

## School of Engineering – University of Warwick

### 2 PhD Research Studentship (3 years)

#### Numerical and experimental modelling of flow and reactive transport in porous media

Applications are invited for two distinct but related PhD positions in hydrogeology at the School of Engineering of the University of Warwick.

The project focuses on modelling of reactive chemical transport in heterogeneous porous media with complex non-linear flow condition. Heterogeneity of porous domain can cause enhancement of spreading and mixing of the species and influence effective reaction behaviour. To understand and model large scale reactive transport, the effects of heterogeneity of the porous media formation needs to be understood and quantified. These projects aim at developing advanced numerical multiscale tools and algorithms using high-resolution X-ray images to enable large-scale, numerical simulations of mixing process and understand mixing related reactive transport.

The PhD students will become a member of the Ground Engineering research group which has well-equipped research laboratory and computational facilities and carry out practical research in hydrogeology and fluid dynamics.

Requirements of the studentship:

- The applicants must have a minimum of 2:1 honours degree level (or equivalent) in civil engineering, or related subjects of mechanical engineering with relevant computational modelling experience. An MSc degree with distinction or equivalent, in geotechnics, geo-environment or hydrogeology is highly desirable.
- The applicants should be able to demonstrate a strong interest in simulation of flow through porous media; they should have good written and oral presentation skills as well as strong problem solving skills.

**Funding:** The studentship covers tuition fees at the UK/EU rate (£4,191 at the 2018/19 rate) and standard stipend (£14,700 at the 2018/19 rate) per annum for three years.

For informal enquiries or formal applications, please send a CV, a covering letter stating how your interests and experience relate to the project, your academic transcripts and the names and email addresses of two academic referees to Dr Mohaddeseh Mousavi Nezhad, email: [m.mousavi-nezhad@warwick.ac.uk](mailto:m.mousavi-nezhad@warwick.ac.uk).

**Closing date: 31 July 2018.**