

as of Jan, 2021.

## CURRICULUM VITAE

### **Dr RUWAN WEERASEKERA**

**FULL NAME** Ilisha Ruwan Abeyratne Weerasekera  
**PROFESSION** Senior Professor of Civil Engineering  
**STATUS** Full-time, Permanent  
**DATE OF BIRTH** 23 September, 1958  
**NIC No.** 195826700137

### **PERMANENT ADDRESS**

#### **Home**

No 98/11A  
Lake Road  
Wickramasinghepura  
Battaramulla 10120  
Sri Lanka

#### **Office**

Room CE 001  
Civil Engineering Complex  
Department of Civil Engineering  
University of Moratuwa  
Katubedda, Moratuwa 10400  
Sri Lanka

**TELEPHONE** +94-11-277-3342 +94-11-265-0324  
0718 015358 Ext. 2002  
**FAX** - +94-11-265-0622  
011-265-1216 (local)  
**E-MAIL** [ilisharuwan58@gmail.com](mailto:ilisharuwan58@gmail.com) [ruwan@uom.lk](mailto:ruwan@uom.lk)

### **UNIVERSITY EDUCATION**

PhD (1991)  
The University of Calgary  
Calgary, Alberta, Canada.

B.Sc Eng (Hons) (1982)  
University of Moratuwa  
Katubedda, Moratuwa, Sri Lanka.

Diploma in Curriculum Design & Instructional  
Material Development (2000) TTTI  
Taramani, Chennai, India.

**SPECIALISATION**      Education Technology  
                                  Structures  
                                  Civil Engineering

**EMPLOYMENT AND EXPERIENCE**

<b>Time Period</b>	<b>Position</b>	<b>Institution/Company</b>
Aug 2017 - To date	Senior Professor	Department of Civil Engineering University of Moratuwa, Sri Lanka
Aug 2009 – Aug 2017	Professor	Department of Civil Engineering University of Moratuwa, Sri Lanka
May 2012 - Aug 2013	Visiting Professor	Northshore College of Business and Technology, Colombo, Sri Lanka
Aug 2006 – Aug 2009	Director Quality Assurance	Faculty of Engineering University of Moratuwa, Sri Lanka
July 1997 – Aug 2009	Senior Lecturer Grade I	Department of Civil Engineering University of Moratuwa, Sri Lanka.
July 1991 – July 1997	Senior Lecturer Grade II	Department of Civil Engineering University of Moratuwa, Sri Lanka.
September 2007	Visiting Lecturer	Department of Civil & Env. Eng. University of New South Wales Sydney, Australia
March. 2002 – April 2002	Visiting Professor	Department of Civil Engineering University of Canterbury Christchurch, New Zealand
Jan 2002 – Feb. 2002	Visiting Professor	Department of Civil & Resource Eng The University of Auckland Auckland, New Zealand
August 2001 – Dec. 2001	Visiting Professor	Department of Civil Engineering The University of Calgary, Canada
Sept. 1990 – Dec 1990	Sessional Instructor	
Sept 1985 – July 1991	Research Assistant	
Sept 1985 – Aug 1990	Teaching Assistant	
July 1983 – July 1991	Assistant Lecturer	Department of Civil Engineering

Dec 1982 – July 1983	Temporary Assistant Lecturer	University of Moratuwa, Sri Lanka
June 1982 – Sept 1982	Temporary Instructor	
Sept. 1980 – April 1981	In-plant Trainee	Walkers, Sons & Co. Colombo, Sri Lanka.
May 1978 – Oct. 1978	Vacation Trainee	State Engineering Corporation, Colombo, Sri Lanka.

## **COURSES TAUGHT**

University of Moratuwa. Sri Lanka.

