טופס הרשמה

לכבוד
האיגוד הישראלי לבקרה אוטומטית
הפקולטה להנדסת חשמל
קרית הטכניון, חיפה
טל: 04-8294780; פקס: 04-8295757; 04-8205745

א.ג.נ.,

הנני מבקש/ת לרשום אותי ליום עיון בנושא:

Model-Based Fault Detection and Diagnosis in Engineering Systems

אשר יערך במלון "דניאל" הרצליה, ביום ב' 6.6.2011

כתובת: _____

טלפון: _____

מקום עבודה: _____

טלפון: _____ פקס: _____

מצורפת המחאה ע"ס _____ ש"ח

תאריך _____ חתימה _____

דמי השתתפות:

סטודנט (בזמן מלא)		100 ₪
רישום מוקדם עד	29.5.2011	400 ₪
רישום החל מ-	30.5.2011	450 ₪

קו 29, מתחנת הרכבת בהרצליה למלון, יוצא כל 10 דקות.

דמי ההשתתפות כוללים ארוחת צהרים, כיבוד וחומר מודפס.
ההרשמה גם במקום, אם יוותרו מקומות.

התכנית

08:30 – 09:00	***Registration***
09:00 – 09:15	Opening Remarks N. Shimkin, Technion
09:15 – 10:30	Session 1: Basic concepts of diagnosis. Model-based diagnosis, residual generation. Dealing with noise.
10:30 - 11:00	***Coffee break***
11:00 – 12:15	Session 2: Residual generation by dynamic consistency relations. Design for parametric faults.
12:15 - 14:00	***Lunch Break***
14:00 – 15:15	Session 3: The Chow-Willsky scheme. Residual generation by diagnostic observers.
15:15 – 15:45	***Coffee break***
15:45 – 17:00	Session 4: Detection and isolation with principal component analysis. On-board diagnosis in automotive engines.

Note:

- The workshop language is English
- All technical sessions will be presented by Prof.Gertler.

Model-Based Fault Detection and Diagnosis in Engineering Systems

Engineering systems are prone to faults, which might reduce the efficiency of the system, jeopardize system mission, and threaten the health of the system or even its users. The detection, diagnosis and handling of such faults as they occur during system operation are of paramount importance for avoiding their adverse consequences.
This workshop will introduce and review advanced model-based methods for fault detection and isolation. Such methods utilize a mathematical model of the system and rely on the concept of “analytical redundancy”: actual system outputs are compared to ones predicted by the model, and discrepancies (the "residuals") are taken as indications of faults. Systems diagnostics aims at detecting and isolating faults, with robustness against "nuisances" such as noise and disturbances. Leading methods for generating and manipulating the residuals will be discussed, including direct manipulation of transfer functions, geometric projection, observers, principal component analysis, and statistical testing. Concrete applications will also be presented in order to demonstrate the applicability of these methods to industrial systems.

Prof. Gertler is a Fellow of IEEE and of IFAC and a Foreign Member of the Hungarian Academy of Sciences. He is an internationally renown expert on fault detection and diagnostics, on which he has published numerous research papers, and the book "Fault Detection and Diagnosis in Engineering Systems" (CRC Press). Prof. Gertler has presented invited plenary lectures on the subject at international conferences in the US, UK, Germany, France, Finland, Hungary and Turkey, and taught several short courses in Spain and Hungary. He also led a successful application project with General Motors, later implemented on several car models.

This one-day tutorial workshop addresses both theory and practice of fault detection and diagnosis, and should be of great interest to all system and control professionals, researchers and practitioners. You are most welcome to join us on June 6.

Prof. Nahum Shimkin
President, IAAC

IFAC

איגוד ישראלי לבקרה אוטומטית

איגוד ישראל לבקרה אוטומטית – איב"א
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הזמנה

ליום עיון בנושא:

Model-Based Fault Detection and Diagnosis in Engineering Systems

מרצה:

Prof. Janos Gertler

George Mason University
Fairfax, Virginia

במלון "דניאל", הרצליה

יום ב' 6 ביוני 2011

יום העיון נערך בחסות משותפת של IEEE ישראל (CS & AES Chapters)

תודתנו נתונה למפעלים ולמוסדות
הבאים אשר תמיכתם באיב"א
מאפשרת לקיים ימי עיון מסוג זה:

אלביט מערכות – אל אופ בע"מ

רפאל – מערכות לחימה מתקדמות בע"מ

תעשיה אווירית לישראל בע"מ