Student Research Assistant Trainee (bachelor's/master and PhD)

Reference: 2018-300-TRA Type of contract: Traineeship Who can apply: EU nationals eligible for our traineeship programme (<u>read more</u>) Salary: <u>The trainee grant is €1,070 per month plus an accommodation allowance</u>. Working time: Full-time Place of work: Frankfurt, Germany Closing date for applications: Tuesday, 8 January 2019

Your team

You will be part of the Directorate General Research (DG/R) and will support its work compiling and analysing cross-sectional, time-series and panel datasets and/or contributing to the solution and estimation of linear and non-linear general equilibrium models.

The Student Research Assistant Traineeship Programme is aimed at high-performing students with a strong quantitative background and an interest in policy-relevant and applied research. You are encouraged to apply if you have completed a bachelor's degree in economics, statistics, finance, computer science, mathematics or a related field and especially if you are enrolled in postgraduate studies (master's or PhD) in the same subject fields.

To further enhance the diversity of our team, we particularly encourage applications from female candidates.

Your role

As a Student Research Assistant Trainee you will:

- construct and maintain monetary, financial and economic databases;
- present data in conjunction with basic economic and statistical analysis;
- develop mathematical, statistical and econometric procedures for research projects;
- support and maintain software tools and hardware installations;
- help to maintain internet and intranet systems within DG/R.

Depending on your area of technical expertise you will be assigned to projects in one of the following teams or divisions:

- Financial Research Division;
- Monetary Policy Research Division;
- Senior Management team;
- Household Finance and Consumption Network team;
- Monetary Policy, Macroprudential Policy and Financial Stability team;
- Price-setting Microdata Analysis team.

As a participant in the Programme, you will have the opportunity to work with DG/R's economists

and management. You will support them in academic research projects and in work of an operational nature, such as the preparation of policy-related notes addressed to the ECB's Executive Board. The opportunity to work closely with DG/R's economists will allow you to develop your analytical skills and gain an insight into the ECB's research activities and policymaking processes. The Programme will also expose you to new ideas and stimuli that can provide a useful foundation for your future career and/or graduate studies. You will be part of a multicultural team that strives for continuous innovation to make a positive impact on the lives of European citizens.

Qualifications, experience and skills

Essential:

For all teams and divisions:

- for a standard traineeship: at least a bachelor's degree (and ideally a master's degree or some period of study towards a master's degree) in economics, statistics, finance, computer science, mathematics or a related field;
- for a PhD traineeship: at least two years of completed PhD studies in economics, statistics, finance, computer science, mathematics or a related field;
- familiarity with macroeconomic and financial statistics as presented in international databases (e.g. the ECB's Statistical Data Warehouse, Eurostat and Bank for International Settlements statistics, and International Monetary Fund financial statistics);
- excellent command of at least one of the following two high-level programming languages: MATLAB or Stata;
- an advanced command of English and an intermediate command of at least one other official language of the EU;
- familiarity with at least some of the following databases/providers: Bloomberg, Datastream, Haver Analytics, Bureau van Dijk, Fitch Connect, SNL Financial, and Dealogic;
- a very good knowledge of spreadsheet and database software such as MS Excel, SQL, Access and FAME and, in particular, Excel graphing capabilities, pivot tables and summary statistical functions.

Experience in at least one of the following areas of technical expertise:

- solving and estimating dynamic stochastic general equilibrium (DSGE) models;
- solving heterogeneous-agent and/or nonlinear macro models;
- analysing macroeconomic or financial time-series data;
- compiling and analysing large microeconomic databases (e.g. high-frequency data, administrative data, household or firm-level surveys, balance sheet data).

For the Financial Research Division:

- a thorough knowledge of and experience in compiling and analysing either large microeconomic cross-sectional and panel datasets primarily using Stata, or large time-series datasets, often with high-frequency data, primarily using MATLAB and Stata;
- experience using other relevant software (e.g. R, Python) would be an asset.

For the Monetary Policy Research Division:

- proven experience with estimation and forecasting methods for structural and reduced-form econometric models (including structural VAR, semi-structural models, factor models and state-space/unobserved component models);
- a sound knowledge of Bayesian techniques;

- proven experience with solving and estimating DSGE models;
- experience with global solution methods and heterogeneous-agent models would be an asset.

For the Senior Management team:

- either thorough experience in compiling and analysing large microeconomic cross-sectional and panel datasets, or familiarity with solving heterogeneous-agent and/or nonlinear macro models;
- experience/familiarity with content management systems such as WordPress.

For the Monetary Policy, Macroprudential Policy and Financial Stability team:

- proven experience using calibration and solution techniques for DSGE models; knowledge of calibration techniques, excellent command of MATLAB and Dynare;
- proven experience in compiling and analysing large microeconomic banking datasets using Stata and MATLAB;
- knowledge of higher-order and non-linear methods and/or stochastic perturbation methods would be an asset.

For the Household Finance and Consumption Network team:

- excellent command of Excel and Stata;
- proven experience solving heterogeneous-agent models;
- familiarity with the Eurosystem Household Finance and Consumption Survey.

For the Price-setting Microdata Analysis team:

- a thorough knowledge of and experience in compiling and analysing large microeconomic price datasets;
- an excellent command of MATLAB;
- familiarity with heterogeneous firm price-setting models and their solution techniques would be an asset.

You are curious and eager to learn, and want to further develop your ability to analyse complex information. You are keen to collaborate with others, pursue team goals and learn from other people's diverse perspectives. You strive to know and anticipate stakeholder needs, and will signal any need for change and propose alternative solutions.

Further information

The traineeship will be for an initial period of three to six months, with a possible extension up to a total of twelve months depending on organisational needs and individual performance. Please indicate your preferred total length of stay (between three and twelve months) and starting date in your application. Applications from candidates who are available outside the summer months are particularly welcome.

The PhD traineeship grant is €1,940 per month plus an accommodation allowance.

The bachelor's/master's traineeship grant is €1,070 per month plus an accommodation allowance.

The recruitment process for this position may include an online interview via WebEx.

Application and selection process

For further information on how to join us, read more.