STEM careers in transport

Dr Waressara Weerawat

Gender | Female
Nationality | Thai
Languages | Thai, English
A-level subjects | N/A
Job title | University Lecturer/Researcher
Current employer | Mahidol University, Thailand
Sector:

- Industry
- ✓ Academia
- Policy/government
- Other

Mahidol University

What is your job about?

Teaching and supervising university students as well as conducting research work.

What do you like about it?

I can choose my own interesting subjects for doing research. I enjoy working and learning with students.

How do you apply STEM in your work?

For teaching and research in the engineering school, STEM is "a must" for my work.

Which is your favourite STEM subject?

I like statistics. It is all about the numbers.

How do you see transport of the future?

I want to see the better public transport services all over Thailand, especially for the intercity rail and city mass transit (metro).

STEM scale at work

Level of STEM subjects used at work

Science | Technology | Engineering | Maths

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STEM careers in transport

Dr Phumin Kirawanich

Gender | Male
Nationality | Thai
Languages | Thai, English
A-level subjects | N/A
Job title | Associate Professor
Current employer | Mahidol University, Thailand
Sector:

- Industry
- ✓ Academia
- Policy/government
- Other

Mahidol University

What is your job about?

Teaching Courses on Electrical Engineering Subjects

What do you like about it?

To get involved with the growth of student learning curve.

How do you apply STEM in your work?

Through classroom and onsite learnings.

Which is your favourite STEM subject?

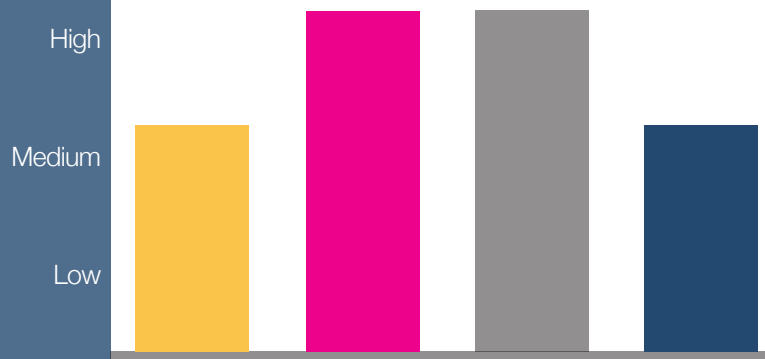
Engineering Electromagnetics [Definition: the phenomenon of the interaction of electric currents or fields and magnetic fields]

How do you see transport of the future?

Where the philosophy and design concept in the classroom will be involved in the future transport implementation.

STEM scale at work

Level of STEM subjects used at work



Science | Technology | Engineering | Maths

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STEM careers in transport

Dr Anna Fraszczyk

Gender | Female
Nationality | Polish
Languages | Polish, English
A-level subjects | Polish, English, Maths, Geography
Job title | Visiting Professor/Lecturer
Current employer | Mahidol University, Thailand
Sector:

- Industry
- ✓ Academia
- Policy/government
- Other

Mahidol University

What is your job about?
I am currently involved in rail education and research activities at university, which means that I work with students, but also do research indivdualy and in a team.

What do you like about it?
I like sharing my knowledge and experience in helping students reach their potential and evolve as researchers. I also like my research freedom which keeps me interested in other people's transport research and inspire me to develop new projects.

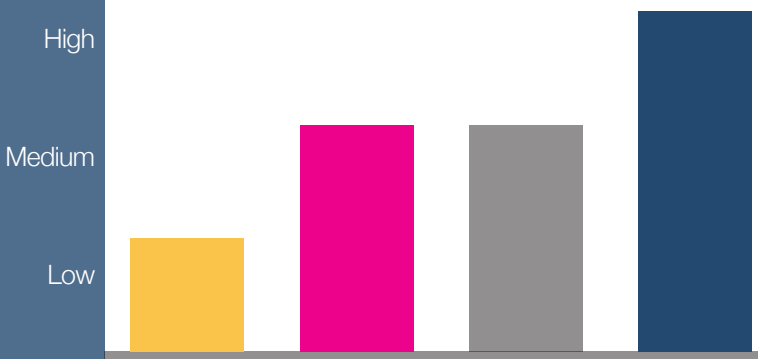
How do you apply STEM in your work?
I often use a questionnaire as a tool to collect large amount of (transport) data and then run statistical analysis using MS Excel or SPSS software to understand the data better and come up with recommendations for stakeholders.

Which is your favourite STEM subject?
I have always liked **math**, but I like to keep an eye on developments in transport **technology**, such as driverless trains, electric cars, MaaS and hyperloop!