### **Undergraduate**

CE21 Civil Engineering Construction	1982 -1985
Construction Planning	
Planning of Buildings	
Structural Analysis	
CE25 Principles of Civil Engineering	1982-1983
CE31 Structural Analysis & Construction Processes	1982-1983
CE41 Structural Analysis	1983-1985 1992-1993
CE43 Design of Structures	1984-1985
Prestressed Concrete	1991-1992
CE23 Strength of Materials	1991-1992
CE33 Strength of Materials	1991-1994
UCE 201 Mechanics of Materials	1993-2001
UCE 303 Structural Analysis	1994-2001
UCE 401 Structural Analysis	1995-2001
UCE 403 Design of Structural Elements	2003-2004
Prestressed Concrete	
CE 301 Analysis of Structures	2003-2012
CE 1112 Structural Mechanics I	2013-Present
CE 2221 Structural Mechanics II	2014-2019
CE 3022 Structural Analysis I	2014-2020
CE 3222 Structural Analysis II	2015-Present
CE4032 Computational Mechanics	2015-Present
CE 5567 Mechanics of Materials	2016-Present

### **Post graduate**

PCEC 12 Highway Construction and Maintenance	1995-2001
PCED 02 Computer Analysis of Structures	1995-Present
PCED 05 Design of Pre-stressed Concrete Structures	1995-Present

PCED 01 Advanced Structural Analysis	1995-Present
PCEC 07 Bridge Engineering	2004-Present
CE 5142 Finite Element Analysis	2017-Present

*The University of Calgary, Canada*

### **Undergraduate**

AMAT 207 Mathematics for Engineers	1987 Fall
ENGG 407 Numerical Methods in Engineering	1990 Fall

### **Post graduate**

ENCI 637 Behaviour & Design of Pre-stressed Concrete Members 1990 Fall

### **PUBLICATIONS**

Herath, H.M.M.V and **Weerasekera, I.R.A.** (2020), “Feasibility of Applying Nano Technology in steel as a structural material”, Modulus, Society of Structural Engineers, Sri Lanka, Vol 30, No. 04, December 2020, pp 09-16

Apsara, D.D.D. and **Weerasekera, I.R.A.**, (2019), “Formulation of a new approach for corbel design in reinforced concrete”, Modulus, Society of Structural Engineers, Sri Lanka, Vol 29, No. 02, December 2019, pp 15-20

Imega, H.G.U. and **Weerasekera, I.R.A.**, (2018), “New insights on reactive powder concrete for application in bridges”, Modulus, Society of Structural Engineers, Sri Lanka, Vol 28, No. 04, December 2018, pp 25-33

Arunan A., and **Weerasekera, I.R.A.**, (2017), “Potential of reactive powder concrete (RPC) for precast construction in Sri Lanka”, Modulus, Society of Structural Engineers, Sri Lanka, Vol 27, No. 02, June 2017, pp 06-11

Jasotharan S and **Weerasekera, I.R.A.**, (2017) "An exact finite element using hyperbolic shear deformation beam theory", Proceeding of 3rd International Multidisciplinary Engineering Research Conference (MERCon 2017), on 31st May 2017, Moratuwa, Sri Lanka.

Jasotharan S and **Weerasekera, I.R.A.**, (2016) "Modified hyperbolic shear deformation theory for Static flexure analysis of thick isotropic beam", Proceeding of the 7th International Conference on Sustainable Built Environment (ICSBE 2016), on 17<sup>th</sup> December 2016, Kandy, Sri Lanka.

Thiruvassagar K. and **Weerasekera, I.R.A.**, (2016) “Prestress transfer length prediction for multiple strands and varying covers”, Modulus, Society of Structural Engineers, Sri Lanka, Vol 26, No. 03, September 2016, pp 07-10

Wickramage, W.K.H.R.E. and **Weerasekera, I.R.A.**, (2011), “Evaluation of Shear Design Procedures for Reinforced Concrete Beams without Stirrups”, Proceedings of the Inaugural Annual Sessions, Society of Structural Engineers – Sri Lanka, Colombo, November 2011.

**Weerasekera, I.R.A.**, (2009), “Analysis of the Prestress Transfer Bond Problem Incorporating Cohesive Cracking of Concrete”, Annual Sessions – Transactions, The Institution of Engineers, Sri Lanka, Colombo, October 2009.

