size, it is anticipated that the arrangement will bring over \$1 million in royalty to UBC in the next five years.
3. Banthia, N., Hingson, R., Dubey, A. (Inventors), Fibers Having Improved Refereed Configuration, Concrete Reinforcing therewith and the Related Method, US Patent # 5981630, issued November 9, 1999.
4. Banthia, N., Fiber Reinforced Concrete, PCT Number WO 2015/176187 A1, issued 26 November 2015.

5. Banthia, N., Three-Dimensionally Deformed Fiber for Concrete Reinforcement. US Patent # 9845601, issued on December 19, 2017.
6. Banthia, N., Roghanian, N., Composite Structural Material Compositions Resistant to Biodegradation, US Provisional Patent Application No. 62/642883, filed on 14 March 2018.
7. Banthia, N., Polymer Fibers for Reinforcement of Cement-Based Composites. US Patent # 16/069,879, issued April 4, 2019.
8. Bicho, PA., Watson, PA, Banthia, N., Onuaguluchi, O., Cellulosic pulp internal curing agent for a hydraulic cement-based composite material. US Patent # 16615584, issued April 2, 2020.

e) Other Refereed Publications (HQP underlined, Representative Sample)

1. Chowdary Kandra, D., Onuaguluchi, O., Banthia, N. "Durability of Waste Glass Fine Aggregates in Cement Composites". Proceedings of the *1st Interdisciplinary Symposium on Smart & Sustainable Infrastructure (ISSI 2023)*. Vancouver, Canada, September 4-8, 2024.
2. Soleimani-Dashtaki, S., Ventura, C.E., Banthia, N., Hosseini, M., Soleimani, S., White, T., "Out-of-Plane Behavior of URM Walls Sprayed with Ecofriendly Ductile Cementitious Composite (EDCC)." *17th World Conference on Earthquake Engineering (17WCEE)*. Sendai, Japan, September 13-18, 2020.
3. Qian, C., Banthia, N., Yang, Z., Jiang, Z., "Experimental Investigation on Distribution of Temperature Field in Hardened Cement Paste at Cryogenic Temperatures", *7th International Colloquium on Performance, Protections & Strengthening of Structures, Under Extreme Loading & Events*, Protect 2019, Whistler, September 16-17, 2019.
4. Roghanian N., Banthia, N., "Evaluation of Geopolymer Coatings for Rehabilitation of Deteriorated Concrete Sewage Pipes", *CONSEC 2019: 9th International Conference on Concrete Under Severe Conditions - Environment & Loading*. June 5–7, 2019, Porto Alegre, Brazil. **(Best Paper Award)**
5. Structure and Infrastructure Engineering. Banthia, N., "Adaptive and Bio-Derived Cement-Based Composites for Next Generation Smart Infrastructure." *Proc. 6th International Conference on Recent Advances in Composite Materials (ICRACM-2019)*, Indian Institute of Technology, BHU, Varanasi, India, February 25–28, 2019.
6. Banthia, N., Onuaguluchi, O., Cui, D., "Bio-Inspired, Internally Cured Cellulose Fiber Reinforced Concrete for the Next Generation Infrastructure." *Durability and Sustainability of Concrete Structures (DSCS 2018)*, Moscow, Russian Federation, *American Concrete Institute* SP-326, pp. 1.1-1.18 June 6–7, 2018.
7. Banthia N, Onuaguluchi, O, Cui D. "Bio-Inspired, Internally Cured Cellulose Fiber Reinforced Concrete for Next Generation Infrastructure". *2018 ACI Special Publication*: 326: 1.1 – 1.18.
8. Soleimani-Dashtaki S., Ventura C.E., Banthia, N. "Seismic Strengthening of Unreinforced Masonry Walls using Sprayable Eco-Friendly Ductile Cementitious Composite (EDCC)." Proceedings of PROTECT2017, *6th International Workshop on Performance, Protection & Strengthening of Structures under Extreme Loading*, December 11–12, 2017, Guangzhou, China.
9. Soleimani-Dashtaki S., Banthia N., Ventura C.E. "Effect of High Strain-Rates on the Constitutive Response of EDCCs in Tension." Proceedings of PROTECT2017, *6th International Workshop on Performance, Protection & Strengthening of Structures under Extreme Loading*, December 11–12, 2017, Guangzhou, China.
10. Farooq, M., Banthia, N. "Bridge Scour Monitoring: Challenges and Opportunities." *39th IABSE Symposium – Engineering the Future, September 2017*, Vancouver, Canada (2755–2762).
11. Farooq, M., Bhutta, A., Banthia, N. "Effect of Slag Addition and Rate of Loading on Fibre Pullout in Alkali-Activated Fly Ash-Based Materials." Proceedings of *71st RILEM Annual Week & ICACMS 2017, September 2017*, Chennai, India, pp. 19–28.
12. Farooq, M., Bhutta, A., Borges P.H.R., Zanotti C., Banthia, N. "Flexural Behavior and Single Fiber-Matrix Bond-Slip Behavior of Macro Fiber Reinforced Fly Ash-Based Geopolymers." *High Tech Concrete: Where Technology and Engineering Meet*, Proceedings of the *2017 fib Symposium*, June 12–14, 2017, Maastricht, Netherlands, pp. 2338–2346.
13. Banthia, N., Keynote. "Self-Healing FRCs: Mechanisms and Challenges." *MicroDurability2016, International Conference*, October 2016, Nanjing, China.
14. Yoo D.Y., Yoon Y.S., Banthia, N. "Impact Resistance of Ultra-high-performance Fiber-reinforced Concrete with Different Steel Fibers." Proceedings of the *9th RILEM International Symposium on Fiber Reinforced Concrete (BEFIB 2016)*, September 19–21, 2016, Vancouver, BC, Canada.
15. Bhutta, A., Borges PHR, Banthia, N. "Mechanical Properties of Mk-based Geopolymer Composites Reinforced with PVA and PET Fibers." Proceedings of the *9th RILEM International Symposium on Fiber Reinforced Concrete (BEFIB 2016)*, September 19–21, 2016, Vancouver, BC, Canada.
16. Zanotti C., Borges P.H.R., Bhutta, A., Banthia, N. "Bond Strength of PVA Fiber Reinforced Geopolymer Repair To Portland Cement Concrete Substrate." Proceedings of the *9th RILEM International Symposium on Fiber Reinforced Concrete (BEFIB 2016)* September 19–21, 2016, Vancouver, BC, Canada.

17. Banthia, N., Keynote. "Sustainable Infrastructure with Smart Materials, Digital Monikers and Sensorial Networks." Concrete under Severe Conditions of Environment and Loading, *CONSEC2016*, September 2016, Lecco, Italy.
18. Banthia, N., Keynote. "Collaborative Infrastructure Research of IC-IMPACTS and Role of Advanced Composites." ACMBMS Conference, August 22–24, 2016, Vancouver, Canada.
19. Kaheh, P., Shrive, N., Soleimani-Dashtaki, S., Banthia, N. "Influence of Eco-Friendly Ductile Cementitious Composites (EDCC) on In-Plane Behaviour of Hollow Concrete Masonry Walls." 16th International Brick and Block Masonry Conference, June 2016, Padova, Italy.
20. Banthia, N., Keynote. "Digitization of Infrastructure with Smart Materials and Wireless Networks." *IGCMAT 2016: 1st International Conference on Grand Challenges in Construction Materials*, March 2016, UCLA.
21. Banthia, N., Keynote. "Canadian Overpass Collapse: Lessons Learnt." Proceedings of *the International Conference on Forensic Civil Engineering*, January 21–23, 2016, Nagpur, India.
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