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| 9:00 a.m. – 9:30 a.m. | Administrative Briefing  
Ms. Marina Scherbakova  
Program Officer, Joint Vienna Institute |
| 9:30 a.m. – 10:00 a.m. | Opening Session  
Mr. Tom Richardson, Director, Joint Vienna Institute (JVI); Mr. Rafael Portillo, JVI; Mr. Alexei Miksjuk JVI; Mr. Carlos De Resende, IMF Institute for Capacity Development; Mr. Werner Schule, Consultant |
| 10:00 a.m. – 10:30 a.m. | Test  
Session conducted by counselors |
| 11:00 a.m. – 12:30 p.m. | L-1 Monetary Policy Frameworks and Transmission Channels  
Lecture by Mr. Carlos de Resende  
- Frameworks for monetary policy  
- Overview of transmission channels, empirical evidence |
| 2:00 p.m. – 3:30 p.m. | L-2 Forecasting and Policy Analysis System (FPAS)  
Lecture by Mr. Rafael Portillo  
- FPAS components: databases, monitoring and reporting, short- and medium-term forecasting, communication and decision making  
- The role of the quarterly projection model |
| 4:00 p.m. – 5:30 p.m. | L-3 Consistency of Policy Objectives and Macro Trends  
Lecture by Mr. Werner Schule  
- Convergence, PPP, and the Balassa-Samuelson effect  
- Uncovered Interest Rate Parity (UIP)  
- Interpreting economic trends |

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1 Coffee breaks are generally from 10.30 a.m. to 11.00 a.m. and 3.30 to 4.00 p.m., unless otherwise indicated.
**Tuesday, October 10**

9:00 a.m. – 10:30 p.m.  **L-4**  *Introduction to a Small New Keynesian Model for Policy Analysis*  
Lecture by Mr. Carlos de Resende  
- Model structure  
- Long run trends and steady state  
- A brief overview of calibration

11:00 a.m. – 12:30 p.m.  **L-5**  *CPI Components and their Relative Prices*  
Lecture by Mr. Rafael Portillo  
- Core, food, and energy: inflation components and relative prices  
- shocks to CPI components, first and second-round effects, policy responses  
- Transitory and permanent shocks in relative prices

2:00 p.m. – 3:30 p.m.  **W-1**  *Workshop: Introduction to the Software and Model Codes*  
- Suite of codes  
- Generic impulse response functions

4:00 p.m. – 5:30 p.m.  **W-2**  *Workshop: Data Transformation, Interpretation and Model Calibration*  
- Data preparation, univariate filtration  
- Initial conditions, implications for the inflation outlook  
- Preliminary calibration

**Wednesday, October 11**

9:00 a.m. – 10:30 a.m.  **L-6**  *Alternative Exchange Rate Regimes*  
Lecture by Mr. Werner Schule  
- Exchange rate management  
- The exchange rate as an operational target  
- FX interventions

11:00 a.m. – 12:30 p.m.  **W-3**  *Workshop: Model Properties Under Different Policy Regimes*  
- Transmission of shocks in the model

2:00 p.m. – 3:30 p.m.  **L-7**  *Estimating Long-Run Trends and Gaps*  
Lecture by Mr. Carlos de Resende  
- Identifying trends  
- Univariate filtration methods  
- The multivariate (Kalman) filter
4:00 p.m. – 5:30 p.m.  W-4 Workshop: Analysis of Trends and Model Calibration
   • Comparing univariate and multivariate filters

Thursday, October 12

9:00 a.m. – 10:30 a.m.  W-4 Workshop: Analysis of Trends and Model Calibration, continued.
   • Tuning the multivariate filter
   • Model filtration and recalibration

11:00 a.m. – 12:30 p.m.  L-8 Methods in Model Parameterization, Assessment of Model Properties
   Lecture by Mr. Rafael Portillo
   • Calibration vs. estimation
   • Maximum likelihood and Bayesian estimation
   • Model properties, recursive forecasts

