

# Learning Economics with Dynamic Modeling

## An International Collaboration

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University of Bergen



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UNIVERSITETET I BERGEN

System Dynamics Group

# My Purpose Today



1. To tell you about a *development* in economics education.
2. To provide a reminder of the benefits of collaboration generally and *international collaboration* specifically.
3. To start a *conversation* with anyone who might be interested in collaboration on similar projects.

# My Co-Authors for this Presentation

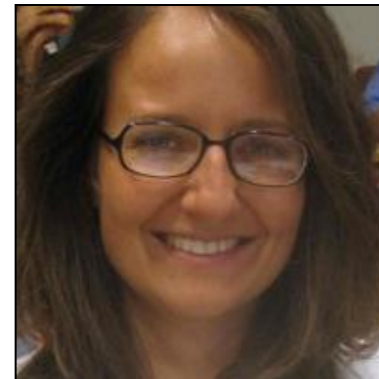


Professor Iryna Lukianenko  
Chair, Department of Finance  
National University of Kiev-Mohyla Academy  
Kiev, Ukraine

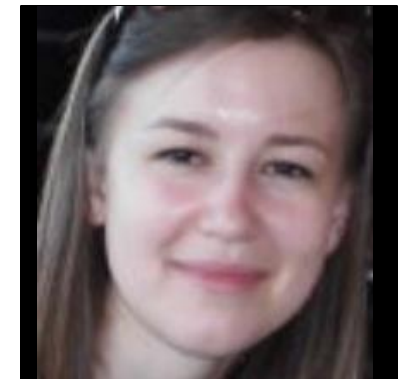
NaUKMA Graduate  
Students in Bergen  
during 2012:



Oleksandr Faryna  
PhD student



Iaroslava Stelmashenko  
PhD student



Iryna Volyanyuk  
master's student

# Background



2001: *MacroLab* development began  
(a system dynamics model of the US economy  
used for teaching macroeconomics)

2008: Professor Lukianenko's visit to Bergen

2008: Memorandum of Understanding: UiB & NaUKMA

2012: *Learning Economics with Dynamic Modeling* ("LEDM")  
- project funding (about 200,000 GBP) from  
Norwegian Centre for International  
Cooperation in Education

# Norwegian Centre for International Cooperation in Education



<http://www.siu.no/eng>

SIU

Front Page

Programme information

## SIU – International cooperation

Norwegian Centre for International Cooperation in Education (SIU) is a public Norwegian agency promoting international cooperation in education and research.

[Read more about SIU](#)

