

Cooperation of Tongji University and Technische Universität Darmstadt in Traffic and Transport



TECHNISCHE
UNIVERSITÄT
DARMSTADT



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History

Strategic Partnership

- ❑ 21 November 1980:
Cooperation Agreement
- ❑ First Cooperation of an University
in China with a German University
of Technology in BRD
- ❑ Since March 2013 the partnership
is funded by DAAD
- ❑ Contact office of TU Darmstadt at
Tongji University



Picture: Archive of TU Darmstadt



History

Prof. RETZKO and Prof. YANG



The cooperation between Tongji University and TU Darmstadt in Traffic and Transport goes back to the cooperation and friendship between Prof. RETZKO und Prof. YANG who both founded the institutes for traffic and transport at their universities.

History

Visit of Tongji President in 1989



Former President of Tongji University, Prof. Qidi WU, visited the Institute for Traffic and Transport in Darmstadt . *(Later, she became Vize Minister for Education in Beijing.)*

History

Award for Prof. RETZKO in 2004



In 2004, Prof. RETZKO was awarded the title „Advisory Professor of Tongji University“ by former Vice President Prof. DONG.
(Prof. DONG is now Advisor of the Minister and Head of Educational Affairs in the Chinese Embassy in Berlin.)

History Symposium 2005

交通信号控制指南

——德国现行规范 (RiLSA)

[德] 道路与交通工程研究学会 编
李克平 译



Joint Symposium on Traffic Signal Control,
Tongji University, Shanghai, 2005.

Translation of the German Technical Standard „RiLSA - Richtlinien für Lichtsignalanlagen“ (Guidelines for Traffic Signals) into Chinese.

