

# The 13th ACM Workshop on Multimedia and Security

September 29-30, Buffalo/Niagara Falls NY



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## Conference Begins

Posted on [September 28, 2011](#) by [admin](#)

Welcome to Niagara Falls! For those of you who have already made it into town, don't forget about the Power Authority tour starting at 1515 today (meet in hotel lobby 1445); and the reception at the Red Coach Inn starting at 1900 (meet in hotel lobby at 1845). For more information, see "Social Events"

Posted in [Uncategorized](#) | [Comments Off](#)

## Conference Room

Posted on [September 27, 2011](#) by [admin](#)

The conference will be located in the Porter-DeVeaux room of the Conference Center Niagara Falls (See "Venue" for more information)

Posted in [Uncategorized](#) | [Comments Off](#)

## Updated social event information

### Call for Papers

[CFP \(pdf format\)](#)

### General Chair

- Chad Heitzenrater, Air Force Research Lab, Rome NY

### Program Chairs

- Jana Dittmann, Otto-von-Guericke University Magdeburg, Germany
- Scott Craver, SUNY Binghamton, USA

### Local Arrangements

- Stella N. Batalama, School of Engineering and Applied Sciences University at Buffalo, The State University of New York

### Program Committee

- Mauro Barni
- Patrick Bas
- Patrizio Campisi
- Scott Craver
- Jana Dittmann

Posted on [September 27, 2011](#) by [admin](#)

We're looking forward to seeing everyone in Niagara! The social event information page has been updated with directions and itineraries. Be sure to come join us for the NY Power Authority Tour and the reception at the Red Coach Inn on Wednesday evening.

Posted in [Uncategorized](#) | Comments Off

## Final additions

Posted on [September 20, 2011](#) by [admin](#)

As we enter the final week of preparations, additional conference information has been added to the website. The final invited speaker biography and abstract has been posted, times have been added to the program, and a new section detailing information on the social events is now available.

Please note that there is an informal social event before the welcome reception on Wednesday. We invite everyone to come join us on a tour of the Niagara Power Authority – see “Social Events” for more information.

Posted in [Uncategorized](#) | Comments Off

## Conference Information Update

Posted on [July 24, 2011](#) by [admin](#)

Venue, Hotel and Invited Speaker information for the 13th ACM MM&SEC Workshop has been posted. Further information, including Registration, is forthcoming.

Posted in [Uncategorized](#) | Comments Off

## Submission deadline extended

Posted on [May 11, 2011](#) by [admin](#)

**The submission deadline has been extended to June 11, 2011.**

Posted in [Uncategorized](#) | Comments Off

- Gwenaël Doërr
- Jessica Fridrich
- Andrew Ker
- Deepa Kundur
- Heung-Kyu Lee
- B. S. Manjunath
- Nasir Memon
- Fernando Perez-Gonzalez
- Dijana Petrovska
- Balakrishnan Prabhakaran
- Claus Viehauer
- Sviatoslav Voloshynovskiy
- Min Wu

### Key Dates

- Submissions end: ~~May 13~~ May 27, 2011
- Authors notified: July 14, 2011
- Camera-ready by: August 8, 2011
- Workshop: September 29-30

## Submissions are Open

Posted on [May 1, 2011](#) by [admin](#)

You can log in to the CMT submissions system to upload your paper at

<https://cmt.research.microsoft.com/MMSEC2011/Default.aspx>.

As stated in the call for papers, templates for the ACM SIG proceedings can be found at

<http://www.acm.org/sigs/publications/proceedings-templates>.

Posted in [Uncategorized](#) | [Comments Off](#)

## Call For Papers

Posted on [December 22, 2010](#) by [admin](#)

The 13th ACM Multimedia and Security Workshop will be held in Buffalo NY. The workshop's continuing objective is to explore research in areas of multimedia data security such as data protection, media forensics, covert channels and security issues in biometrics, as well as related issues in public policy and multimedia infrastructure in real world application. Since 1998, MMSEC has fostered collaboration with researchers and developers in academia, industry and government.

