Title : An Algorithm for Finding Gold Derivatives Prices from Price Data

Author(s) : 1. Bantita Khamsopa **Student ID :** 640510547

Major : Mathematics

Advisor(s) : 1. Dr. Khwanchai Kunwai

Type of presentation* *(choose 1)* **:**

- ☐ Oral Presentation (เฉพาะ ตัวแทนนศ.ที่สาขาเลือกให้นำเสนอแบบบรรยาย)
- ☑ Poster (กรณี นำเสนอผลงานปัญหาพิเศษ/การค้นคว้าอิสระ)
- ☐ Cooperative Education (กรณี นำเสนอผลงานสหกิจศึกษา)

ABSTRACT

In this independent study, we are interested in gold derivatives. The historical data are collected from www.investing.com. There are three objectives to be achieved in this study. First, we estimate the volatility of gold prices by using two methods; namely, the standard deviation of returns and GARCH(1,1) model. After obtaining the volatilities from the two methods, we apply the Black-Sholes-Merton formula to calculate the options prices. Finally, we compare the results from these methods.