History

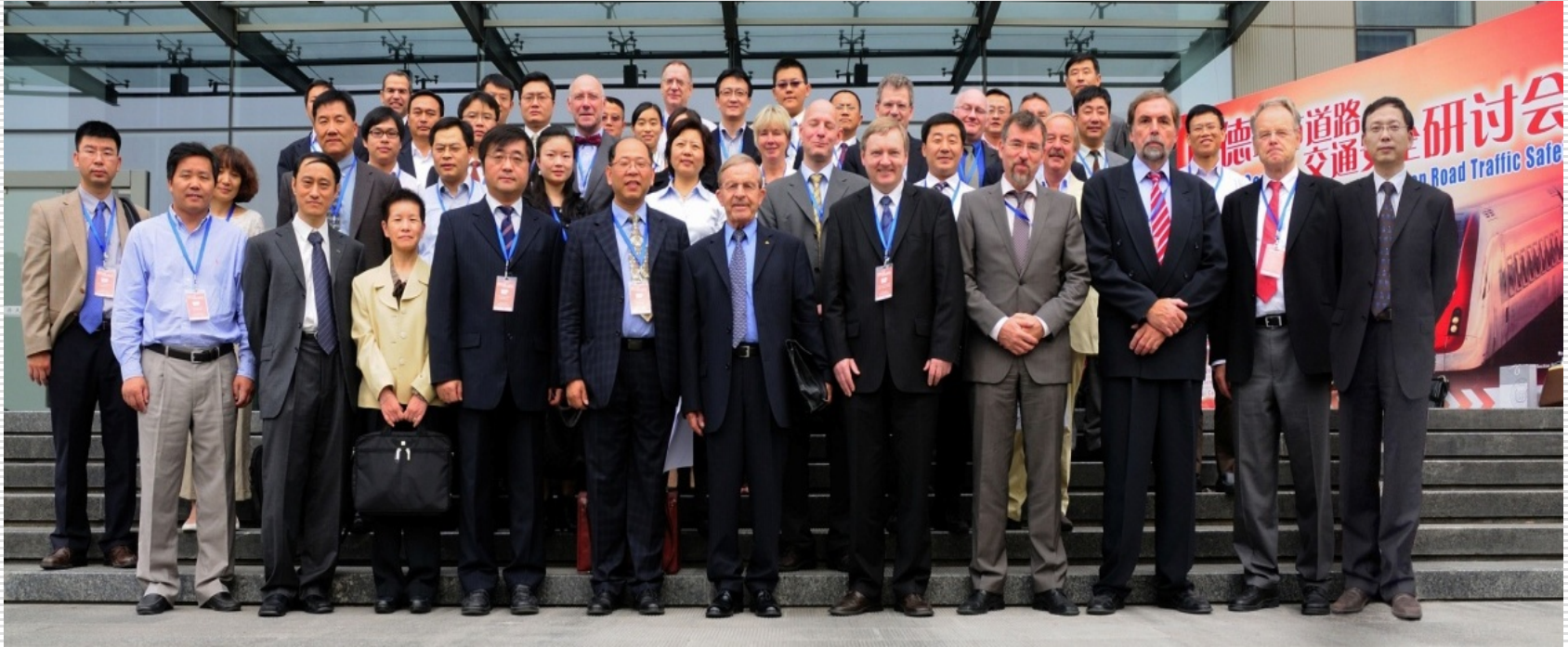
Visit of Prof. RETZKO in 2006



In 2006, Prof. RETZKO visited the former President of Tongji University, Prof. Gang WAN, on behalf of the TU Darmstadt President, Prof. J.-D. WÖRNER. (*Prof. WAN is now Minister for Science and Technology in Beijing.*)

History

Symposium 2009



Joint symposium:
1st Chinese-German Symposium on Urban Road Traffic Safety.
Tongji University, Shanghai, 2009

Joint Education

Doctoral and Master Theses

Jointly supervised doctoral student:
Ying NI: „Pedestrian Safety at
Urban Signalised Intersections.“



Doctoral Examination Ying NI, TU Darmstadt, 2009

Jointly supervised Master theses, examples 2014:

T. ZHOU: „Potentials to Reduce Air Pollution in China by Optimizing Traffic Signal Control.“

X. YU: „Applicability of Traffic Signal Control at Signalized Intersections with Light Railways (Trams) in China.“

Joint International Activities

IDS – International Doctoral Seminar



Annual seminar since 2005

Presentations of doctoral candidates

Discussion of research methods and results

Coordination of research at involved institutes

Joint International Activities

WCTRS World Conference on Transport Research Society

SIG C2 Urban Transport Operations



Nov. 2011: Nagoya (Japan)



Dec. 2012: Darmstadt (Germany)



Nov. 2014: Brisbane (Australia)

Addressed Topics:

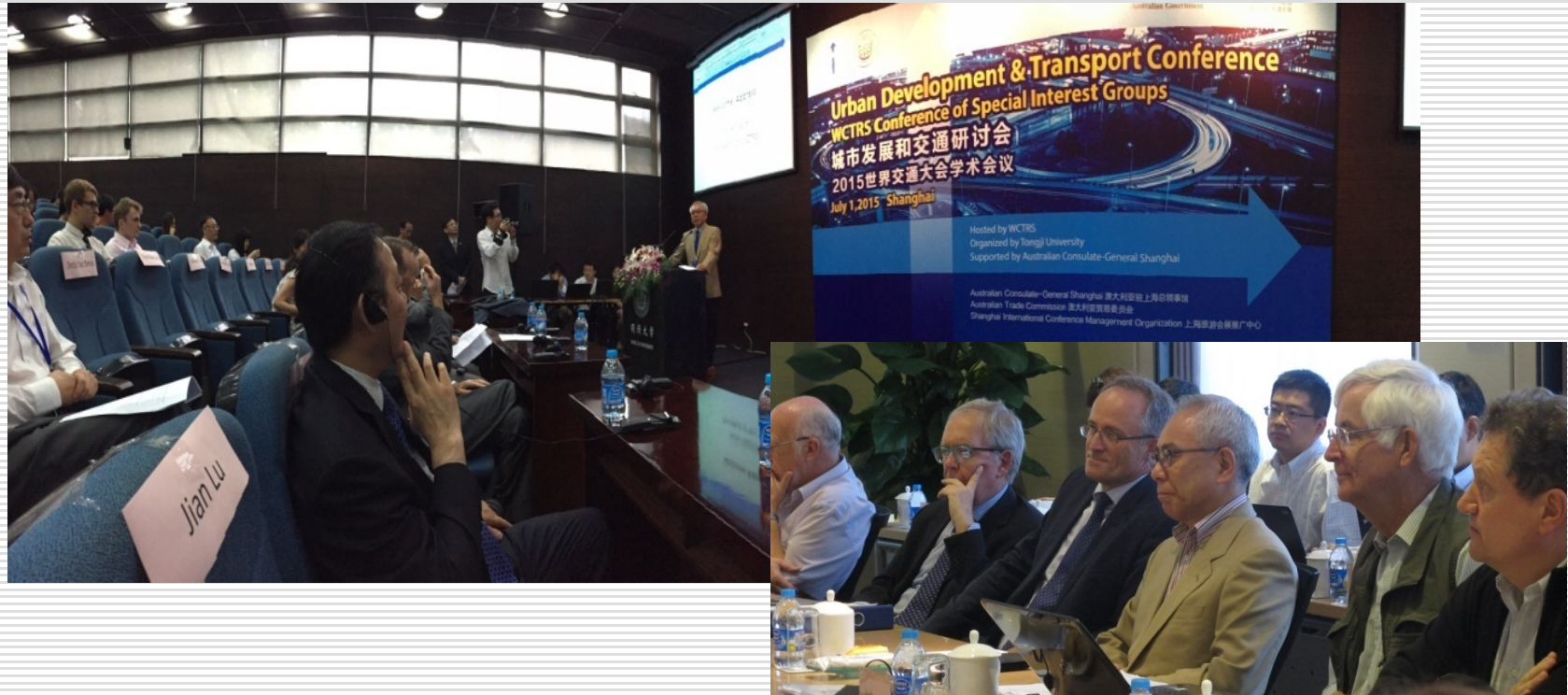
- International Comparison of Control Strategies
- Intergreen Times at Traffic Signals
- Quality Management for Traffic Control
- Intelligent Transport Systems (ITS)



