The Joint Master’s Programme in Applied Geophysics is a two-year joint degree programme offered by three of Europe’s leading science and technology institutions: Delft University of Technology, ETH Zurich and RWTH Aachen University.

Geophysical techniques supporting geothermal and hydrocarbon exploration and management are taught in a multifaceted program which includes both theoretical and practical aspects. Teaching methods include hands-on simulation and data analysis exercises, field work both in exploration methods and borehole logging. The Joint Master’s Programme is run in close collaboration with industry. Companies support the program by providing funding, grants for scholarships, opportunities for research projects, and by experts for special lectures or co-supervision of master thesis projects.

The Joint Master’s Programme offers students a combination of study and research, leading to an outstanding qualification in Applied Geophysics, relevant for careers in the areas of Earth resource exploration and management and environmental and engineering investigations. Graduates from the programme are both immediately attractive for positions in industry as well as well prepared for doctoral studies in Earth Sciences.

Please visit www.idealeague.org/geophysics for more information on the programme and how to apply.
Programme Details

**TU Delft**
Year 1, September - January
The Delft semester will focus on convergence courses, seismic and electromagnetic theory and exploration geophysics.

**ETH Zürich**
Year 1, February - June
ETH Zürich will offer courses on seismic data processing, numerical modelling and inversion, geophysics field programme and engineering geophysics.

**RWTH Aachen**
Year 2, October - February
The semester at RWTH Aachen will be focused around geothermics, petrophysics and borehole logging.

**Master Thesis**
Year 2, March - August
In the last semester students will write their Master Thesis at one of the three universities or other approved university or industry laboratories.

Why Applied Geophysics?

To meet the growing demands of the world's expanding population for natural resources, to resolve problems created by our misuse of the land, to provide critical data to architects and civil engineers and to forecast the effects of natural disasters, it is necessary for us to acquire detailed information on the structure, composition and condition of the outer skin of the Earth. Applied geophysicists provide this essential information in a non-destructive manner.

**Qualifications**
To help satisfy society's rising need for highly qualified applied earth scientists, the partner universities together offer the Joint Master's Programme. Those who successfully complete the programme of study and research are well qualified in applied geophysics related to either hydrocarbon exploration and exploitation or environmental and engineering investigations, including geothermal energy exploration and exploitation, with a solid background in the other specialty.

Employment
Our graduates work in a wide range of companies and government institutes in the petroleum and civil engineering industry, such as oil and gas companies and contracting firms. Some sign up for PhD research programmes in various parts of the world. Others find employment outside geophysics in, for example, consultancy agencies and financial institutions.

Living in different cities

The Joint Master's Programme in Applied Geophysics offers students the opportunity to live and learn in 3 European cities. Living in different countries broadens the students' perspective through experiencing different cultures. Its enhanced student mobility therefore improves the students' chances of pursuing careers in competitive global industries.

**TU Delft**
Delft, The Netherlands
TU Delft's principal strength is in hydrocarbon exploration and management. The city of Delft offers a wonderful blend of ancient canals lined with merchant houses and modern architecture.

**ETH Zürich**
Zürich, Switzerland
ETH Zürich's principal strength is in engineering and environmental geosciences. Zürich has a natural beauty for all seasons - inviting for a swim in the lake in the summer and nearby ski resorts in the winter.

**RWTH Aachen**
Aachen, Germany
RWTH Aachen's principal strength is in geothermal exploration and basin modelling. The city of Aachen is situated on the rim of the wooded Eifel and Hautes Franges and offers both medieval and modern flair.

I'm currently half way through the Joint Master's Programme in Applied Geophysics and it has been absolutely amazing so far. I did an industrial placement during my bachelors in Physics working for a marine seismic company. That is how I got into Geophysics and I knew I wanted to study it further. A colleague referred me to the Joint Master’s Programme and I immediately loved the idea of moving around different universities across Europe. Each city has a unique atmosphere which I fully appreciated after living there for a semester.

Geophysics hasn't been the only thing I've learnt on this journey. Moving around has taught me to embrace foreign cultures, try new experiences and become more organised. I am confident the second year will only open up more opportunities. For anyone who loves travelling and has an interest in Geophysics, the Joint Masters Programme is perfect for you!

It's always been in my nature to take on new challenges, so both the M.Sc. Applied Geophysics and my job with Schlumberger after graduation were logical steps for me to take. Apart from that, the international atmosphere of the Joint Master's Programme is mirrored in my current job; I work with people from all over the world and have worked in six different countries already! Furthermore, the analytical skills that I have developed during the Joint Master's Programme are very helpful for my job as a Field Engineer, which includes a lot of troubleshooting. Having a background in geophysics obviously helps when you're working in the Oil and Gas Industry, but I think the most important skill I've learned from the programme that applies to my job is teamwork! It has been great to work together with motivated students from all over the world and I really feel it prepared me for working in different, international environments.

I would definately recommend the Joint Master’s Programme, not only to students interested in Applied Geophysics, but also to students looking for a unique and very international study experience!
About the IDEA League

The IDEA League is a strategic alliance among five leading European universities of technology: TU Delft, ETH Zürich, RWTH Aachen, Chalmers University and Politecnico di Milano.

Each IDEA League member has a respectable research-oriented profile and is the largest producer of engineering and science graduates in its own country. One of the IDEA League’s main ambitions is to re-establish Europe as a technological and scientific leader by bundling academic resources and knowledge.

Our joint activities in education, research and quality assurance, as well as our joint participation in EU programmes and initiatives make us a model of European cooperation. Together, we create added value by pooling resources for collaborative and complementary programmes for our students, researchers and staff.

Applied Geophysics in numbers

Over the period 2006 - 2015

The Joint Master’s Programme was founded in 2006.

In 2015, the programme counted well over 200 current students and alumni.

Our students come from:

- Europe (70%)
- Asia (15%)
- Central and South America (7%)
- Africa (5%)
- North America (3%)

Almost 30% of our students are female. This makes this programme one of the most diverse Master Programmes at our partner universities.

The Joint Master’s Programme has an excellent rate of on-time completion: 92% of our students complete the programme within 2 years.

Employment of our alumni:

- PhD, Postdoc and University (44%)
- Oil and Gas (27%)
- Other, such as consultancy and banks (29%)

Please visit www.idealeague.org/geophysics for more information

For more information about the IDEA League or to download the PDF version of this booklet, please visit our website via: www.idealeague.org.

For more information about the Joint Master’s Programme Applied Geophysics, please visit the Geophysics website via: www.idealeague.org/geophysics

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