How do you see transport of the future?
I think transport will have to be more susitainable so in cities there will be more attention to walking & cycling, Mass Rapid Transit (metro) and electric (driverless) vehicles! Beyond cities, rail, road, water and air transport will be embracing new technologies to ensure more effective and sustainable operations are executed.

STEM scale at work

Level of STEM subjects used at work



Science | Technology | Engineering | Maths

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STEM careers in transport

Dr Natachai Wongchavalidkul

Gender | Male
Nationality | Thai
Languages | Thai, English
A-level subjects | N/A
Job title | Lecturer
Current employer | Mahidol University, Thailand
Sector:

- Industry
- ✓ Academia
- Policy/government
- Other

Mahidol University

What is your job about?

Lecturer, researcher, and consultant on the subjects that are related to transportation and traffic planning.

What do you like about it?

Working in a transportation field allows me to explore various subjects, such as: computer science, social science, economics.

How do you apply STEM in your work?

N/A

Which is your favourite STEM subject?

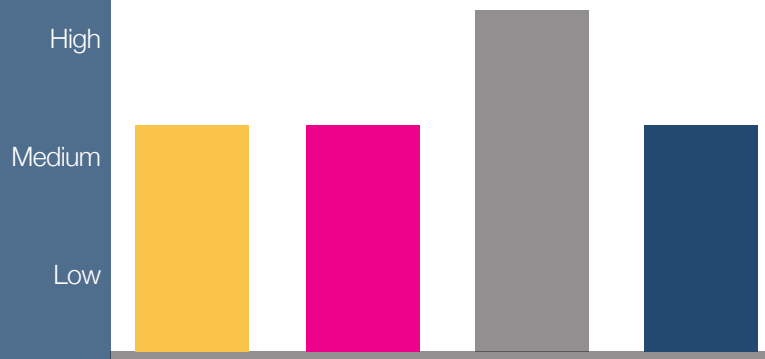
N/A

How do you see transport of the future?

Transport is facing many challenges and there are many issues that need solving and planning, i.e. data integration, service plans, maintenance, and further extended system planning.

STEM scale at work

Level of STEM subjects used at work



Science | Technology | Engineering | Maths

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STEM careers in transport

Dr Jirapan Liangrokapart

Gender | Female
Nationality | Thai
Languages | Thai, English
A-level subjects | N/A
Job title | University Lecturer/Researcher
Current employer | Mahidol University, Thailand
Sector:

- Industry
- ✓ Academia
- Policy/government
- Other

Mahidol University

What is your job about?

Teaching, doing research, and supervising students.

What do you like about it?

I like sharing my knowledge and experience with students.

How do you apply STEM in your work?

In classroom teaching and research.

Which is your favourite STEM subject?

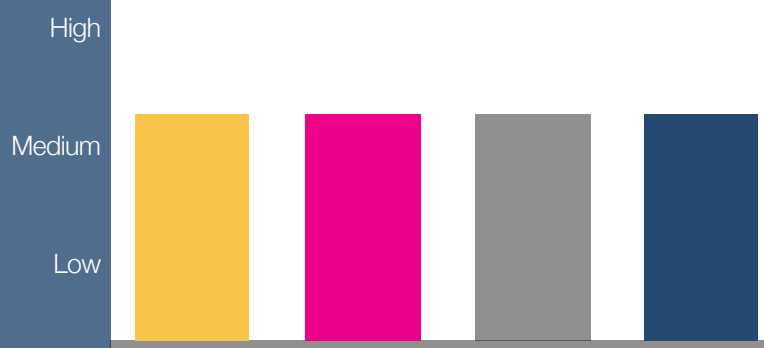
I like Science and Technology and its applications.

How do you see transport of the future?

I think the public transport will be faster, more convenient and reliable, and offer better service to the public with an affordable price.

STEM scale at work

Level of STEM subjects used at work



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Science | Technology | Engineering | Maths

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STEM careers in transport

Dr Marin Marinov

Gender | Male
Nationality | Bulgarian
Languages | Bulgarian, English, Portuguese
A-level subjects | Maths, Bulgarian, History, Physics
Job title | Senior Research Associate
Current employer | Newcastle University, UK
Sector:

- Industry
- ✓ Academia
- Policy/government
- Other

What is your job about?
Successful applications for external research funding for research projects and other innovatory work as principal applicant;
Collaborative research work with academics within this University and elsewhere;
Successful recruitment of research students, of the supervision of such students, and of the successful timely submission of completed theses.

What do you like about it?
The exposure to new developments and the international element of it;
The engagement with peers, scholars and professionals from all over the world;
Positive student feedback and progression.

