



## Carmen Andrade Workshop on Corrosion Control in Concrete Structures (C<sup>3</sup>S)

Friday, September 8, 2017 | ICSR Auditorium | IIT Madras, Chennai, India

[www.rilem2017conference.org](http://www.rilem2017conference.org)

### ABOUT THE HONOUREE

Prof. Carmen Andrade worked as a scientist studying the durability of buildings, with particular attention at the corrosion of steel in reinforced concrete at the Institute of Construction Sciences “Eduardo Torroja” of the (CSIC) of Spain. She has authored numerous papers and edited several books. She has supervised more than 30 PhD theses. She has participated in and led various Standardization Committees and has been Chairperson of several international organizations related to her specialty (UEAtc, RILEM, WFTAO and Liaison Committee, which brings together associations: CIB, FIB, IABSE, IASS, RILEM and ECCE). (R. N. Whitney Prize 2013 by NACE and Robert L’Hermite Medal 1987 to young scientists from RILEM, “Manuel Rocha” of the Presidency of Portugal” and the “ALCONPAT” for the merits of the whole carrier). She has been General Director of Technological Policy of the Ministry of Education and Science and Advisor to the Secretary of State Universities in the Ministry of Science and Innovation, Spain. In RILEM, she has chaired three Technical Committees related to electrochemical techniques and chloride attack.



### ABOUT THE WORKSHOP

Many concrete structures are experiencing premature corrosion and not able to meet the design life. Almost 50% of the concrete structures today experience a repair within about 10 years. About ~1.5 % of GDP is spent in addressing the corrosion issues. There is a dire need to educate our engineers on how to assess and control corrosion in concrete structures. If we do not take adequate measures now, then the future generation will face an expensive challenge of repairing the large number of structures. This workshop is designed to help engineers to learn the tips to minimize premature corrosion and extend the life of both the existing and new structures. Lectures will have a blend of underlying scientific principles and research/practice-oriented viewpoints.

### TOPICS & SPEAKERS

*Inaugural talk* – Prof. Surendra P. Shah, Northwestern University, USA / IIT Madras, India

1. *Chloride- & carbonation-induced corrosion in uncracked concrete* – Dr. Yury A. Villagrán-Zaccardi, CONICET, Argentina
  2. *Corrosion of steel in cracked concrete* – Dr. Mike Otieno, Univ. of Witwatersrand, South Africa
  3. *Service life modeling of concrete structures* – Prof. Mark Alexander, Univ. of Cape Town, South Africa
  4. *Challenges in assessing corrosion in various concrete systems* – Dr. Radhakrishna G. Pillai, IIT Madras, India
  5. *Performance-based design of concrete structures* – Mr. Joost Gulikers – Min. of Infra. & Env., The Netherlands
  6. *Cathodic protection and electrochemical chloride extraction* – Prof. Miguel A. Climent, Univ. of Alicante, Spain
  7. *From diffusivity to corrosion rate through concrete resistivity values* – Prof. Carmen Andrade, CSIC, Spain
  8. *Discussion and the way forward* – Prof. Yunus Ballim, Univ. of Witwatersrand, South Africa
- Concluding remarks* – Prof. Ravindra Gettu, IIT Madras, India

### REGISTRATION FEE (Food/refreshments are covered)

- Indians – Persons registered for ICACMS 2017 can attend the workshop for FREE; But, prior registration is needed. On-Spot intimations will not be entertained. For others, who want to attend only the workshop(s), the fee is INR 2,000 + 15% Service tax per workshop.
- Foreigners – Regular fee is USD 100 per workshop; Student fee is USD 50 per workshop.

### CHAIRS and CONTACT INFORMATION

Prof. Surendra P. Shah, Distinguished Professor and Dr. Radhakrishna G. Pillai, Associate Professor  
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### PROGRAMME SCHEDULE

Session Timing	Topic	Speaker
<b>8:00 – 9:00 AM</b>	<b>Registration</b>	
9:00 - 9:30 AM	Inaugural talk	Prof. Surendra P. Shah Northwestern University, USA and IIT Madras, India
9:30 – 10:10 AM	Chloride- and carbonation- induced corrosion in uncracked concrete	Dr. Yury A. Villagrán-Zaccardi CONICET, Argentina
10:10 – 10:50 AM	Corrosion of steel in cracked concrete	Dr. Mike Otieno Univ. of Witwatersrand, South Africa
10:50 – 11:10 AM	Tea/Coffee Break	
11:10 – 11:50 PM	Service life modeling of concrete structures	Prof. Mark Alexander Univ. of Cape Town, South Africa
11:50 – 12:30 PM	Challenges in assessing corrosion in various concrete systems	Dr. Radhakrishna G. Pillai IIT Madras, India
12:30 – 1:30 PM	Lunch Break	
1:30 – 2:10 PM	Performance-based design of concrete structures	Mr. Joost Gulikers Min. of Infra. & Env., The Netherlands
2:10 – 2:50 PM	Cathodic protection and electrochemical chloride extraction	Prof. Miguel A. Climent Univ. of Alicante, Spain
2:50 – 3:10 PM	Tea/Coffee Break	
3:10 – 4:10 PM	From diffusivity to corrosion rate through concrete resistivity values	Prof. Carmen Andrade CSIC, Spain
4:10 – 4:30 PM	Discussion and the way forward	Prof. Yunus Ballim Univ. of Witwatersrand, South Africa
4:30 – 4:40 PM	Concluding remarks	Prof. Ravindra Gettu IIT Madras, India