Thailand

Name: Thailand Underground and Tunnelling Group (TUTG), The Engineering Institute of Thailand

Type of structure: Non-profit Organization

Number of members: 60

2016 ACTIVITIES

Main activities:

Support and disseminate all knowledge related to the use of underground space and tunnel construction both in the metro area (urban area) and rural area.

Conference:

1. 3nd Thai Geotechnical Conference (co-organized with EIT)
   Date 12-14 October 2016, Bangkok
2. Concrete Asia 2016 "Tunnelling Practice in Asian Countries Conference"
   Date 22 September 2016, Bangkok

	Working Groups	Participant in WG meetings (WTC2016)
TA YMG	Young Member	Mr.Siripong Nakthong
GT 02	Research	
GT 03	Contractual Practices	
GT 05	Health and Safety in Works	
GT 06	Maintenance and Repair	Dr.Auttakit Asanprakit
GT 09	Seismic Effects	
GT 11	Immersed and Floating Tunnels	
GT 12	Sprayed Concrete Use	
GT 14	Mechanization of Excavation	Dr.Aphichat Sramoon
GT 15	Underground and Environment	Dr.Harald Wagner
GT 17	Long Tunnels at Great Depth	
GT 19	Conventional Tunnelling	Mr.Siripong Nakthong
GT 20	Urban Problems, Underground Solutions	Dr.Harald Wagner
GT 21	Life Cycle Asset Management	

Annual Training:

1. Tunnelling in Soft Ground
   Date 25-27 May 2016, Bangkok, Thailand
2. Tunnelling in Rock
   Date 23-25 November 2016, Chiang Mai

Tea Talk Seminar

No.	Date	Topic	Speaker
1	3-2-2016	Transportation Tunnels Design and Construction with Emphasis on the New Austrian Tunnelling Method (NATM)	Prof. Johann Golser
2	18-5-2016	Macro Synthetic Fibre reinforced shotcrete for underground construction	Mr.Andrew Ridout and Mr.Des Vlietstra Elasto Plastic Concrete
3	31-8-2016	Injection for Underground Projects	Mr. Kenny Lo BASF
4	29-10-2016	Shaft Excavation in Rock	Mr. Surasak Sikeaw Right Tunnelling Co., Ltd.

Publications

1. Thongraksa, A., Jongpradist, P., Tunsakul, J., Sukkaruk, R. and Arangjelovski, G. (2016). Simulation of Shear Fracture in Rock Mass around High Pressurized Cavern by Element Free Galerkin Method, The 2016 World Congress on Advances in Civil, Environmental, and Materials Resarch (ACEM16), ICC JEJU, Jeju island, South Korea(August 28-September 1, 2016)
2. Jongpradist, P., Punya-In, Y., Tunsakul, J. and Arangelovski, G. (2016). Fracture Behaviour of Rock Mass around High Pressurized Gas Storage Cavern, International Conference on Geo-mechanics, Geo-energy and Geo-resources (IC3G), Monash Univesity, Melbourne, Australia, 28-29 September 2016, pp. 7-86-90.
3. Lueprasert, P., Jongpradist, P., Heama, N., Ruengwirojjanakul, K. and Suwansawatt, S. (2016). 3D Finite Element Analysis of Earth Pressure Balance Shield Tunnel Excavation using Shell Element and Grouting Layer, Sixth International Conference on Geotechnique, Construction Materials and Environment (Geomate), SwissOtel Le Concorde Hotel, Bangkok, Thailand, 14-16 November 2016, pp.92-97.
4. Chaipanna, P., Jongpradist, P. and Sugimoto, M. (2016). Analysis of Tunneling Construction with Ground Spring Model, Sixth International Conference on Geotechnique, Construction Materials and Environment (Geomate), SwissOtel Le Concorde Hotel, Bangkok, Thailand, 14-16 November 2016, pp.98-102.

TUNNELS – UNDERGROUND WORKS

MRT Blue Line Extension

Hua Lamphong – Bang Khae & Tao Poon – Tha Phra Sections in Bangkok

The project is a 27km heavy rail transit system with four (4) underground stations and fifteen (15) elevated stations. It also contains three (3) intervention shafts, one (1) railway bridge, one (1) depot with operation control centre and two (2) park and ride building facilities.

At present, the overall progress of construction works is around 89.16% as of February 2017.

MRT Orange Line

East Section- Thailand Cultural Center to Suwinthawong in Bangkok

The overall project has a total length of 40.6km, divided into 2 sections, West Section and East Section. The Construction contracts of 22.57km East Section were signed on February 2017 and construction commencement is expected in June 2017.

The Orange Line rail consisted of 10 underground and 7 elevated stations is linked to the initial MRT Blue Line.

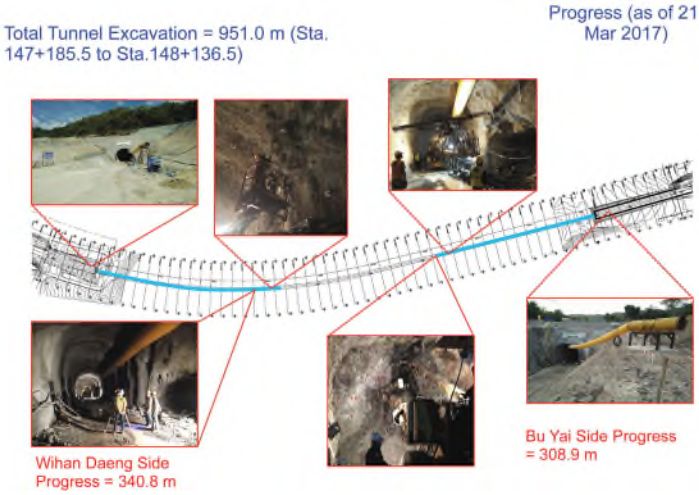
Mae Tang - Mae Ngud – Mae Kuang Water Diversion Tunnel

The purpose of this project is to transfer the water from Mae Tang river to Mae Ngad reservoir and Mae Kuang reservoir with a tunnel length over 48km and a diameter of 4m , with an overburden thickness up to 750m to convey 28m^3/sec of raw water. The transferred water will help cope with an increase in water demand for agriculture, domestic uses and industry in the lower Mae Kuang basin.

The tunnel will mostly pass through mountain ranges of folded sandstone and shale, except that the middle portion of the tunnel where for about 4km the tunnel will pass underneath the flat high plain of faulted rocks consisting of limestone, shale, chert and basalt.

Mae Tang - Mae Ngud – Mae Kuang Water Diversion Tunnel
Construction Progress: 4.782%
Excavated Tunnel: 1,110m.

Double track project on Eastern Seaboard Railway Contract 2: Wihan Daeng-Bu Yai with the railway tunnel



FUTURE ACTIVITIES

2017

- Tri-monthly Tea Talk Seminar
- In-house Training for State Railway of Thailand, SRT (May 2017)
- Training on Soft Ground Tunnelling (July 2017)
- Training on Rock Tunnelling (November 2017)
- 4th Thai Geotechnical Conference (Co-organizer)