

Differential equations

Chart plotting in JavaFX

Lecture

Week 06

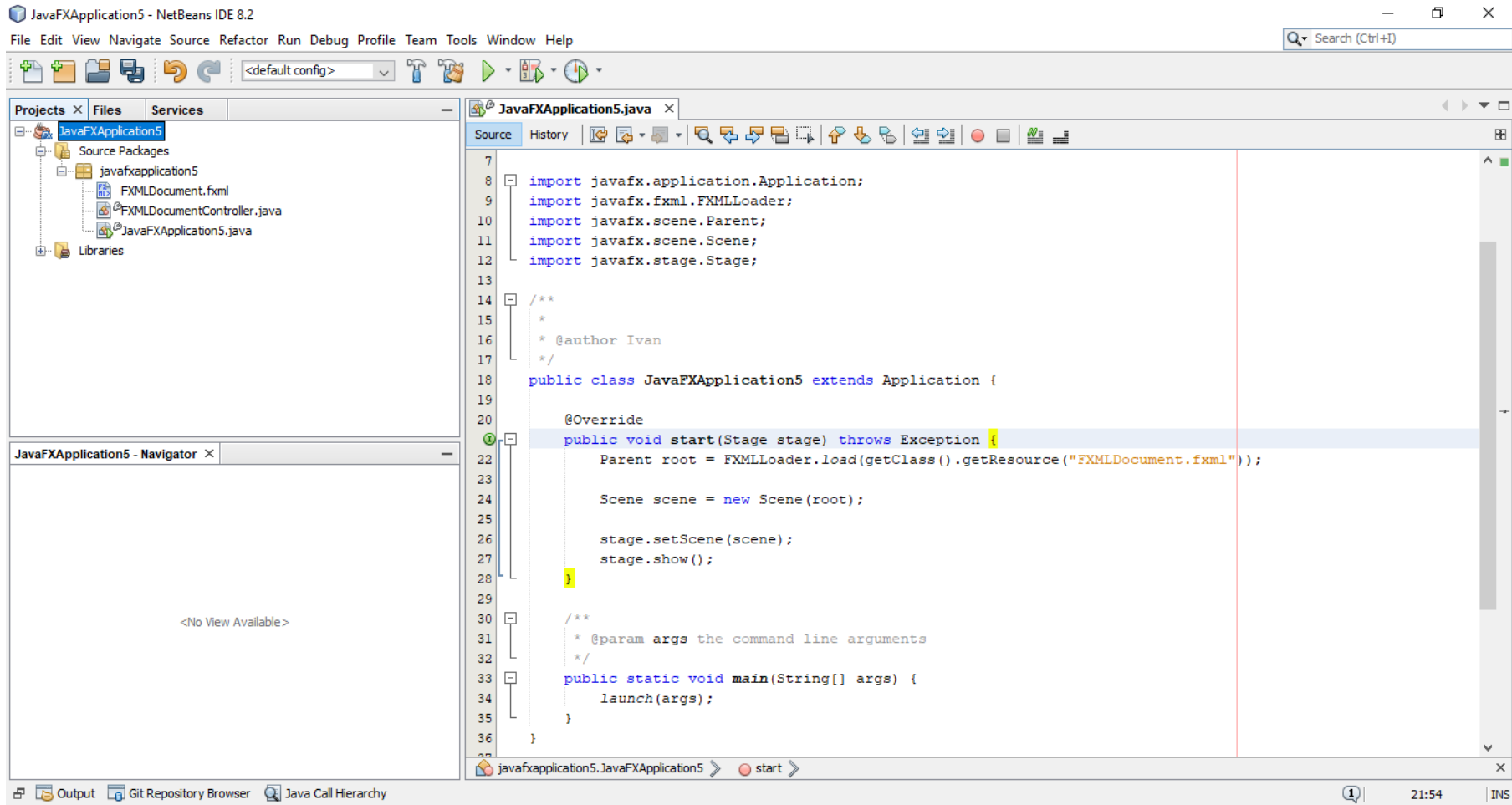
Ivan V. Konyukhov

Doctor of Philosophy (Ph.D.),
Physics and mathematics,
Researcher

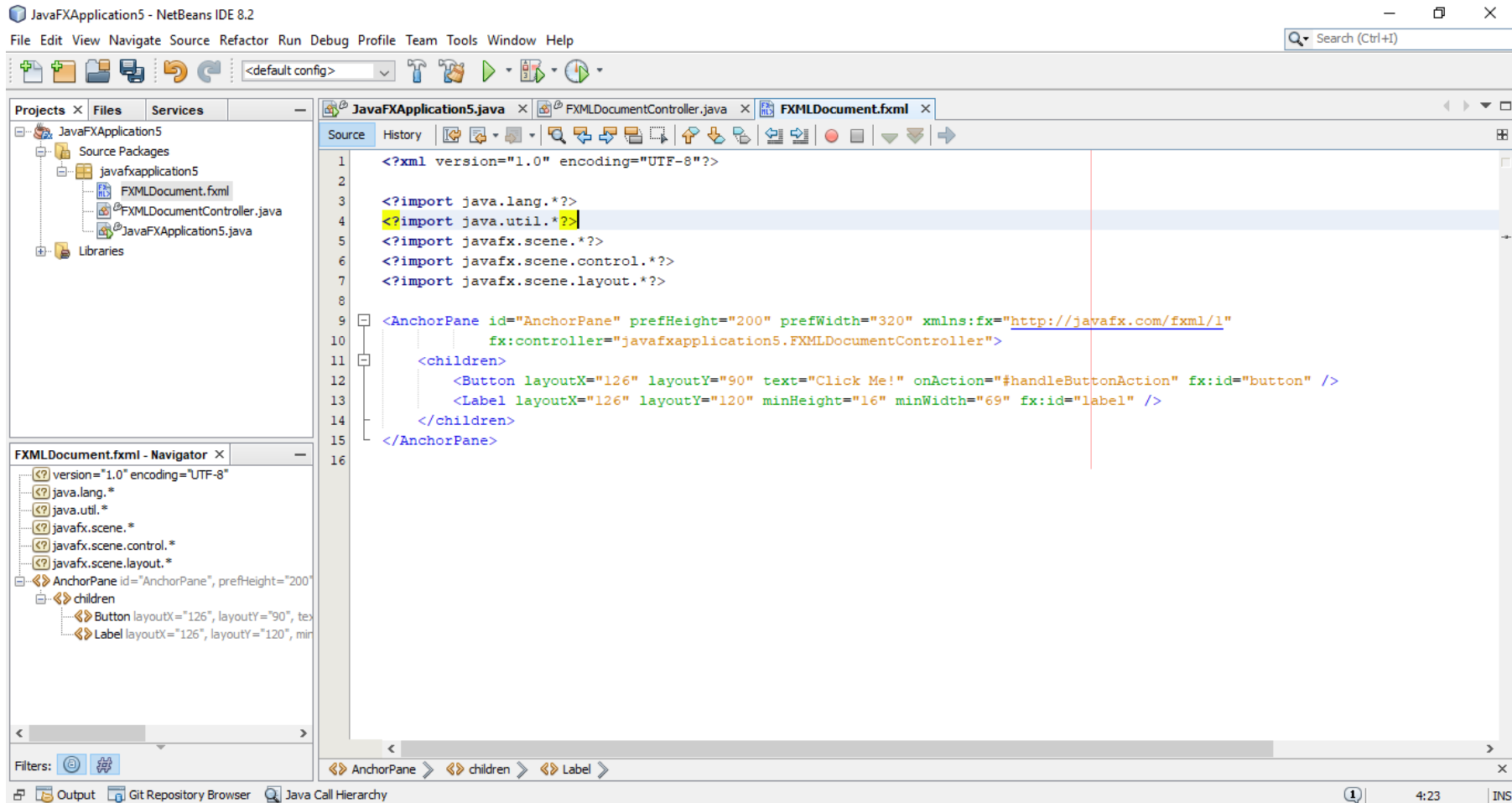