### SCOPE AND PAPERS

We welcome papers addressing any issue of secure multimedia processing, transmission or distribution, from theoretical results to deployment of secure media architectures.

Demonstrations of results are encouraged. Topic include but are not limited to:

- Multimedia watermarking and fingerprinting
- Secure multimedia distribution
- Multimedia-specific authentication and encryption
- Signal processing in the encrypted domain
- Media forensics
- Steganography and steganalysis
- Biometrics
- Security evaluation and benchmarks

- **Emerging applications**
- **Legal and policy issues in media security**

The workshop accepts short and long papers. Short papers should be 4-6 pages long, long papers 6-10 pages. (ACM format <http://www.acm.org/sigs/pubs/proceed/template.html>). Accepted papers will be published in the ACM workshop proceedings.

Posted in [Uncategorized](#) | Comments Off

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**The 13th ACM Workshop on Multimedia and Security**

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## CALL FOR PAPERS

### 13<sup>th</sup> ACM Multimedia and Security Workshop September 29-30, 2011, Buffalo NY USA

#### General Chair

Chad Heitzenrater,  
Air Force Research Lab,  
Rome NY

#### Program Chairs

Jana Dittmann,  
*Otto-von-Guericke University  
Magdeburg, Germany*  
Scott Craver,  
*SUNY Binghamton, USA*

#### Program Committee

Mauro Barni  
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Jessica Fridrich  
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B. S. Manjunath  
Nasir Memon  
Fernando Perez-Gonzalez  
Dijana Petrovska  
Balakrishnan Prabhakaran  
Claus Viehauer  
Sviatoslav Voloshynovskiy  
Min Wu

#### Key Dates

**Submissions end: May 13, 2011**  
**Authors notified: July 1, 2011**  
**Camera-ready by: July 29, 2011**  
**Workshop: September 29-30**

**Workshop Website:**  
[www.mmsec11.com](http://www.mmsec11.com)

The 13th ACM Multimedia and Security Workshop will be held in Buffalo NY. The workshop's continuing objective is to explore research in areas of multimedia data security such as data protection, media forensics, covert channels and security issues in biometrics, as well as related issues in public policy and multimedia infrastructure in real world application. Since 1998, MMSEC has fostered collaboration with researchers and developers in academia, industry and government.

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- Multimedia watermarking and fingerprinting
- Secure multimedia distribution
- Multimedia-specific authentication and encryption
- Signal processing in the encrypted domain
- Media forensics
- Steganography and steganalysis
- Biometrics
- Security evaluation and benchmarks
- Emerging applications
- Legal and policy issues in media security
- Fusion of unconventional data sources in detection

The workshop accepts short and long papers. Short papers should be 4-6 pages long, long papers 6-10 pages. (ACM format <http://www.acm.org/sigs/pubs/proceed/template.html>). Accepted papers will be published in the ACM workshop proceedings.

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## Hotel

The ACM MM&SEC 2011 conference hotel is the Sheraton At The Falls, located adjacent to the conference venue.

[Sheraton At The Falls](#)

300 3rd Street

Niagara Falls, New York 14303

A block of 20 rooms has been set aside for this event at the price of \$119/night. Additionally, a small number of rooms will be set aside at the government per diem rate for those traveling on orders. To obtain this rate, please make reservations by **30 August 2011**.

Reservations can be made via phone ([1-866-961-3780](tel:1-866-961-3780)) or via a conference website: <http://www.starwoodmeeting.com/StarGroupsWeb/res?id=1105132954&key=24CC>.

This rate will apply to the two conference nights (29 & 30 September), and upon request will be made available for the period of 26 September until 3 October 2011 to accommodate those traveling abroad, or who wish to extend their travel to in order to enjoy Niagara Falls and the surrounding area.

*Note: When booking, take care not to confuse the conference venue with the Sheraton On The Falls, which is on the Canadian side of the falls.*

In addition to the conference hotel, many other hotels are located within walking distance of the venue.