Development cooperation

Joint degrees

BRICS and Eurasia

Neighbouring countries

European cooperation

North America

Ukraine

# LEDM Project Goal & Strategy



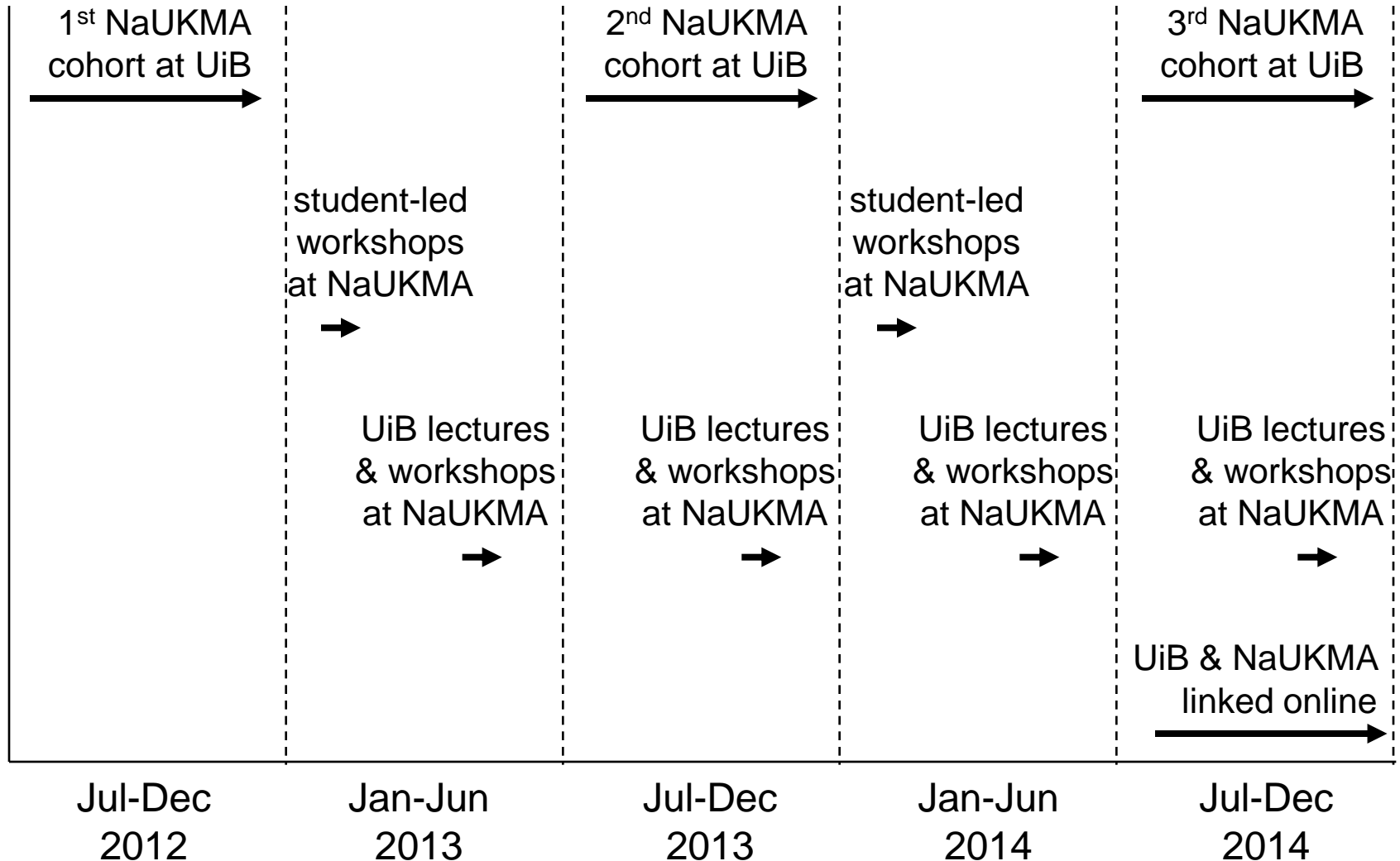
## **Goal:**

To integrate system dynamics (SD) modeling as an educational and research tool in the economics curriculum at NaUKMA.

## **Strategy:**

1. *Train the Trainers* at UiB in Bergen:  
UiB courses & seminars for NaUKMA graduate students in Bergen;
2. *On-site Training* at NaUKMA in Kiev:  
Workshops & guest lectures for NaUKMA students & professors in Kiev;
3. *On-line Training* that links UiB and NaUKMA:  
Online support system to sustain the collaboration beyond 2014.

