

# ITS Chulalongkorn University

Intelligent Transportation System

A MEMBER OF CONSORTIUM FOR ITS TRAINING AND EDUCATION (CITE) AND ITS CONSORTIUM PARTNER, UNIVERSITY OF QUEENSLAND, AUSTRALIA

FOR MORE INFORMATION, PLEASE CONTACT:  
SORAWIT NARUPITI, PH.D.

ASSOCIATE PROFESSOR AND DIRECTOR OF TRANSPORTATION RESEARCH LABORATORY  
DEPARTMENT OF CIVIL ENGINEERING, CHULALONGKORN UNIVERSITY

PHYATHAI ROAD, PATHUMWAN, BANGKOK THAILAND 10330  
TEL +66-0-2218-6460, 2218-6473 FAX +66-0-2251-7304

E-MAIL: KONG@CHULA.AC.TH  
OR VISIT ITS CHULA WEBSITE AT  
WWW.CIVIL.ENG.CHULA.AC.TH/~CECHULA/ITS

**D**ID YOU KNOW THAT MOVEMENTS ON THE STREET THESE DAYS HAVE NOT CHANGED MUCH FROM THOSE 50 YEARS EARLIER? TECHNOLOGIES USED IN CARRYING PEOPLE AND MOVING GOODS, SUCH AS AUTOMOBILE, PUBLIC TRANSPORTATION, AND RAILROADS, REMAIN ESSENTIALLY UNALTERED. THIS IS SO DESPITE RAPID DEVELOPMENT IN SCIENCE AND TECHNOLOGY OVER THE PAST DECADES, FROM THE HEAVY MACHINE ERA TO THE PRESENT MICROCHIP AND INFORMATION AGE. RECENTLY, HOWEVER, INFORMATION AND TELECOMMUNICATION TECHNOLOGIES AND THE AVAILABILITY OF POWERFUL COMPUTATIONAL TOOLS HAVE BEGUN TO TRANSFORM THE WAY THAT EXPERTS APPROACH PROBLEMS IN TRANSPORTATION SYSTEMS

**T**HE APPLICATION OF CUTTING-EDGE TECHNOLOGY IN MODERN TRANSPORTATION SYSTEMS IS GENERALLY KNOWN AS "INTELLIGENT TRANSPORTATION SYSTEM," OR SIMPLY AS ITS. THE AIM OF ITS IS TO IMPROVE THE QUALITY OF TRANSPORTATION IN VARIOUS ASPECTS, SUCH AS EFFICIENCY, RELIABILITY, SAFETY, AND COMFORT. ADVANCED TECHNOLOGIES THAT COULD BE UTILIZED BY ITS INCLUDE VARIABLE MESSAGE SIGNS (VMS), DYNAMIC TRAFFIC ASSIGNMENT (DTA), GLOBAL POSITIONING SYSTEM (GPS), IMAGE/VIDEO PROCESSING TECHNOLOGY, ELECTRONIC TOLL COLLECTION (ETC), ETC

**THE FACULTY OF ENGINEERING, CHULALONGKORN UNIVERSITY,** HAS CONDUCTED EXTENSIVE RESEARCH IN THE FIELD OF INTELLIGENT TRANSPORTATION SYSTEM. DUE TO THE INTERDISCIPLINARY NATURE OF ITS RESEARCH AND DEVELOPMENT, SEVERAL DEPARTMENTS IN THE FACULTY HAVE PARTICIPATED IN THE EFFORT, NAMELY, CIVIL ENGINEERING, COMPUTER ENGINEERING, ELECTRICAL ENGINEERING, SURVEY ENGINEERING, MECHANICAL ENGINEERING, AND INDUSTRIAL ENGINEERING. MAJOR ADVANCEMENTS INCLUDE MANY IN-DEPTH STUDIES ON THE APPLICATIONS OF THE AFOREMENTIONED TECHNOLOGIES, THE DEVELOPMENT OF SEVERAL PROSPECTIVE HARDWARE PRODUCTS, AS WELL AS THE INVESTIGATION OF INSTITUTIONAL AND ORGANIZATIONAL ISSUES RELATED TO THE REAL-WORLD APPLICATIONS OF ITS. THE KEY RESEARCH TOPICS INCLUDE:

