AVL is the world’s largest independent company for development of powertrains (combustion engines, hybrid systems, electric drive) as well as simulation and test systems for passenger cars, trucks and marine engines.

We offer a master thesis:

**SIMULATION OF NOISE AND VIBRATION OF VEHICLE BODY WITH ABSORBER MATERIAL**

Making quieter cars is always requires significant effort at development phase. Sometimes big mistakes are discovered at very late stage at large costs. Using simulation by much less effort, and no hardware these problems can be avoided. This master thesis is working on a method for simulating the low-middle frequency range NVH issues inside the vehicle. The FEM method is most accurate in investigation for acoustic. The coupled structure-fluid model inside the vehicle is used to represent the vehicle. The is then evaluated by excitation from road and driveline. Model will be studied, with and without trimmed bodied.

**Task:**
- Literature study
- Study in interior acoustic coupling and trimmed materials
- Vehicle acoustic model, body in white, and trimmed bodied
- Creating forced response fully coupled FEM interior acoustic model
- Parameter study
- Evaluation and optimization of interior noise

**Study:**
- Mechanical engineering, Technical physics

**Requirements:**
- Experience in Acoustics, FEM and NVH appreciated
- Language: English or German

Remuneration: The successful completion of the thesis is remunerated with a one-time fee of EUR 2,500 before tax.

According to the Austrian Employment of Foreign Nationals Act it is unfortunately not possible to assign graduate work to third-country citizens (Non-EU citizens) and Croatian citizens who study at a university abroad.

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