

OC ACM Committee October 2016 Meeting Agenda and Notes

- Introductions
- Review and approve prior meeting minutes
- Chapter Student Awards
- Status Update
- 2016 Program Meetings
- Upcoming 2016 Program Meetings
- 2017 Program Meeting Speakers
- Holiday Committee Meeting Schedule
- Treasurer's Report
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Note: Meeting notes generally appear in *Blue Italic text*.

Meeting Attendees

- *Dan Whelan*
- *Michael Fahy*
- *Nilo Niccolai*
- *Don Black (phone)*
- *Shirley Tseng*

Motions

Motion	Moved By	Seconded By	Status
Approve September 2016 Committee Meeting Minutes	Nilo Niccolai	Michael Fahy	Approved
Approve OC ACM Computer Science Student Award proposal with changes to specify “graduating senior” and to remove the UCI HCI and I&CS majors which are not undergraduate majors.	Don Black	Michael Fahy	Approved

OC ACM Chapter Student Awards

- Idea proposed by Prof. Michael Fahy
- Nilo tasked with putting together a concrete proposal

Michael reviewed a proposal that he and Nilo drafted. Discussion about scope of the award. Agreed that it should initially be focused on “software” undergraduate majors and OC universities. May expand to junior colleges in the future.

Also discussed whether the award should include some token gift which the chapter would underwrite the cost of. Agreed to defer discussion to a later date. Agreed that this would be an ideal ask of a corporate sponsor.

Nilo will establish appropriate university contacts.

Status Update (Since Last Meeting)

- Dan has been in contact with Bill Bruns of the SF Bay Area Chapter for advice with regards to chapter organizational structure
- Dan participated in an ACM Local conference call. Based upon what other chapters are doing, we appear to be running our chapter reasonably well.
- Dan and Winsor have been in contact with prospective speakers (more on this later)

2016 Program Meetings

Meeting Date	Speaker / Topic
January 13, 2016	Mark Bachman / IoT
March 9, 2016	Curd Zechmeister (Amazon) / Cloud Computing
May 11, 2016	Erick Wolf / 3D Printing
July 13, 2016	Jackie Morie / Virtual Reality
September 14, 2016	John King / Intellectual Property
November 9, 2016	Brian Wallace (Cylance) / Cyber-security

November 2016 Program Meeting

- Currently have 79 people registered (going) for the November 9th Cybersecurity talk
- The next round of promotion activity will start early November
- What else should we do to promote the November 9th talk?
 - Reach out to cyber security groups
 - (A. Winsor introduced a group of cyber security through IEEE)
- Who can volunteer to assist with the staging of the November meeting?

2017 Program Meetings

Meeting Date	Speaker / Topic
January 11, 2017	Peter Coffee / Intelligent Experience
March 8, 2017	Prof. Michael Franz
May 10, 2017	Prof. Marios Papaefthmiou, UCI ICS Dean TENTATIVE
July 12, 2017	
September 13, 2017	
November 8, 2017	

Peter Coffee – January 2017

Connection, Collection, Concentration - From Devices and Processes to the Intelligent Experience

Turning the Moore's-Law crank to automate existing activities has impressive returns, but they are nowhere near the breakout opportunities available from data-driven and AI-augmented initiatives that redefine entire industries. Salesforce's global VP of Strategic Research will share observations and recommendations based on work with dozens of organizations that are on the leading edge of making the magic real.

Bio: Peter Coffee is Director of Platform Research at salesforce.com, where he serves as a liaison with the developer community to define the opportunity and clarify developers' technical requirements on the company's evolving Apex Platform. Peter previously spent 18 years with eWEEK (formerly PC Week), the national news magazine of enterprise technology practice, where he reviewed software development tools and methods and wrote regular columns on emerging technologies and professional community issues. Before he began writing full-time in 1989, Peter spent eleven years in technical and management positions at Exxon and The Aerospace Corporation, including management of the latter company's first desktop computing planning team and applied research in applications of artificial intelligence techniques. He holds an engineering degree from MIT and an MBA from Pepperdine University; he has held teaching appointments in computer science, business analytics and information systems management at Pepperdine, UCLA, and Chapman College.

Prof. Michael Franz – March 2017

Cyber Attacks and Defenses: Trends, Challenges, and Outlook

A cyber attacker needs to find only one way in, while defenders need to guard a lot of ground. Adversaries can fully debug and perfect their attacks on their own computers, exactly replicating the environment that they will later be targeting. This is the situation today, which has been exacerbated by an increasing trend towards a software "monoculture" (in which there are only two major desktop operating systems and two major phone operating systems, one major office software suite, and so on).