Jul. 2013: Rio de Janeiro (Brazil)

Joint International Activities

WCTRS World Conference on Transport Research Society Scientific Committee



WCTR Scientific Committee Meeting and
SIG Joint Conference at Tongji Universität, Shanghai, June 2015

Joint International Activities

WCTRS World Conference on Transport Research Society

WCTR 2016 Shanghai

10-15 July 2015 at Tongji University

3.188 abstracts received

80 countries

39 session tracks

38 firm plans for special issues

Manfred Boltze:

Chairman WCTRS Scientific Committee

Keping Li:

Chairman Local Scientific Committee



WCTRS Young Researchers' Conference
10 July 2016



14th World Conference on
Transport Research
10-15 July 2016 • Tongji University, Shanghai, China



REGISTER NOW
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Join experts in all aspects of transport research, from all parts of the world to stimulate the exchange of ideas in the broad field of transport research.

Session topics include:

- A Transport Modes – General
- B Freight Transport and Logistics
- C Traffic Management, Operations and Control
- D Activity and Transport Demand
- E Transport Economics and Finance
- F Transport, Land-use and Sustainability
- G Transport Planning and Policy
- H Transport in Developing and Emerging Countries

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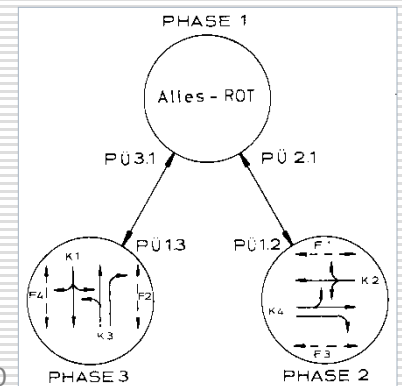
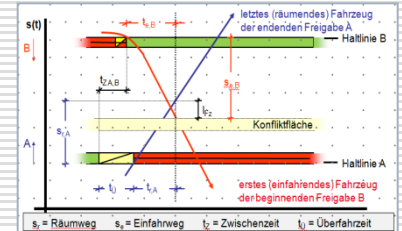
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For full details visit: www.wctrs-conference.com

Joint Research Interests

Road Traffic Safety

- Focus on traffic signal control
- Using microscopic traffic flow simulation
- Impact of intergreen times on safety and capacity
- Specific safety aspects for individual traffic modes: pedestrians, cyclists, e-bikes, trams, ...

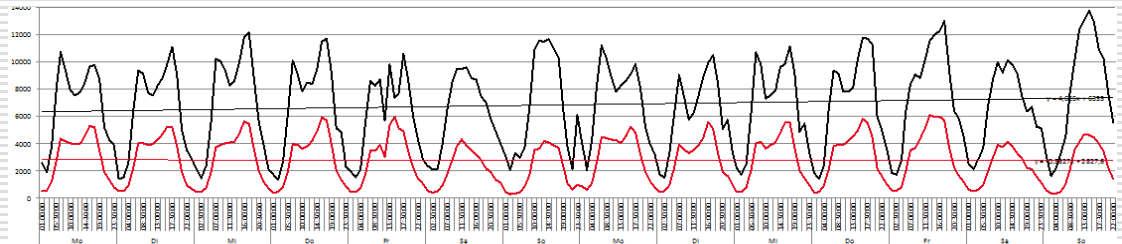
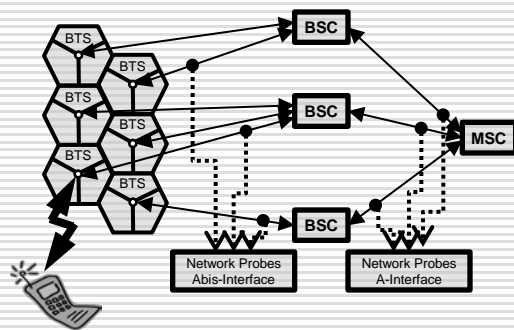