# LEDM Project Timeline

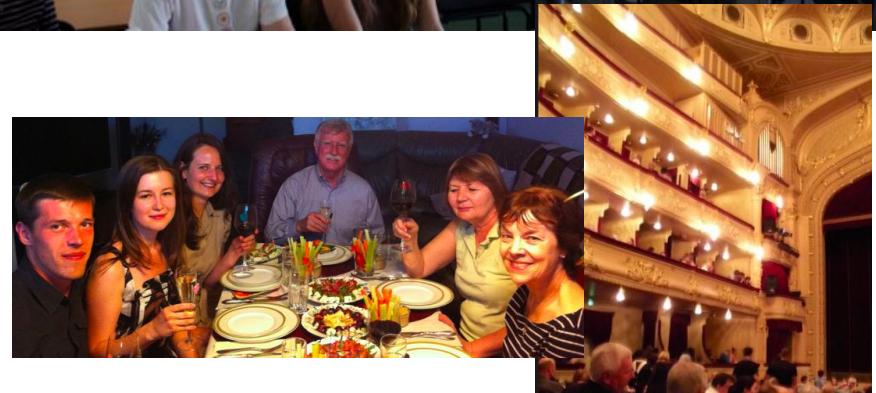


# Professor Lukianenko's Visit to Norway December 2012

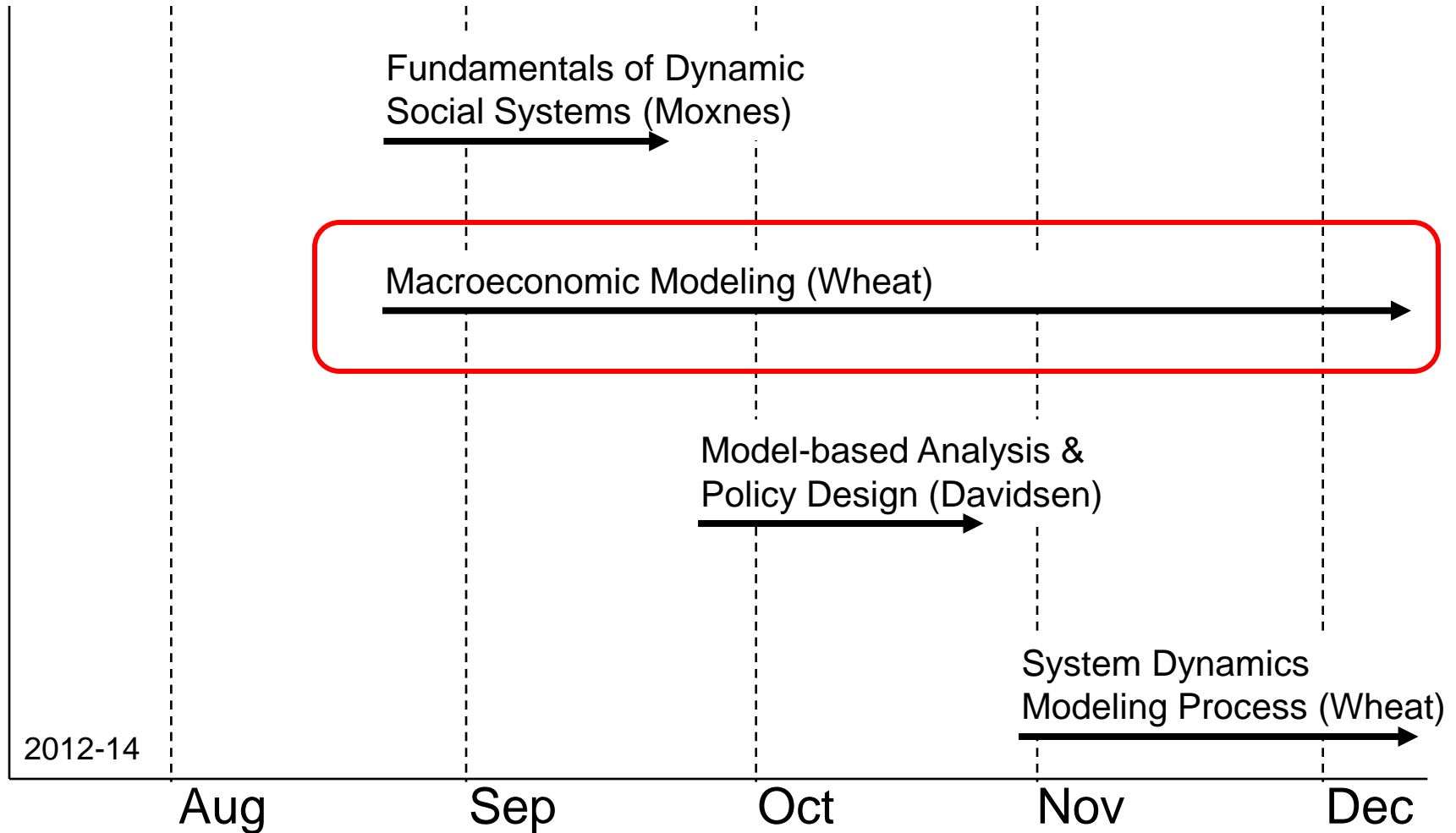




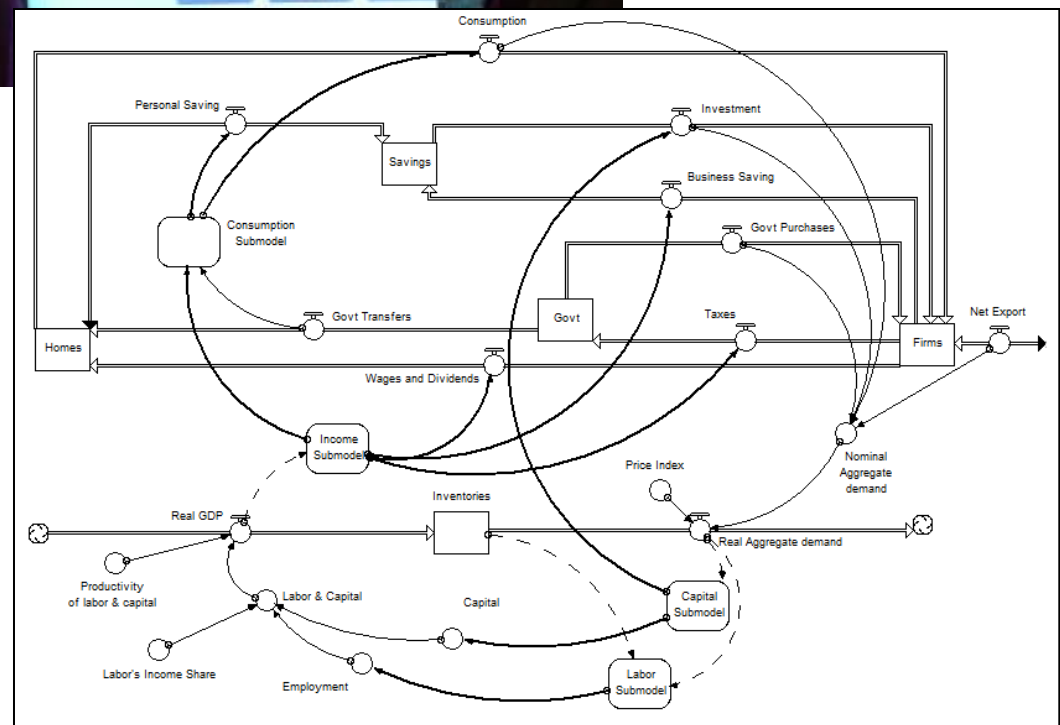