One possible defense is software diversity, which raises the bar to attackers. A lot of academic and industrial research is currently investigating such software diversity, from simple ASLR (address space layout randomization) to more complex whole-program randomization. In the latter, a diversification engine automatically generates a large number of different versions of the same program, potentially one unique version for every computer. These all behave in exactly the same way from the perspective of the end-user, but they implement their functionality in subtly different ways. As a result, a specific attack will succeed on only a small fraction of targets and a large number of different attack vectors would be needed to take over a significant percentage of them. Because an attacker has no way of knowing a priori which specific attack will succeed on which specific target, this method also very significantly increases the cost of attacks directed at specific targets.

Unfortunately, attackers have now started assembling their attacks on the target itself, circumventing diversity. Hence, in the arms race between attackers and defenders, we are already at the point where yet another set of defenses is needed, before the previous one is even fully deployed across the software industry.

My talk will present a time-line of attacks and defenses, clearly illustrating a "cat and mouse game" in which defenses are almost always reactive to attacks that have already happened. I will discuss my vision of how to get ahead of the attackers, and close by stating why, in spite of the bleak situation today, I am confident that we will eventually be able to stop most kinds of cyber attacks completely.

Prof. Franz Bio

Michael Franz is a Chancellor's Professor at the University of California, Irvine (UCI) and the director of its Secure Systems and Software Laboratory. He is a Full Professor of Computer Science in UCI's Donald Bren School of Information and Computer Sciences and a Full Professor of Electrical Engineering and Computer Science (by courtesy) in UCI's Henry Samueli School of Engineering. He is a Fellow of the ACM, a Fellow of the IEEE, and a co-founder of an Irvine-based software security startup company, Immunant, Inc.

Prof. Franz was an early pioneer in the areas of mobile code and dynamic compilation. He created an early just-in-time compilation system, contributed to the theory and practice of continuous compilation and optimization, and co-invented the trace compilation technology that eventually became the JavaScript engine in Mozilla's Firefox browser. He has graduated 25 Ph.D. students as their primary advisor. Franz received a Dr. sc. techn. degree in Computer Science (advisor: Niklaus Wirth) and a Dipl. Informatik-Ing. ETH degree, both from the Swiss Federal Institute of Technology, ETH Zurich.

BitCoin / Blockchain Program Meeting Topic

- Shirley met [Dan Rosemay](#) who appears to be a BitCoin advocate.
- Steve suggests that [Blockchain](#), a technology underlying BitCoin, deserves discussion

Good discussion about both BitCoin and Blockchain. Proposal to have a future meeting focused on Blockchain and its applications, potentially including BitCoin, Medical Permissions, Commercial Banking, etc. Ideal for a panel discussion.

2017 Program Meeting Talks

- Suggestions?

Winsor made a suggestion about new options.

- Speakers
- Topics
- Companies

- Michael recently suggested a talk on [DevOps](#) Perhaps we could recruit a Google speaker on this topic.
 - *Cynthia – FedEx? Madan Birla -- Possibly via Knobbe*
 - *Dan – Panel Discussion*
- *Cloud :Quantum computing on the cloud from IBM / or Google speaker/ or ISI speaker*
- *Google TensorFlow*
- *UCI – Mike Carey (Big Data Management)*
- *AI in Medicine – CHOC Dr. Anthony Chang (Michael Fahy)*

Dan is pursuing an IBM Quantum Computing contact and DevOps contacts

Holiday Committee Meeting Schedule

- Our next two Committee Meetings are scheduled for:
 - November 23rd (Day before Thanksgiving)
 - December 28th
- Do we want to make any changes to the scheduled dates?
 - For example, cancelling both and meeting once on December 14th

Agreed to cancel standing November and December meetings and instead to meet on December 14th at our usual place and time.

ACM-OC Treasurer's Report October, 2016

- Current Account Balance of \$2,237.17 (as of 10/23)
 - \$ **(\$10.00)** Bank charges (last such charge if balance > \$500)
 - \$150 IEEE OC CS September Meeting Sponsorship
 - \$100 Donation

- Accts Payable: **(\$1271.53)** (Steve and Dan to discuss AP with UCI)
- Accts Receivable: \$4.75
- Net Balance: \$970.39 (Note: \$1000 restricted IBM donation)

- Other Items:
 - Credit Card Reader – Do we need a “chip” reader? Do we want to support Apple and Android Pay?
 - Do we need business checks? Cost is \$20 - \$40

Agreed to acquire a touchless reader. Steve to decide what to do about purchasing checks

Personal Initiatives

- None to discuss

Other Business

- No other business items