# Course for KNIME Analytics Platform – Agenda
## January 16, 2018. Stuttgart

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00 – 09:30</td>
<td>Breakfast and Introductions</td>
</tr>
<tr>
<td>09:30 – 10:15</td>
<td>Introduction to KNIME</td>
</tr>
<tr>
<td>10:15 – 11:00</td>
<td>Importing Data</td>
</tr>
<tr>
<td>11:00 – 12:00</td>
<td>Data Manipulation &amp; Data Aggregation</td>
</tr>
<tr>
<td>12:00 – 13:00</td>
<td>Lunch</td>
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<tr>
<td>13:00 – 13:30</td>
<td>Data Visualization &amp; Highlighting</td>
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<tr>
<td>13:30 – 14:30</td>
<td>Data Mining</td>
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<tr>
<td>14:30 – 15:00</td>
<td>Integrating External Tools</td>
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<tr>
<td>15:00 – 15:30</td>
<td>Break</td>
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<tr>
<td>15:30 – 16:00</td>
<td>Integrating External Tools (contd.)</td>
</tr>
<tr>
<td>16:00 – 17:00</td>
<td>Data Export &amp; Reporting</td>
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<tr>
<td>17:00 – 17:30</td>
<td>Summary &amp; Catch-up</td>
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**Introduction to KNIME**
- Introduction
- Installing KNIME
- The KNIME Workbench
- Preview of the “Next Best Offer” workflow

**Importing Data**
- Data Source nodes
- Reading files
- Connecting to a database

**Data Manipulation & Data Aggregation**
- Data manipulation nodes
- Aggregation (GroupBy)
- Data integration, Join

**Data Visualization & Highlighting**
- Interactivity, Highlighting
- Interactive view nodes
- JavaScript visualization nodes
- Graphics from R

**Data Mining**
- Process overview
- Learner/Predictor motif
- Creating test and training sets
- An example: Decision trees
- Model evaluation: Scoring and RoC

**Integrating External Tools**
- Scripting (Java, Python, R)
- Web services
- External tool node

**Integrating External Tools (contd.)**
- JSONPath/XPath
- Big Data (Hive, HDFS, Spark)

**Data Export & Reporting**
- File writer nodes
- Database write/update
- Reporting

**Summary & Catch-up**
- Summary of materials covered
- Q&A Session
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<tr>
<td>09:30 – 10:30</td>
<td>Coffee, cakes, and a chance to chat</td>
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<tr>
<td>09:30 – 10:30</td>
<td>Flow Variables</td>
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<tr>
<td>10:30 – 11:30</td>
<td>Time Series Analysis</td>
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<td>Workflow Control</td>
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<td>Advanced Data Mining</td>
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<td>16:30 – 17:30</td>
<td>Open Session</td>
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**Flow Variables**
- Local variables (and credentials)
- Variables to override node settings
- Using QuickForms & Wrapped Meta Nodes

**Time Series Analysis**
- The Date/Time type
- Time Series manipulation

**Workflow Control**
- Overview

**Advanced Data Mining**
- Other modeling tools
- Parameter Optimization
- Cross Validation

**Open Session**
- Example workflows:
  - RESTful web services
  - Geospatial analysis
  - Web enabled workflows
  - Text & network analytics
- Independently explore application workflows
- Final Q&A