2:00 p.m. – 5:30 p.m.  W-5 Workshop: Selected Issues in Model Estimation
   • Model parameterization
   • Maximum likelihood and Bayesian estimation
   • Model properties: assessment based on recursive (multi-step ahead projection) forecast
   • Fine-tuning of the model

Friday, October 13

9:00 a.m. – 10:30 a.m.  L-9 Nowcasting
   Lecture by Mr. Alexei Miksjuk
   • Nowcasting in the FPAS context
   • State Space Models,
   • Dynamic Factor Models (DFM)

11:00 a.m. – 12:30 p.m.  L-10 Near-Term Forecasting
   Lecture by Mr. Werner Schule
   • Vector Auto Regressions (VARs)
   • Forecasting using VARs

2:00 p.m. – 3:30 p.m.  W-6 Workshop: Nowcasting
   • Using a DFM to nowcast GDP

4:00 p.m. – 5:30 p.m.  W-7 Workshop: Near-Term Forecasting
   • Using VARs to forecast inflation components
## Monday, October 16

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| 9:00 a.m. – 10:30 a.m. | L-11 Extending the Core Model: Fiscal Policy | Lecture by Mr. Carlos de Resende  
- Fiscal rules and fiscal accounting  
- Long term trends and crowding out  
- Simulations |
| 11:00 a.m. – 12:30 p.m. | W-8 Workshop: Fiscal Extension |  
- Fiscal satellite module codes  
- Short-term fiscal multipliers  
- Fiscal expansion/consolidation scenarios |
| 2:00 p.m. – 3:30 p.m. | Preparation                |                                                                            |
| 4:00 p.m. – 5:30 p.m. | O-1 Group presentation: Initial Conditions | Analysis of initial conditions and inflation outlook |

## Tuesday, October 17

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| 9:00 a.m. – 10:30 a.m. | L-12 Baseline and Alternative Forecast Scenarios: Risk Analysis under Uncertainty | Lecture by Mr. Werner Schule  
- Building macro scenarios for policy dialogue  
- Baseline forecast and alternative scenarios |
| 11:00 a.m. – 12:30 p.m. | W-9 Workshop: Scenario Formulation and Policy Analysis |  
- Baseline forecast  
- Design of alternative scenarios |
| 2:00 p.m. – 5:00 p.m. | W-9 Workshop: Scenario Formulation and Policy Analysis |  
- Design of alternative scenarios  
- External environment |

## Wednesday, October 18

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<tr>
<td>9:00 a.m. – 12:30 p.m.</td>
<td>W-9 Workshop: Scenario Formulation and Policy Analysis</td>
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- Design of macroeconomic scenarios (continued) |
| 2:00 p.m. – 5:00 p.m. | W-9 Workshop: Scenario Formulation and Policy Analysis |  
- Preparation of final presentations |
### Thursday, October 19

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| 9:00 a.m. – 12:30 p.m. | **W-9 Workshop: Scenario Formulation and Policy Analysis**  
• Preparation of final presentations (continued) |
| 2:00 p.m. – 2:30 p.m.  | **Course Evaluation**                                                |
| 2:30 p.m. – 5:30 p.m.  | **O-2 Final Group Presentations – Country Case Studies**  
Forecast, scenarios, and policy analysis for Ghana, Kazakhstan and Singapore |

### Friday, October 20

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| 9:00 a.m. – 9:30 a.m.  | **Test**  
Session conducted by counselors |
| 9:30 a.m. – 10:30 a.m.  | **L-13 Monetary Policy at the Zero Lower Bound: The Czech Experience.**  
Guest Lecture by Tibor Hledik, Head of Forecasting Division, Monetary Department, Czech National Bank |
| 11:00 a.m. – 12:30 p.m.  | **Closing Session**  
Mr. Rafael Portillo, Mr. Carlos de Resende, Mr. Werner Schule, Mr. Alexei Miksjuk |