innopolis university
2018

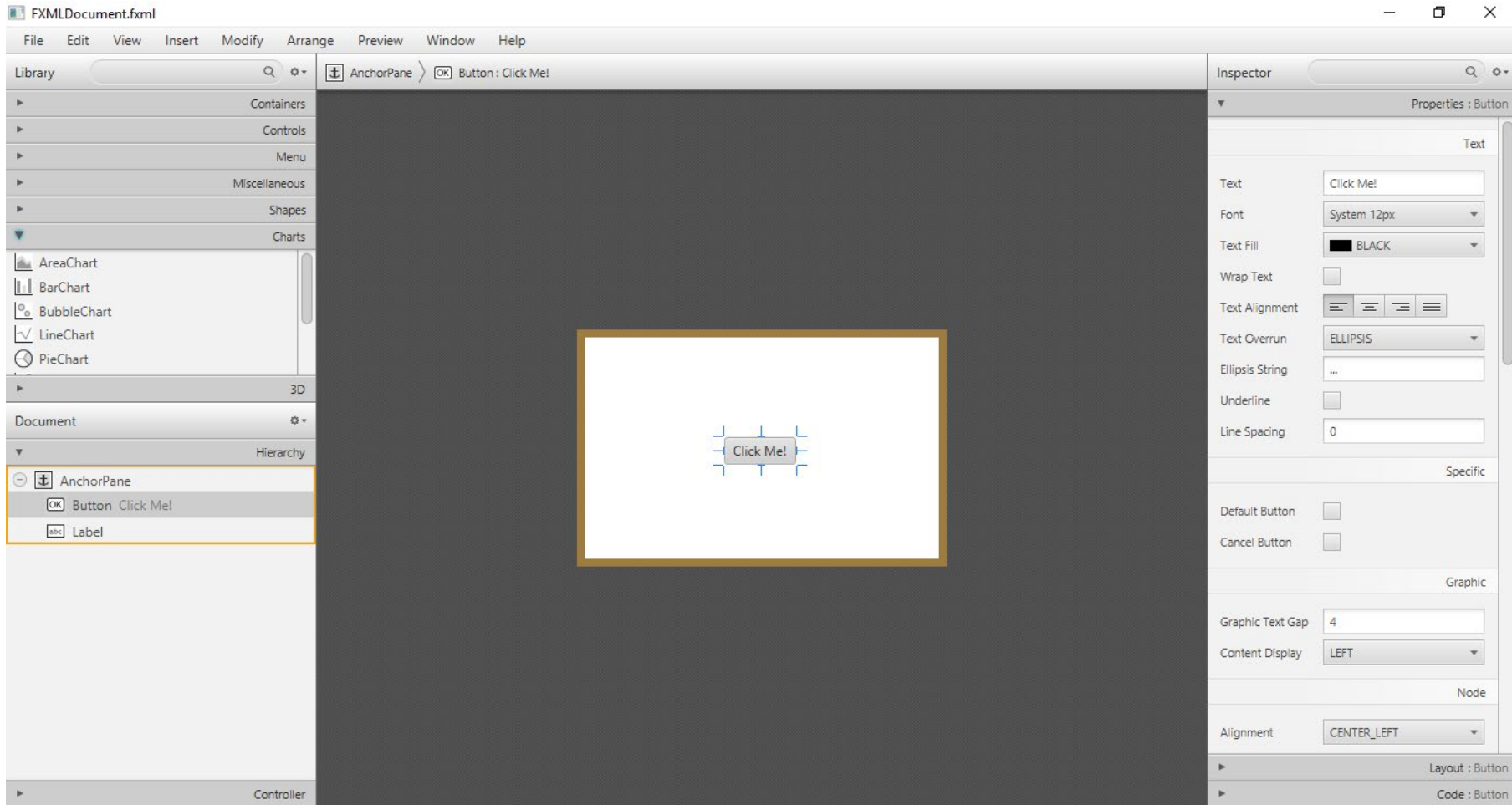
JavaFX: Project structure



FXML-language



JavaFX Scene Builder



Model-View-Controller in JavaFX

JavaFXApplication5 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Search (Ctrl+I)

Projects Files Services

JavaFXApplication5

- Source Packages
 - javafxapplication5
 - FXMLDocument.fxml
 - FXMLDocumentController.java
 - JavaFXApplication5.java
 - Libraries

