建模工作坊:台灣

Modeling Workshop: Taiwan

本工作坊由 Krajcik 教授與 Novak 博士介紹 SageModeler 的系統動態建模工具,此工具能夠用來建構許多科學現象模型的靈活工具(如氣候改變與水質等)。SageModeler 能提供學習鷹架,讓中學到大學的學生可以經由設計、建造、測試及修正模型來進行系統思考。在為期兩日的工作坊期間,您將會認識建模實作,並將以 SageModeler 建造、測試、修正及分享模型。您可將研發融入模型建造實作的課程,以及運用於您的教學之中。

活動日期:2017 年 7 月 1 日(星期六)∼2017 年 7 月 2 日(星期日)
地　　　點:國立臺灣師範大學公館校區　臺北市汀州路四段 88 號
　　　　　　科教大樓 2 樓 SE204 教室
研習時數:全程參與之教師核予以研習時數 13 小時
報名日期:即日起至 2017 年 6 月 25 日(星期日) 截止

本工作坊僅開放**在職教師**報名參加,限額 30 人(全程可參與者優先入選),
意者請儘速報名　http://workshop-gise.strikingly.com/

主辦人:邱美虹教授　國立臺灣師範大學
講　師:***Joseph Krajcik*** (Director of the Institute for CREATE for STEM; Professor of Science Education in the College of Natural Science at MSU)
　　　　Ann Novak (Greenhills School located in Ann Arbor, Michigan)

July 1-2, 2017　建模工作坊議程

Time	Saturday, July 1
9-9:30	Introductions Goals of workshop
9:30 - 10:00	Introduce Modeling (Joe)
10:00 - 10:30	Introduce SageModeler - non-science example (Ann)
10:30 - 10:45	Tea Time
10:45 -11:15	Introduce water quality – background Generate water quality measures and relationships
11:15 - 12:00	Pairs work to build water quality models. Each person with own computer but talking together. Share in small groups if time
12:00 -13:00	lunch
13:00 - 13:45	Large group share, a couple groups share – run/explain model
13:45 - 14:45	Share 7th grade water quality models: classroom use and research (Ann)
14:45 - 15:00	Tea Time
15:00 - 16:00	Large discussion: What are some possibilities for constructing models in your curriculum? What areas are rich in causal relationships? What types of systems can be modeled? ● Small groups – group by content area ● Generate ideas for model building ● Share ideas
16:00 - 16:30	Tomorrow's plan: Build models of something that you can incorporate into your teaching Debrief. Feedback. What is useful? What is not useful? What would you like to focus on tomorrow? Question HW: bring in science materials

Time	Sunday, July 2
9-9:15am	Intro to the day
9:15 - 9:45	Participants share ideas for models
9:45 - 10:45	Participants work on curriculum and models
10:45 - 11:00	Tea Time
11:00 - 12:00	Participants share and discuss curriculum ideas and share models with one other group to receive feedback
12-13:00	lunch
13:00 - 14:00	Participants continue to work on curriculum materials
14:00 - 15:00	Gallery walk to share models and receive feedback
15:00 - 15:15	Tea Time
15:00 - 16:15	Advanced features
16:15 - 16:30	Closing remarks