# My Visit to Ukraine, May 2013



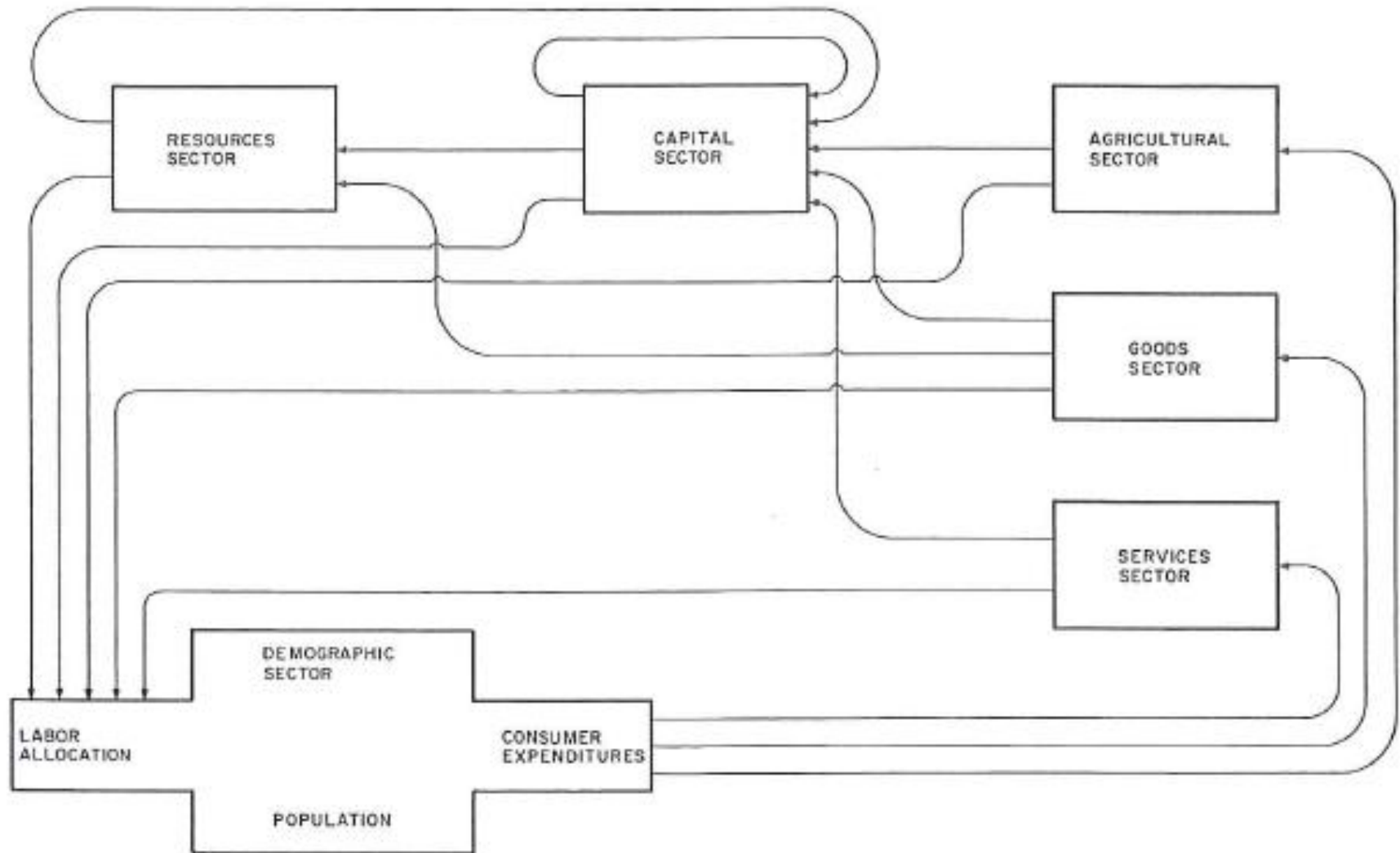
# Courses NaUKMA students take at UiB



# Macroeconomic Modeling: Short to Medium-Term