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The 13th ACM Workshop on Multimedia and Security

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## Invited Speakers

This year, the ACM MM&SEC Workshop committee is proud to be hosting a series of invited talks on ***Bridging Research and Reality***. These talks will come from relevant experts in the fields of Steganography/Steganalysis, Watermarking, and Multimedia Forensics and will serve to frame the discourse for related sessions within the workshop. Presentation topics will be focused on real-world lessons learned, the challenges of bringing technology to fruition, as well as applications and experiences with MM&SEC technology applications that range from commercial to law enforcement. It is our hope that these sessions will provoke and inspire attendees.

Steganography/Steganalysis Invited speaker:

### Chet Hosmer – Chief Scientist & Sr. Vice President, Allen Corporation

**Biography:** Chet Hosmer is the Chief Scientist / Sr Vice President at Allen Corporation of America and was the Founder of WetStone Technologies, Inc. Chet has been researching and developing technologies and training surrounding steganography and watermarking for over a decade, acting as principle investigator on multiple data hiding research programs. He has made numerous appearances to discuss the threat steganography poses, including National Public Radio's Kojo Nnamdi show, ABC's Primetime Thursday, NHK Japan, CrimeCrime TechTV and ABC News Australia. He has also been a frequent contributor to technical and news stories relating to steganography and has been interviewed and quoted by IEEE, The New York Times, The Washington Post, Government Computer News, Salon.com and Wired Magazine.

Hosmer holds a B.S. in Computer Science from the Syracuse University at Utica College. He has 12 journal publications, dozens of conference publications, and has delivered keynote and plenary talks on various cyber security related topics around the world every year.

**Topic:** Chet Hosmer will be presenting a talk titled "Erasing the Myth – A Case Study of Actual Steganography and Data Hiding Incidents."

Watermarking Invited Speaker:

### Tony Rodriguez – Chief Technology Officer, Digimarc

**Biography:** Tony Rodriguez joined Digimarc in 1996 and currently serves as Chief Technology Officer. Rodriguez has 25 years experience in computer science and image processing research and development. Over his fifteen years with Digimarc, Rodriguez has held senior software engineering and research positions, focused on the development and application of digital watermarking and other content identification technologies. Rodriguez played an integral role in the early development of solutions for identifying and tracking

digital images and later in the company's work with an international consortium of central banks to develop a system to deter PC-based counterfeiting of banknotes. He is currently focused on the integration of content recognition technologies with machine learning strategies to create and manage context on the mobile platform in support of applications from Digimarc and its partners that enable users to identify and interact with television, audio and printed content.

Rodriguez is the inventor on 41 issued U.S. patents and 97 pending patents. He is also the author of several published papers on the topic of Digital Watermarking and a chapter in the book *Multimedia Security Handbook*, published in 2005. Before joining Digimarc, Rodriguez worked at the Intel Architecture Lab as a senior software engineer, focused on video segmentation and streaming technologies. Prior to that, Rodriguez held a variety of software development and engineering positions at Raytheon, Jet Propulsion Laboratory (JPL) and IBM. Rodriguez has a bachelor degree in electrical engineering from the University of Washington and an Executive MBA from Stanford.

**Topic:** Digital Watermarking exists in the space between human and machine perception and its efficacy is typically measured using application specific economic models. Commercial adoption is predicated on successfully navigating this space and maintaining a clear focus on what the customer's definition of success is. To do so requires the integration of technologies and models from disparate fields and an acute understanding of workflow. Across a broad cross section of deployments and customers a common set of lessons have been learned and technical challenges identified. Many surround the need to accurately model and document the operational envelope of proposed algorithms and implementations. Doing so, within the economic and workflow constraints of the intended application allows early adopters to advocate for and ultimately facilitate the migration of watermarking research from labs into production. For those technologies that have successfully made the jump into the commercial sphere, there is demand to improve the algorithms and implementations, largely driven by a desire to increase the breadth of applications enabled and to support new platforms such as mobile devices. These improvements typically take the form of growing the constraint triangle (carrying capacity, robustness, imperceptibility) or are related to the underlying implementation, such as computational efficiency/gate reduction, or leveraging platform specific capabilities (GPU, etc.)

