

Project Manager – Ir Dr. T.S. Johnny Yu

**Ir Dr. T.S. YU, Johnny**  
**RED Consultants Limited**

**QUALIFICATIONS** : B.Eng. (Civil Engineering), Hong Kong Polytechnic, 1993  
Ph.D. (Civil Engineering), Hong Kong Polytechnic University,  
1998  
M.Sc. (Applied Mathematics), Hong Kong City University,  
2000

**PROFESSIONAL**

**MEMBERSHIPS** : Member, The Institution of Civil Engineers since 2002  
Member, The Hong Kong Institution of Engineers since  
2004  
Committee, The International Association of Hydraulic  
Engineering and Research (Hong Kong Chapter)

**PRESENT POSITION** : Wind Tunnel and Hydraulic Specialist  
Red Consultants Ltd.

**KEY EXPERIENCE** : Ir Dr. Yu has over 4 years of research experience in addition with  
about 9 years of working experience. In particular: -

- Vast Experience in conduction of wind tunnel tests for buildings and other structures and analysis of test results.
- Vast experience in development of mathematical models to simulate complex hydrodynamic phenomena including flows in abrupt expansions, dumping in oceans, and recirculating flows in shelters.
- Vast experience in analysis of rural and urban drainage systems using hydrological and hydraulic software including Mike 11 and HydroWorks.
- Experience in conduction of physical model tests for hydraulic structures.

- Experience in preparation of preliminary design for a large-scale drainage improvement project in New Territories.
- Experience in analysis of catchwater systems.
- Experience in analysis of hydrological system of wetland.
- Experience in delineation of rural and urban catchments for runoff estimation.
- Experience in preparation of tender documents and works orders, and site supervision for a number of surveys including short term flow survey, topographical survey, and man entry and non-man entry manhole surveys.
- Experience in preparation of drainage and sewerage impact assessments for rezoning development projects.
- Experience in preparation of adoptive review for a large-scale sewerage study in New Territories.
- Experience in preparation of tender documents and administration on site for new town development contracts.
- Experience in administration of large-scale drainage projects.
- Experience in site inspection of construction activities including road works, bridge works and construction of underground infrastructures.

**EXPERIENCE**

7/04 – Present

:

Wind Tunnel and Hydraulic Specialist, Red Consultants Ltd.

Responsible for the wind load test and the pedestrian level wind comfort study for the Cyberport Stage 12 (RV), which includes conduction of wind tunnel tests, analysis of test results, preparation of test report and liaison with client.

Responsible for the wind load test for the residential development at Po On Road, which includes conduction of wind tunnel test, analysis of test results, preparation of test report and liaison with client and government.

Responsible for the pollutant dispersion test for the sludge treatment facility at Tuen Mun, which includes conduction of wind tunnel test, analysis of test results, preparation of test report and liaison with client and government.

Responsible for the wind load test for the Far East development at Cotai, Macau, which includes conduction of wind tunnel test, analysis of test results, preparation of test report and liaison with client and government.

Responsible for the pedestrian level wind comfort study at the TVB City, which includes conduction of wind tunnel test, analysis of test results, preparation of test report and liaison with client.

Responsible for the wind load and wind pressure tests for the Mixed Use Development at Lot B, Zone B, Nape, Macau, which includes conduction of wind tunnel tests, analysis of test results, preparation of test report and liaison with client and government.

Responsible for the wind load and wind pressure tests for the MGM Grand Hotel Development at Nape, Macau, which includes conduction of wind tunnel tests, analysis of test results, preparation of test report and liaison with client and government.

Responsible for the wind load test for the residential development at 35 Clear Water Bay Road, which includes supervision of wind tunnel tests, analysis of test results, preparation of test report and liaison with client.

Responsible for the Physical Modelling Test – Contract 1 of the Drainage Improvement in Tsuen Wan and Kwai Chung – Tsuen Wan Drainage Tunnel – Investigation, which includes design of physical models for the existing streams and the proposed intake structures, preparation of comprehensive proposal, conduction of experiments, analysis of experiment results, recommendation of modifications to the design of intake structures and preparation of test report.

Responsible for the Physical Modelling Test for Sheung Wan Stormwater Pumping Station, which includes design of physical model for the proposed pumping station, preparation of inception report and preliminary analysis report, establishment of mathematical model to study the surge effect due to pump failure, conduction of physical and numerical experiments, analysis of experiment results, recommendation of modifications to the design of pumping station and preparation of test report.

Responsible for the Physical Hydraulic Model Tests for Hong Kong West Drainage Tunnel in Northern Hong Kong Island – Eastern Portal Structure and Main Drainage Tunnel, which includes design of physical models, preparation of method statements, conduction of experiments, analysis of experiment results, recommendation of modifications to the design of the structures and preparation of test report.

1/98 – 7/04

Engineer, Metcalf & Eddy Ltd./Maunsell Consultants Asia Ltd.