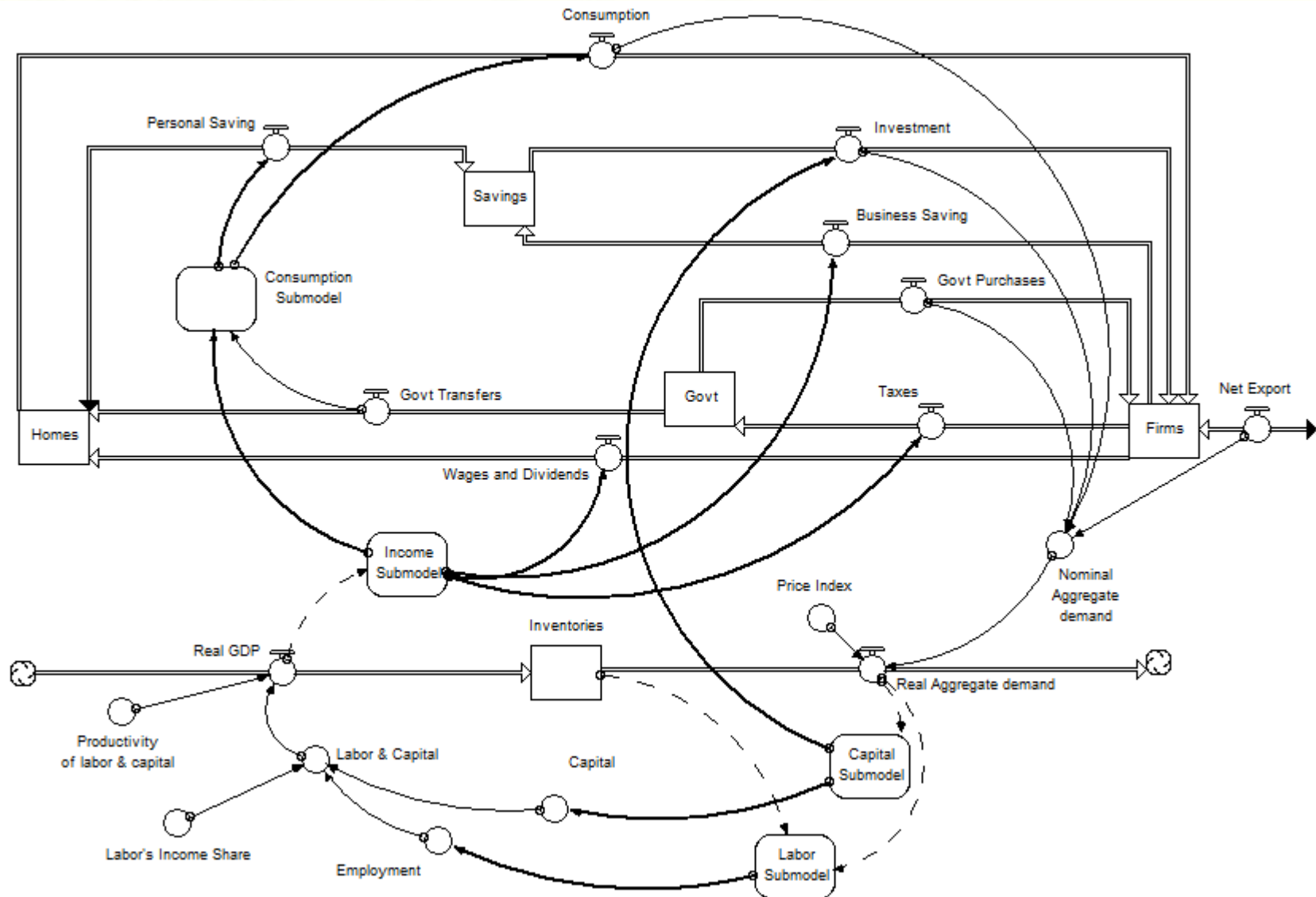


# Macroeconomic Modeling: Very Long Term

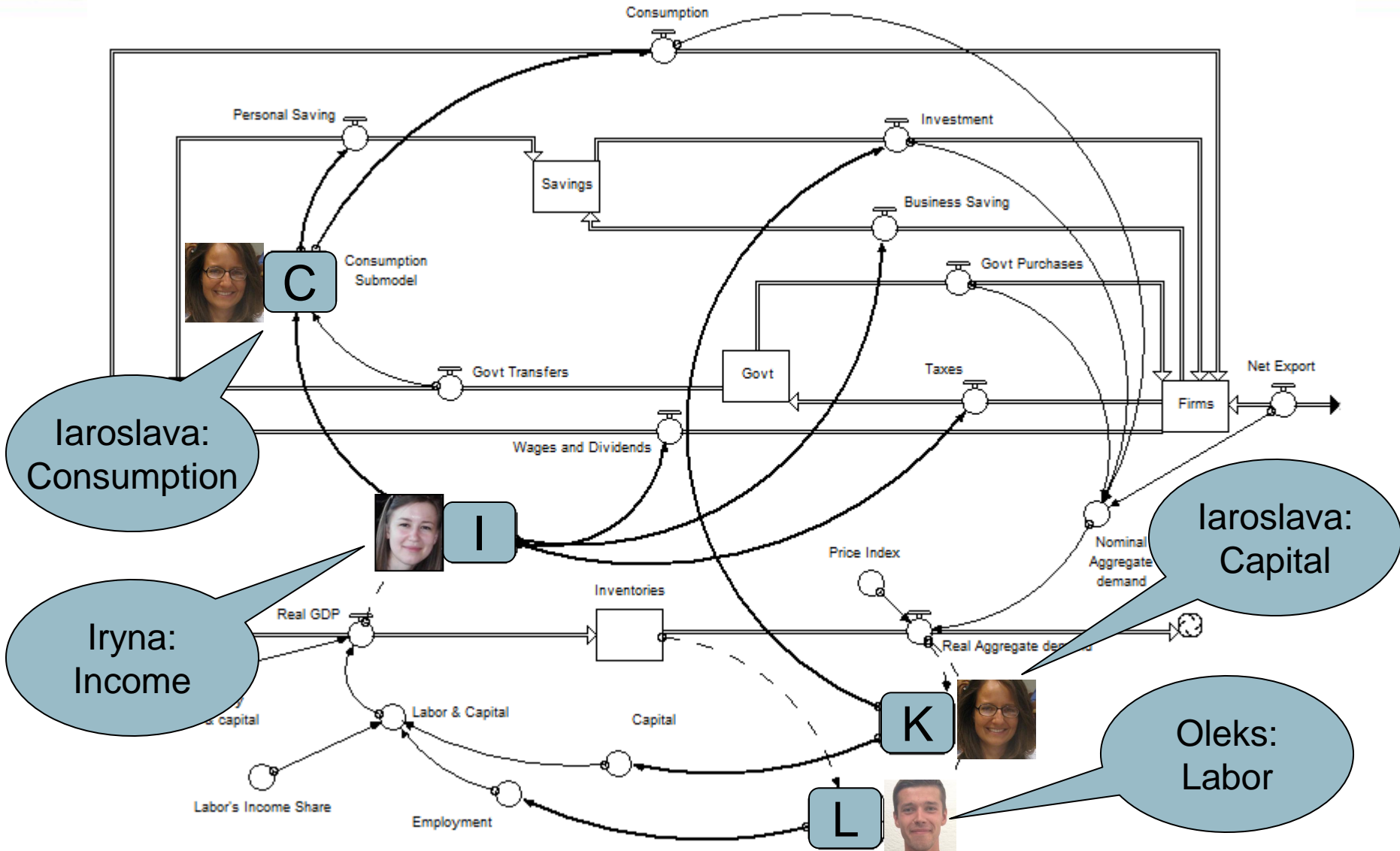


N. Forrester's Model: *Life Cycle of Economic Development*