Sureshkumar, V., and **Weerasekera, I.R.A.**, (2009), “Development of a Rational Procedure for Shear Design in Structural Concrete”, Proceedings of the 15<sup>th</sup> Annual Symposium, Engineering Research Unit, Faculty of Engineering University of Moratuwa, Sri Lanka, November 2009. (Pending)

Wickramage, W.K.H.R.E., and **Weerasekera, I.R.A.**, (2009), “Evaluation of Shear Design Procedures for Reinforced Concrete Beams without Shear Reinforcement”, Proceedings of the 15<sup>th</sup> Annual Symposium, Engineering Research Unit, Faculty of Engineering University of Moratuwa, Sri Lanka, November 2009. (Pending)

**Weerasekera, I.R.A.**, Rasikamal, A.A.D.I., Chandrasiri, J.P.S., and Attanayake, R.R., (2009), “Prediction of Flexural Bond in Reinforced Concrete”, Proceedings of the 15<sup>th</sup> Annual Symposium, Engineering Research Unit, Faculty of Engineering University of Moratuwa, Sri Lanka, November 2009. (Pending)

Sureshkumar, V. and **Weerasekera, I.R.A.**, (2009) “A Rational Procedure to Predict Shear Strength of Beams without Stirrups”, Proceedings of the 65<sup>th</sup> Annual Sessions, Sri Lanka Association for the Advancement of Science (SLAAS), Colombo, Sri Lanka, 2009.

Wickramage, W.K.H.R.E. and **Weerasekera, I.R.A.**, (2009) “Evaluation of Shear Design Procedures for Reinforced Concrete Beams with Shear Reinforcement”, Proceedings of the 65<sup>th</sup> Annual Sessions, Sri Lanka Association for the Advancement of Science (SLAAS), Colombo, Sri Lanka, 2009.

**Weerasekera, I.R.A.**, and Sabesh, A. (2008) “Prestress Transfer Using Controlled Detensioning Process”, Proceedings of the 64<sup>th</sup> Annual Sessions, Sri Lanka Association for the Advancement of Science (SLAAS), Colombo, Sri Lanka, December 2008.

**Weerasekera, I.R.A.**, and Peiris, H.C.T. (2008) “Solution of One Dimensional Geometric Nonlinear Problems Using Finite Difference Approach”, Proceedings of the 64<sup>th</sup> Annual Sessions, Sri Lanka Association for the Advancement of Science (SLAAS), Colombo, Sri Lanka, December 2008.

Sabesh, A., and **Weerasekera, I.R.A.**, (2008) “Prediction of Transfer Lengths Based on Cohesive Cracking”, Proceedings of the 64<sup>th</sup> Annual Sessions, Sri Lanka Association for the Advancement of Science (SLAAS), Colombo, Sri Lanka, December 2008.

Peiris, H.C.T. and **Weerasekera, I.R.A.**, (2008) “Effect of Nonlinear Behaviour of Cable Structures”, Proceedings of the 64<sup>th</sup> Annual Sessions, Sri Lanka Association for the Advancement of Science (SLAAS), Colombo, Sri Lanka, December 2008.

Sureshkumar, V. and **Weerasekera, I.R.A.**, (2008) “Critical Review of Shear Design Procedures Related to Reinforced Concrete Beams”, Proceedings of the 64<sup>th</sup> Annual Sessions, Sri Lanka Association for the Advancement of Science (SLAAS), Colombo, Sri Lanka, December 2008.

Wickramage, W.K.H.R.E. and **Weerasekera, I.R.A.**, (2008) “Comparison of Shear Strength of Beams based on Different Codes of Practice”, Proceedings of the 64<sup>th</sup> Annual Sessions, Sri Lanka Association for the Advancement of Science (SLAAS), Colombo, Sri Lanka, December 2008.

**Weerasekera, I.R.A.**, Sabesh, A., and Loov, R.E. (2007), “Reliability of Bond Measuring Devices in Pretensioned Prestressed Concrete”, Proceedings of the ISEC – 4 (4<sup>th</sup> International Structural Engineering and Construction) Conference, Melbourne, Australia, September 2007.

**Weerasekera, I.R.A.**, Jeyasuthan, Y., Premaraj, M., and Sabesh, A. (2006), “Effect of Spiral Reinforcement on Prestress Transfer”, Proceedings of the EASEC - 10 (Tenth East Asia-Pacific Conference on Structural Engineering & Construction) Bangkok, Thailand, August 2006.