FXMLDocumentController - Navigator

Members

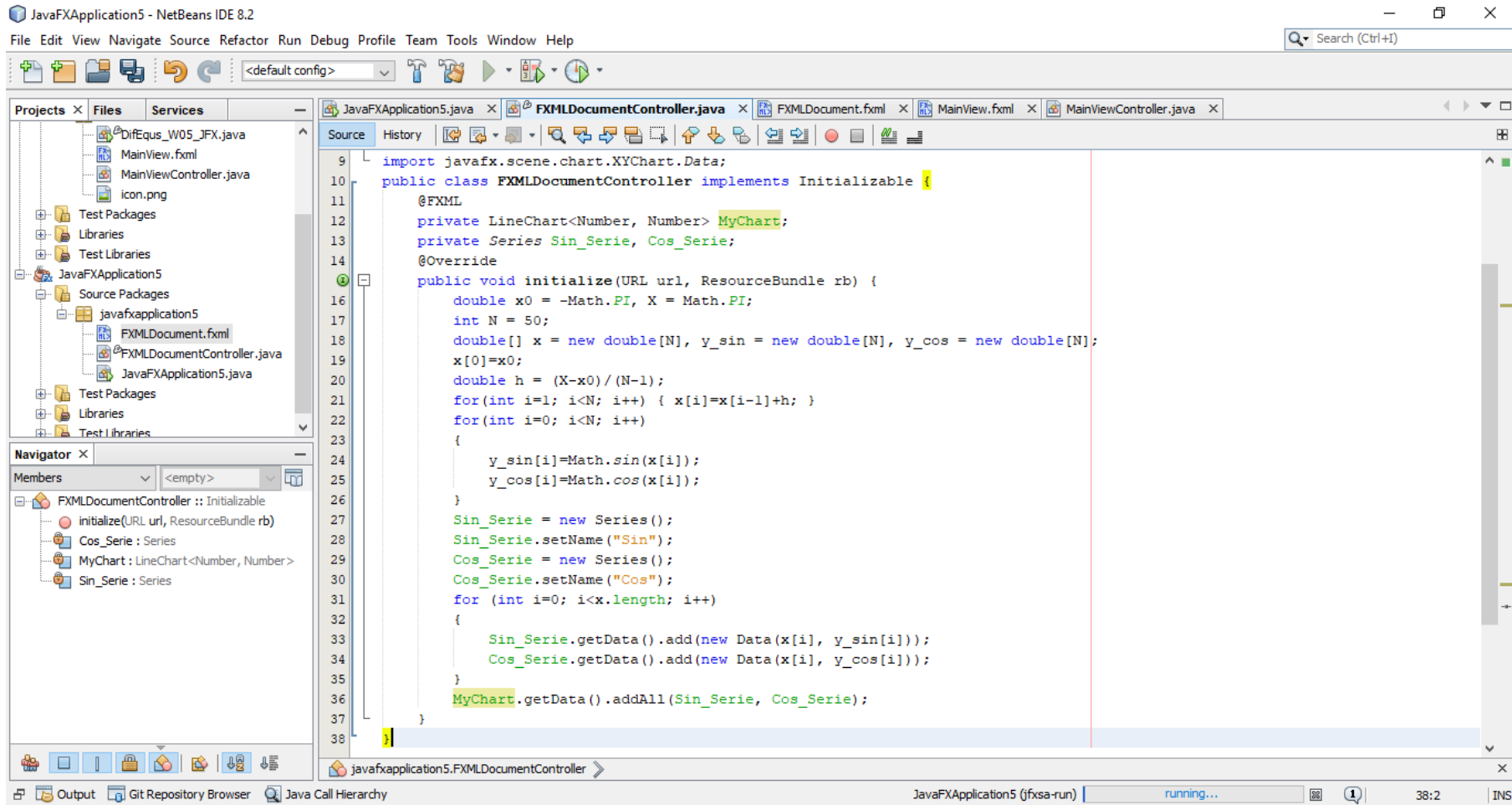
- FXMLDocumentController :: Initializable
 - handleButtonAction(ActionEvent event)
 - initialize(URL url, ResourceBundle rb)
 - label : Label

```
1 package javafxapplication5;
2
3 import java.net.URL;
4 import java.util.ResourceBundle;
5 import javafx.event.ActionEvent;
6 import javafx.fxml.FXML;
7 import javafx.fxml.Initializable;
8 import javafx.scene.control.Label;
9
10 /**
11  * @author Ivan
12  */
13 public class FXMLDocumentController implements Initializable {
14
15     @FXML
16     private Label label;
17
18     @FXML
19     private void handleButtonAction(ActionEvent event) {
20         System.out.println("You clicked me!");
21         label.setText("Hello World!");
22     }
23
24     @Override
25     public void initialize(URL url, ResourceBundle rb) {
26         // TODO
27     }
28 }
29
30
31
32
33
34
35
```

Model-View-Controller Diagram

```
graph TD
    MODEL[MODEL] -- UPDATES --> VIEW[VIEW]
    VIEW -- SEES --> USER((USER))
    USER -- USES --> CONTROLLER[CONTROLLER]
    CONTROLLER -- MANIPULATES --> MODEL
```

Sine-cosine example: source code



Sine-cosine example: application