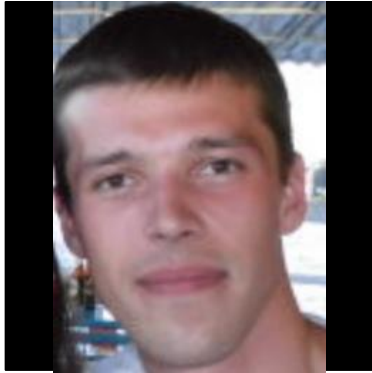
# MacroLab Ukraine, Stage 1 (2012)



# Developing MacroLab Ukraine, stage 1



# This Year's Students from NaUKMA



Oleksandr Faryna

Oleks:

- PhD student
- 2<sup>nd</sup> year at Bergen
- my teaching assistant



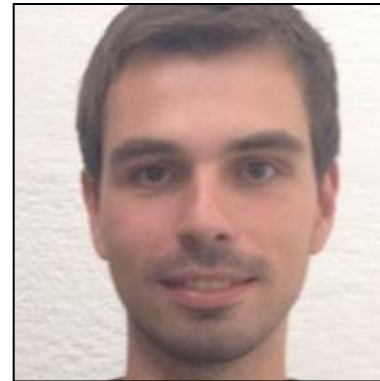
Pervin Dadashova  
master's student

“Pery”



Heorhii Liapkalo  
master's student

“George”