- ACCEPTABILITY OF ON-ROUTE GUIDANCE FOR AUTOMOBILE DRIVERS AND INFORMATION SYSTEM FOR PUBLIC TRANSPORTATION RIDERS
- VEHICLE DETECTION USING VARIOUS TECHNOLOGIES
- INFORMATION AND COMMUNICATION SYSTEM FOR ADVANCED BUS INFORMATION AND PRIORITY SYSTEM
- VEHICLE TRACKING SYSTEM
- REAL-TIME TRAFFIC DATA MANAGEMENT SYSTEM
- INTELLIGENT VEHICLES
- ADVANCED TRAFFIC SIGNAL CONTROL SYSTEM

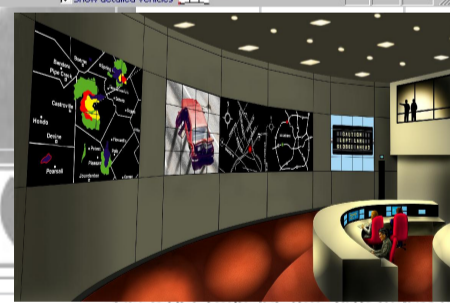
**T**HE RESEARCH AND IMPLEMENTATION OF ITS WOULD RAISE THE QUALITY OF TRANSPORTATION AND TRAFFIC SYSTEMS TO THEIR HIGHEST STANDARDS. THE DEVELOPMENTS UTILIZE TECHNOLOGIES THAT ARE SUITABLE FOR LOCAL CHARACTERISTICS OF TRAVEL DEMAND AND BEHAVIORS. ITS IS THE HOPE OF THE PUBLIC TO HAVE THE "OPTIMAL" TRANSPORTATION SYSTEMS, THE ONES THAT ARE SAFE, RELIABLE, EFFICIENT, AND SUSTAINABLE

## RESEARCH TEAM

- PROF. DR. SOMSAK PANYAKAEW, ELECTRICAL ENGINEERING
- ASSOC. PROF. DR. CHATCHAI WAIYAPATTANAKORN, ELECTRICAL ENGINEERING
- ASSIST. PROF. DR. LUNCHAKORN WUTTISITTIKULKIJ, ELECTRICAL ENGINEERING
- DR. SUREE PUMRIN, ELECTRICAL ENGINEERING
- DR. CHADDIT ASWAKUL, ELECTRICAL ENGINEERING
- ASSOC. PROF. DR. SORAWIT NARUPITI, CIVIL ENGINEERING
- ASSIST. PROF. DR. SOMPONG SIRISOPONSILP, CIVIL ENGINEERING
- DR. SAKSITH CHALERMPONG, CIVIL ENGINEERING
- DR. KASEM CHOOCHARUKUL, CIVIL ENGINEERING
- DR. SUEBSKUL PHIPHOBMONGKOL, COMPUTER ENGINEERING
- DR. CHAI PHONGPHANPHANEE, COMPUTER ENGINEERING
- DR. SETHA PAN-NGUM, COMPUTER ENGINEERING
- ASSIST. PROF. DR. KANIT WATTANAVICHIE, MECHANICAL ENGINEERING
- DR. PAVEENA CHAOVALITWONGSE, INDUSTRIAL ENGINEERING
- ASSIST. PROF. DR. PAISAN SANTITAMNONT, SURVEYING ENGINEERING
- ASSIST. PROF. DR. CHALERMCHON SATIRAPOD, SURVEYING ENGINEERING

## RESEARCH AREA

- PHOTOVOLTAIC SYSTEM
- COMMUNICATION
- IMAGE/VIDEO PROCESSING
- TRAFFIC/NETWORK MODELING
- ATMS AND ATIS
- SUPPLY CHAIN/LOGISTICS
- APTS
- TRAFFIC OPERATION
- MACHINE VISION/INTELLIGENT SYSTEM
- INTELLIGENT SYSTEM
- ELECTRONIC DEVICE
- AUTOMOTIVE TECHNOLOGY
- SUPPLY CHAIN/LOGISTICS
- GEOINFORMATICS
- GPS



Boston and Cambridge Roads

Central Artery North

Moderate congestion

Central Artery South

