The Hong Kong government and the industry have expressed concerns of working in hot weather and promulgated a series of fundamental practice notes and guidelines on site safety measures for working in hot weather. This study aimed to formulate a heat stress model and heat tolerance time for bar benders and fixers since they usually have to work in open areas without shading when fixing reinforcement bars, arguably one of the most physically demanding construction trades. Based upon 281 sets of synchronized meteorological and physiological data collected from bar benders and fixers in four different construction sites between July and September 2010, physiological, work–related, environmental and personal parameters were measured to construct the heat stress model. The accuracy of the model is then compared against data which has not been used in developing the model. Multiple linear regression analysis showed that nine determining factors were able to predict workers’ subjective rating of perceived exertion. Furthermore, it is found that age, drinking habit, and work duration are the top three significant predictors to determine rebar workers’ physiological responses. Other predictors include percentage of body fat, air pollution index, heat index, smoking habit, energy consumption, and respiratory exchange rate. The accuracy of the heat stress model is found to be acceptable. The model developed in the present study provides scientific data which may benefit the industry to produce solid guidelines for working in hot weather.

**Dr. Michael Yam**

Dr. Yam obtained his BSc in Civil Engineering with Distinction and MSc at the University of Alberta, Canada and completed his PhD degree at the same University in 1994. Prior to joining the Department of Building and Real Estate of the Hong Kong Polytechnic University in early 2002, Dr. Yam has spent several years with the University of Macau as Assistant Professor of Civil Engineering, as well as the Hong Kong Technical College as Lecturer. He has also obtained consultancy experience in the areas of the design and construction of both reinforced concrete buildings and structural steelworks in Hong Kong. Dr. Yam is a member of the Hong Kong Institution
of Engineers, Institution of Professional Engineers New Zealand and the American Society of Civil Engineers. Dr. Yam’s research interests focus on construction safety and structural steel design.

### Language:
English

### Date & Time:
27 April 2011, Wednesday
7:00 pm – 8:30 pm *(Registration starts at 6:45 pm)*

### Venue:
SCOPE City University of Hong Kong
UR8, 8/F United Centre, Queensway, Admiralty, Hong Kong

### Registration Fee:
- CIOB member: HK$80.00
- Non CIOB member: HK$100.00
- CIOB Student member: Free of charge
I will be attending the CPD Seminar on “Developing a Heat Stress Model for Rebar Workers in Hong Kong” on 27 April 2011.

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By signing the above, I acknowledge that neither The Chartered Institute of Building (Hong Kong) nor any other persons connected directly or indirectly with this event is in any way responsible for any misfortune, accident, or virus infection of whatsoever nature which may befall me during the event and I hereby discharge any and all of the aforesaid from liability for such occurrences.

Registration & Enquiry

1. Maximum number of participants for the CPD Seminar is restricted to 100. In the events of over-subscription, priority will be given to members of the CIOB (HK).
2. The closing date for application is on **20 April 2011**.
3. Registration by phone or fax will **not** be accepted.
4. In the event that the black rain-storm or typhoon signal no. 8 is hoisted, the seminar will be postponed. No refund will be entertained except in these circumstances.
5. **Payment** should be made payable to “The Chartered Institute of Building (Hong Kong)” and sent by mail together with registration form to Room 1602, 16/F, Tung Chiu Commercial Centre, 193 Lockhart Road, Wan Chai, HK.
6. Any enquiries, please contact Ms Suzanna Tam at Tel. 2543 6369.

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