Anton Lytvyn  
PhD student

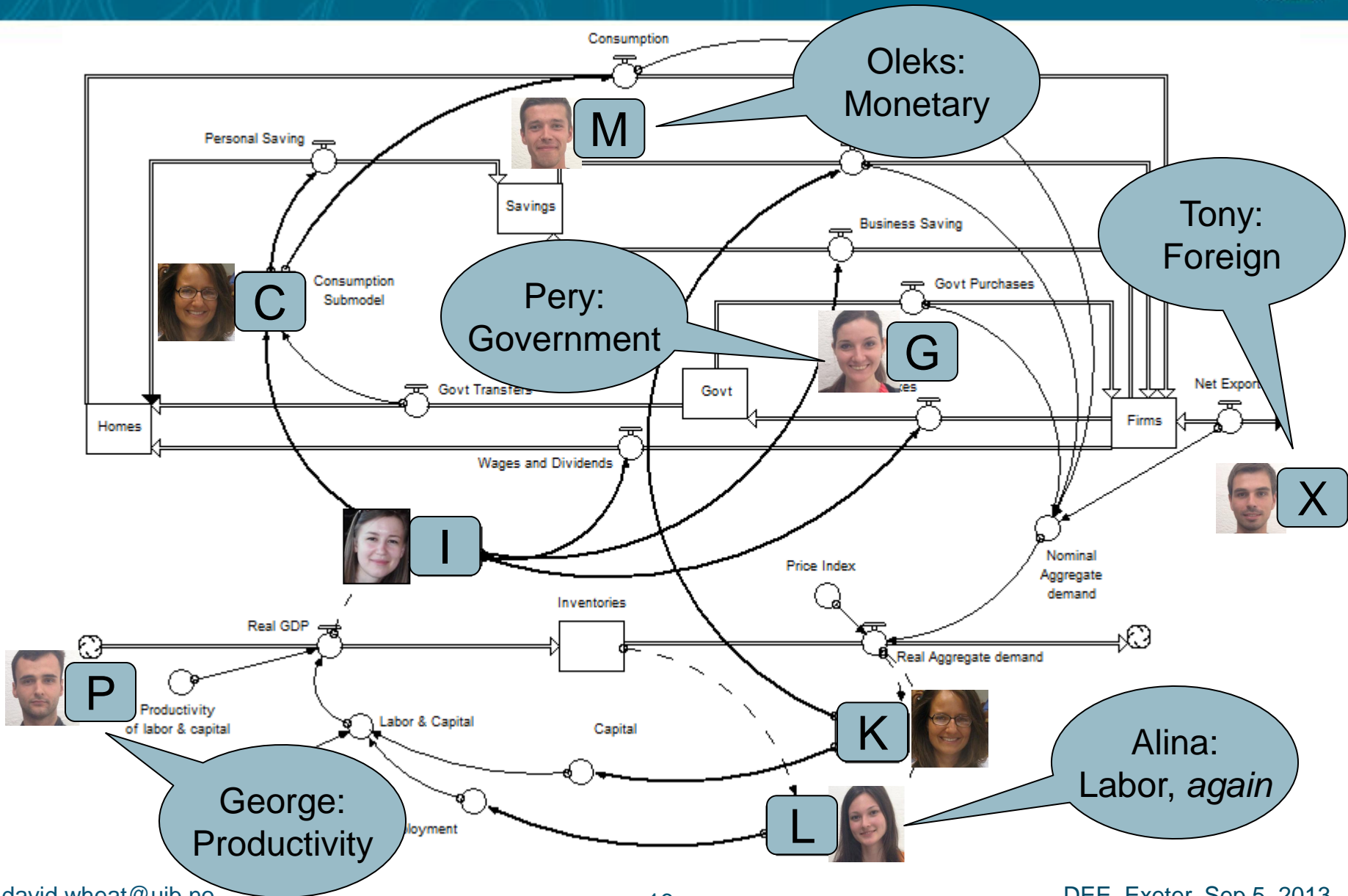
“Tony”



Alina Novik  
master's student

“Alina”

# Developing MacroLab Ukraine, stage 2





# NaUKMA's Plan for SD Instruction



1. Develop a Bachelor-level course in the Department of Finance  
-- to introduce the basics of system dynamics as a modeling tool
2. Develop a Graduate-level course in the Department of Finance  
-- to build advanced modeling skills for research
3. Use an SD-based approach to teaching courses in the Dept. of Finance
  - *Monetary Theory & Policy*
  - *Macroeconomic Policy*
  - *Financial Control*
  - *Financial Management*
  - *Financial Markets*
  - *Macroeconomic Forecasting*
  - *Banking Operations*
  - *Corporate Finance*

# Bottom line, from my co-authors...



**Professor Lukianenko:** *“We are forming a strong team that will be ready for teaching economics and engaging in research using an innovative tool for dynamic modelling.”*



**Iryna:** *“After one semester in Bergen, I used SD in my master thesis. I was excited about my defence this spring, when I was able to present this approach to macroeconomic modelling.”*



**Iaroslava:** *“Learning SD in Norway was my best experience ever. System dynamics is a useful and interactive modelling tool, and Norway is a beautiful country with tolerant and welcoming people.”*



**Oleksandr:** *When SD permeates into your life and you start thinking in stocks and flows every day, you realise it is not only a useful modeling approach but a powerful tool for a clear worldview. Now I want to connect my life with SD and spread it through the world.*

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