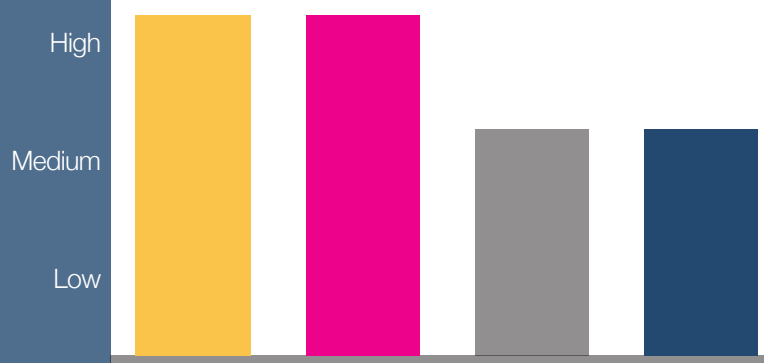
How do you apply STEM in your work?
I design and develop new solutions for transport systems;
I develop models and methodologies to study transport system performance;
I publish scientific papers in peer reviewed journals.

Which is your favourite STEM subject?
Science and technology. The implementation of new technologies in particular. As well as the use of mathematical models for impact assessment studies.

How do you see transport of the future?
Unmanned automated transport systems fully integrated, for both passengers and freight..

STEM scale at work

Level of STEM subjects used at work



Science | Technology | Engineering | Maths

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STEM careers in transport

Dr Aleksandrs Rjabovs

Gender | Male
Nationality | Latvian
Languages | English, Latvian, Russian
A-level subjects | Maths, Physics, Latvian, English, History, Geography
Job title | Project Manager
Current employer | Tyne and Wear Metro, UK
Sector:

- ✓ Industry
- Academia
- Policy/government
- Other

What is your job about?

My current job is about delivering infrastructure renewal projects in areas of business improvement, civil and permanent way construction.

What do you like about it?

It allows using both technical and interpersonal skills to deliver projects which contribute wider community and improve reliability of a system used by thousands of people daily. The job provides exposure to a variety of aspects of the Metro from performance to fleet maintenance.

How do you apply STEM in your work?

STEM is applied in terms of statistical analysis (probabilities), calculations of quantities and budgets, and understanding technicalities of construction projects, e.g. bridge renewals.

Which is your favourite STEM subject?

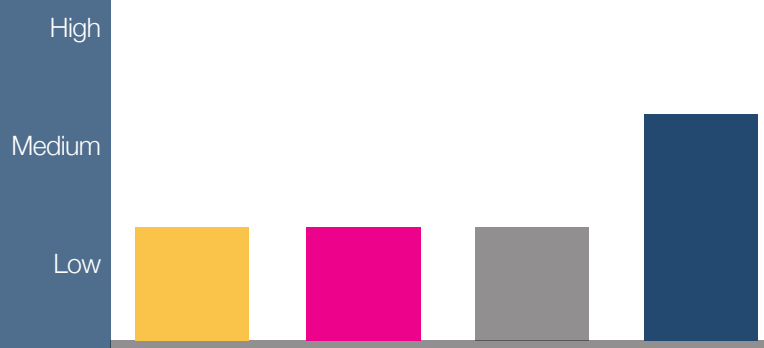
Maths as it is provides basis for some many things in our life.

How do you see transport of the future?

On-demand, very adaptable to changing needs, fuelled by alternative energy sources and driving sustainable development around it.

STEM scale at work

Level of STEM subjects used at work



Science | Technology | Engineering | Maths

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STEM careers in transport

Mr James Parkinson

Gender | Male
Nationality | British
Languages | English, French
A-level subjects | Maths, Biology, Chemistry, French
Job title | Head of Commercial
Current employer | Tyne and Wear Metro, UK
Sector:

- ✓ Industry
- Academia
- Policy/government
- Other

What is your job about?
My job is about operational performance, business planning, commercial income and management of contracts.

What do you like about it?
The job is very varied and I get involved in all parts of running the Metro. This encompasses everything from liaising with an engineer to understand a problem with a Metro train and what can be done about it, to writing a report on operational performance.

How do you apply STEM in your work?
I mainly apply maths in my work, through looking at how we analyse operational performance. With hundreds of services a day, we generate a huge amount of data and how we use that to improve performance is very important.

Which is your favourite STEM subject?
Maths, it is important to everybody everyday, no matter what their role within transport.

How do you see transport of the future?
I see data and how it is analysed and used becoming increasingly important in the planning and provision of public transport. We are capturing more and more data but not yet making full use of it, I think the future will see better use of this.

STEM scale at work

Level of STEM subjects used at work

High
Medium
Low

Science | Technology | Engineering | Maths

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