RILSA 2010

Joint Research Interests

Utilization of Floating Phone Data

- ❑ Examination of data based on mobile phone networks to analyze travel demand
- ❑ Applications in transport planning as well as in operational traffic management
- ❑ Deduction of Origin-Destination matrices, analysis of mode changes, ...
- ❑ Consideration of data protection and privacy issues

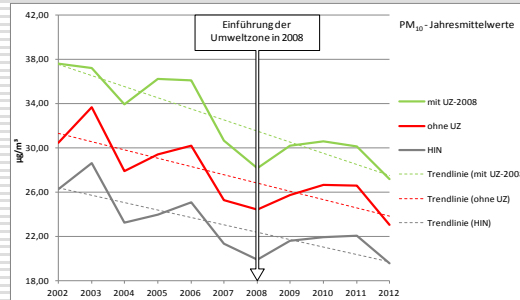
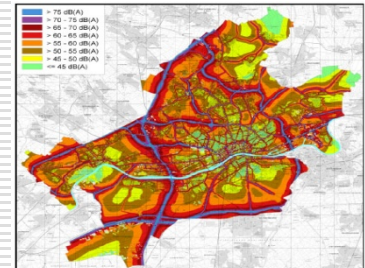


Comparison of „Location Area Changes“ (Phones) and detector data (vehicles) on the German Motorway A8

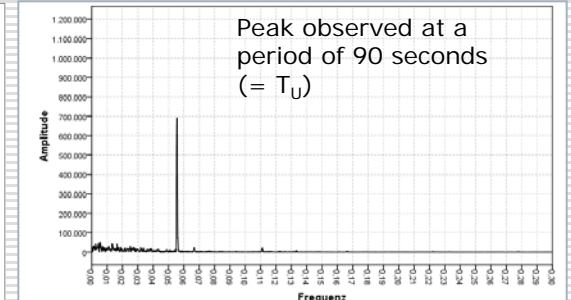
Joint Research Interests

Traffic and Environment

- Noise reduction
- Reduction of air pollution (notably particular matters and nitrogen oxides)
- Environment-responsive traffic control



Annual Mean of PM₁₀-Concentration in Germany 2002 - 2012



Frequency Analysis of NO_x-Concentration at a Traffic Signal (Project AMONES)

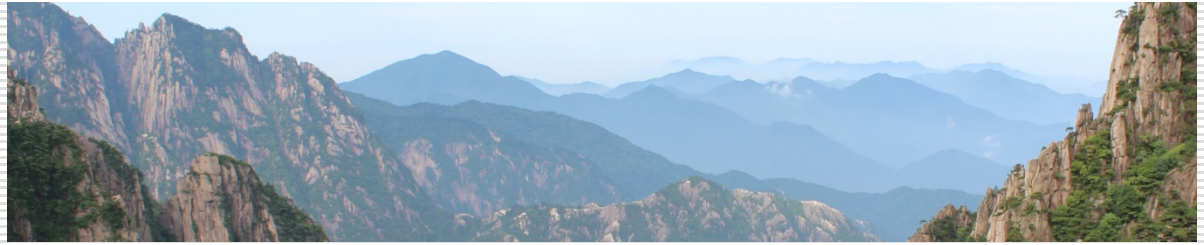
Joint Research Interests

Traffic and Health

- ❑ Compilation of all impacts on health by using different traffic modes
(fitness, stress, environmental loads by noise and air pollutants, accidents and injuries, ...)
- ❑ Consideration in infrastructure planning (e.g. location of pedestrian and cycling paths)
- ❑ Consideration in traffic management and traffic information (e.g. route guidance)



Outlook



- ❑ Continuous exchange regarding actual research questions in China and Germany
- ❑ Mutual support and cooperation in international activities
- ❑ Further joint education of students (Master and doctoral education)
- ❑ Joint research projects

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