Responsible for the Drainage Master Plan Study in the Northern New Territories, which includes delineation of catchments for hydraulic modelling, preparation of survey extent and site supervision of Short Term Flow Survey, Topographical Survey and Asset Data Collection, and Manhole Location, Man Entry and Non-man Entry Surveys, development of mathematical models to analyse the rural and urban drainage systems, and analysis of flood hazard for the study area.

Responsible for the Drainage Master Plan Study in the Southern Hong Kong Island, which includes delineation of catchments for hydraulic modelling, site supervision of Short Term Flow Survey, development of mathematical models to analyse the rural and urban drainage systems, analysis of flood hazard for the study area, and preparation of conceptual design for the proposed drainage improvement works.

Responsible for the Drainage Improvement in Northern New Territories – Package A, which includes review of proposed drainage improvement works under Drainage Master Plan Study in the Northern New Territories, preparation of Topographical Survey, preparation of preliminary design for the reviewed drainage improvement works and coordination of physical modelling works for channel improvement works at Kau Lung Hang.

Responsible for flood hazard assessment for the Tai Lam Chung Catchwater in Tsuen Wan, which includes development of mathematical models to analyse the existing capacity of the catchwater and recommendation of appropriate mitigation measures.

Responsible for flood hazard assessment for the racecourse in Happy Valley and recommendation of appropriate flood mitigation measures.

Responsible for the North District Sewerage Stage 1 Phase 2 – Design and Construction, which includes preparation of an adoptive review to the sewerage study “North District Stage 1 and 2”.

Responsible for the Design of Ecological Mitigation Measures and Landscaping Works and Assessment of Land Contamination for Eastern Main Drainage Channel for San Tin, which includes design a hydrological system for the proposed compensatory wetland.

Responsible for preparation of drainage and sewerage impact assessments of various rezoning development projects in New Territories.

Responsible for preparation of tender documents for two new town development contracts including TDD's contracts ST85/2000 and TK52/2000).

Responsible for administration of a number of new town development contracts on site as an assistant resident engineer including TDD's contracts TK40/94, TK42/96, ST75/97 and ST85/2000.

5/97 – 11/97

Research Assistant, Hong Kong Polytechnic University

Responsible for numerical investigations of various complex hydraulic phenomenon, which includes prediction of maximum wave heights in Hong Kong and temporal variation of tidal level, flow velocity and pollutant concentration in an semi-enclosed harbour.

9/93 – 5/97

Ph.D. Research Student, Hong Kong Polytechnic University

Responsible for numerical investigations of various complex hydraulic phenomenon, which includes prediction of flows behind an abrupt expansion and turbulent flows induced by buoyant pollutants.

10/91 – 8/92

Civil Engineering Under-Graduate, Drainage Services Department

Assisted in design and site supervision of Drainage and Sewerage improvement works in Kowloon City.

## **EMPLOYMENT RECORD**

### **Red Consultants Ltd.**

07/04-Present : Wind Tunnel and Hydraulic Specialist

**Metcalf & Eddy Ltd.**

03/02-07/04 : Engineer

**Maunsell Consultants Asia Ltd.**

02/01-02/02 : Assistant Engineer

08/99-01/01 : Assistant Resident Engineer

01/98-07/99 : Graduate Engineer

**Hong Kong Polytechnic University**

05/97-11/97 : Research Assistant

**Drainage Services Department**

10/91-08/92 : Civil Engineering Undergraduate

**PUBLICATIONS**

- 1) C. W. Li and T. S. Yu (1994). "Conservative characteristics-based schemes for mass transport", J. Hydr. Engrg., ASCE, 120(9), pp. 1089-1099.
- 2) T. S. Yu and C. W. Li (1994). "Efficient higher-order backward characteristics schemes for transient advection", Int. J. Num. Mtd. in Fluids, 19, pp. 997-1012.
- 3) C. W. Li and T. S. Yu (1995). "A flux-limiting scheme with reduced clipping and overshoot for advection-dispersion simulation", First Asian CFD conference, pp 919-924.
- 4) T. S. Yu and C. W. Li (1995). "A three-dimensional k- $\epsilon$  model for the recirculating flows behind a sudden expansion in a smooth open channel". Numerical methods in laminar and turbulent flow' 95, 1, pp.314-325.
- 5) C. W. Li and T. S. Yu (1996). Closure of the paper "Conservative characteristics-based schemes for mass transport", J. Hydr. Engrg., ASCE, 122(2), pp. 118-119.
- 6) C. W. Li and T. S. Yu (1996). "Numerical investigation of turbulent shallow recirculating flows by a quasi-three-dimensional k- $\epsilon$  model", Int. J. Num. Mtd. in Fluids, 23, pp. 485-501.
- 7) T. S. Yu and C. W. Li. "Instantaneous discharge of buoyant fluid in cross flow", J. Hydr. Engrg., ASCE.