**Weerasekera, I.R.A.** and Thilakarathna, H.M.I.(2006), “Serviceability Analysis of Continuous Prestressed Concrete Box-Girder Bridges Produced Using Span-By-Span Construction”, Proceedings of the 2<sup>nd</sup> ACF (Asian Concrete Federation) International Conference Bali, Indonesia, November 2006.

Thilakarathna, H.M.I. and **Weerasekera, I.R.A.** (2006a), “Computer Aided Serviceability Design Method for Structural Concrete Bridges with Incremental Launching”, Proceedings of the 2<sup>nd</sup> ACF (Asian Concrete Federation) International Conference Bali, Indonesia, November 2006.

**Weerasekera, I.R.A.**, Premawardena, V.A.S., Prasanna, K.P.N. and Samarasinghe, C.M. (2006), “Analysis of Bridge Decks for Thermal Loading for the Sri Lankan Industry”, Proceedings of the 12<sup>th</sup> Annual Symposium, Engineering Research Unit, Faculty of Engineering University of Moratuwa, Sri Lanka, November 2006.

**Weerasekera, I.R.A.**, Sabesh, A., Jeyasuthan, Y. and Premaraj, M. (2006), “A Practical Solution to Improve Transfer Bond in Pretensioned Prestressed Concrete Beams”,

Proceedings of the 12<sup>th</sup> Annual Symposium, Engineering Research Unit, Faculty of Engineering University of Moratuwa, Sri Lanka, November 2006.

**Weerasekera, I.R.A.**, Rowel W.D.N.P., Dassanayake, C.L., Ratnayake, K.C. and Wickramaratne, P.V.L. (2006) “A Comprehensive Study of Serviceability Behaviour of Slabs on Grade”, Proceedings of the 12<sup>th</sup> Annual Symposium, Engineering Research Unit, Faculty of Engineering University of Moratuwa, Sri Lanka, November 2006.

Thilakarathna, H.M.I. and **Weerasekera, I.R.A.** (2006b), “Serviceability of Continuous Box-Girder Concrete Bridges Made by the Progressive Cantilever Construction Procedure”, Proceedings of the 12<sup>th</sup> Annual Symposium, Engineering Research Unit, Faculty of Engineering University of Moratuwa, Sri Lanka, November 2006.

**Weerasekera, I.R.A.** (2006a), “Flexural Bond Failure of Pre-Stressed Concrete Beams”, Proceedings of the 62<sup>nd</sup> Annual Sessions, Sri Lanka Association for the Advancement of Science (SLAAS), Colombo, Sri Lanka, December 2006.

**Weerasekera, I.R.A.** (2006b), “Recognising the Importance of Thermal Loading in the Sri Lankan Context”, Proceedings of the 62<sup>nd</sup> Annual Sessions, Sri Lanka Association for the Advancement of Science (SLAAS), Colombo, Sri Lanka, December 2006.

**Weerasekera, I.R.A.** (2006c), “Serviceability Analysis of Slabs on Grade”, Proceedings of the 62<sup>nd</sup> Annual Sessions, Sri Lanka Association for the Advancement of Science (SLAAS), Colombo, Sri Lanka, December 2006.

**Weerasekera, I.R.A.** (2006d), “The Effect of Displacement Induced Loading on Ancient Stupas of Different Shapes”, Proceedings of the 62<sup>nd</sup> Annual Sessions, Sri Lanka Association for the Advancement of Science (SLAAS), Colombo, Sri Lanka, December 2006.

**Weerasekera, I.R.A.** (2006e), “Time Dependent Analysis of Structural Concrete Continuous Bridges Produced Using Balanced Cantilever Method”, Proceedings of the 62<sup>nd</sup> Annual Sessions, Sri Lanka Association for the Advancement of Science (SLAAS), Colombo, Sri Lanka, December 2006.

**Weerasekera, R.**, “Serviceability Limit State Design of Structural Concrete of General Shape”, ACECOMS – News & Views, The Asian Center for Engineering Computations and Software, AIT, March-April 2001.

**Weerasekera, I.R.A.** and Loov, R.E., “Further Insight into Flexural Bond Behaviour of Pre-stressed Concrete Beams”, Proceedings of the First International Structural and Construction Conference, Honolulu, Hawaii, USA, 24-27 January, 2001, pp 511-516.

**Weerasekera, I.R.A.**, and Jayasinghe, M.T.R., “A Design Method for Continuous Pre-tensioned Pre-stressed Concrete Bridges”, Annual Sessions, The Institution of Engineers, Sri Lanka. October 1998.

**Weerasekera, R.**, “Serviceability of Concrete Structures”, Modulus, Volume 8, No.4, Society of Structural Engineers, Sri Lanka. 1997.

**Weerasekera, R.**, “Prestress Transfer”, Modulus, Volume 7, No.3, Society of Structural Engineers, Sri Lanka. 1996.

**Weerasekera, I.R.A.** and Loov, R.E., “New Insights into Transfer Bond in Prestressed Concrete”, International Conference on Our World of Concrete and Structures, Singapore. 1995

**Weerasekera, I.R.A.** and Jayasinghe, M.T.R., “Use of Precast Prestressed Concrete Beams in Continuous Bridge Construction”, Proceedings of Symposium on Industry Related Research, Engineering Research Unit, University of Moratuwa, Sri Lanka. 1995.

Loov, R.E., and **Weerasekera, R.**, “Strand Development and Transfer Length”, Research Report to Prestressed Concrete Institute, Chicago, Illinois, USA, The University of Calgary, Calgary, Alberta, Canada. 1993.

Loov, R.E., and **Weerasekera, I.R.A.**, “Prestress Transfer Length”, Annual Conference of the Canadian Society of Civil Engineers, Hamilton, Ontario, Canada 1990.

**Weerasekera, I.R.A.**, and Loov, R.E., “Prestress Transfer Length Predicted by Cohesive Crack Model”, International Conference on Micro-mechanics of failure of Quasi-Brittle Materials, Albuquerque, New Mexico, USA 1990.

## **SCHOLARLY AND PROFESSIONAL ACTIVITIES**

### **Selected Consulting Assignments**

Consultant on Sub-structure & Foundation design for the Railway Bridge across Nilwala Ganga in the proposed southern railway line extension, Matara, Sri Lanka. 1992.

Consultant on Site Investigation Testing of Rock Samples at Dam and Power House sites for the Kukule Ganga Hydro-power Project, Kalawana, Sri Lanka. 1992

Consultant Bond & Anchorage of Rehabilitated Tower **Foundation** at the Electrical Switch -Yard, Balangoda, Sri Lanka 1992.

Consultant for Non-destructive Testing and Condition Evaluation of Concrete Elements of Abandoned Hotel Complex, Induruwa, 1996.

Consultant for Development of Precast Prestressed Concrete Piles for ICC, Piliyandala, Sri Lanka 2004



Consultant for Analysis and Design of Suspension Bridge across Beire Lake, Colombo, for State Engineering Corporation, Sri Lanka 2004.

Consultant for Rehabilitation of Pedestrian Bridge at Colombo Hilton Hotel, Sri Lanka 2015.

### **Professional Posts Held**

President, Society of Structural Engineers, Sri Lanka 2012`- 2015

Honorary Secretary, Society of Structural Engineers, Sri Lanka 1997 to 2001 and 2003 to 2004

Assistant Secretary, Society of Structural Engineers, Sri Lanka 1992 to 1994

Vice-President, Society of Structural Engineers, Sri Lanka 2008 to 2011

President, Sri Lanka Association for the Advancement of Science (Section C) Engineering, Architecture & Surveying 2008

### **Membership in Professional Associations**

Member, Asian Concrete Federation (ACF)

Member, International Association for Bridge and Structural Engineering (IABSE)

Member, The Institution of Engineers, Sri Lanka (IESL)

Member, Asian Centre for Engineering Computation and Software (ACECOMS)

HLife Member, Society of Structural Engineers – Sri Lanka (SSE)

Life Member, Sri Lanka Association for the Advancement of Science (SLAAS)