The first wave of Digital Watermarking technologies has been successfully commercialized and is now widely deployed in support of industry verticals. The next wave of applications awaiting the research community however is larger and more profound as watermarking enters into the public consciousness as an enabling technology that facilitates new user experiences with media of all types. By sharing the lessons learned and commercial challenges, as we perceive them, our hope is that we can facilitate discussion and opportunities for collaboration.

Digital Forensics Invited Speaker:

## Walter Bruehs, FBI Forensic Audio, Video, and Imagery Analysis Unit (FBI/FAVIAU)

**Biography:** Walter E. Bruehs is employed by the Federal Bureau of Investigation as an Examiner of Questioned Photographic Evidence in the Forensic Audio, Video, and Image Analysis Unit. Walter has testified in both Federal and State courts. In addition to case work, Walter's responsibilities include actively seeking out and researching emerging digital imaging technologies as they apply to the Forensic arena. He heads a program designed to identify digital cameras, based on sensor noise. He has a Master of Science degree in Electrical Engineering from the University of Maine at Orono, as well as a Bachelor of Science in Electrical Engineering from Clarkson University. Prior to working at the FBI, Walter worked as an Imaging Scientist in the research and development laboratories of the Eastman Kodak Company, where he co-authored a patent, "Method and System for Improving an Image Characteristic Based on Image Content." In addition to his responsibilities with the FBI he has taught at forensic conferences both domestically as well as internationally and has served as an adjunct professor at Polytechnic University of NYU.

**Topic:** *Bringing new technology into Federal Court.* As consumer technology continues to get more sophisticated and digital in nature so then also does the need for the forensic community to develop tools to collect data from these devices. The forensic community is unique in the criteria that it must adhere to in State and Federal courts.

The characterization of a camera and its images using Photo Response Non-Uniformity was recently utilized, at the subsequent trial this analysis passed a Daubert hearing in Federal court. The Daubert criteria define the standard by which new scientific evidence can be



admitted into Federal court. This marks a 6 year process to research, develop and ultimately bring new technology into a Federal court proceeding. The project is still progressing and involved collaboration between the Federal government, academia and private industry.

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**Program**
**Technical program**

Day I		
	0800-0900	Registration & Breakfast (Porter-DeVeaux Room)
	0900-0910	Welcome
Invited Talk	0910-1010	Walter Bruehs, FBI Forensic Audio, Video, and Imagery Analysis Unit
	1010-1040	BREAK
Session 1	<b>Forensics I</b>	
	1040-1110	Convergence of Digital and Traditional Forensic Disciplines: A First Exemplary Study for Digital Dactyloscopy. <i>Mario Hildebrandt, Stefan Kiltz (Otto-von-Guericke University, Germany)</i>
	1110-1140	Seam Carving Estimation Using Forensic Hash. <i>Wenjun Lu, Min Wu (University of Maryland, USA)</i>
	1140-1200	Exposing Image Forgery with Blind Noise Estimation. <i>Xunyu Pan, Xing Zhang, Siwei Lyu (SUNY Albany, USA)</i>
	1200-1300	LUNCH (Cataract Room)
Session 2	<b>Forensics II</b>	
	1300-1320	CFA Pattern Identification of Digital Cameras Using Intermediate Value Counting. <i>Choi Chang Hee, Choi Jung Ho, Lee Heung Kyu (KAIST, South Korea)</i>
	1320-1340	Latent Fingerprint Detection using a Spectral Texture Feature. <i>Tobias Kiertscher, Robert Fischer, Claus Vielhauer (Brandenburg University of Applied Science, Germany)</i>
	1340-1410	Malicious fingerprint traces: a proposal for an automated analysis of printed amino acid dots using HoughCircles. <i>Mario Hildebrandt, Stefan Kiltz, Jana Dittmann (Otto-von-Guericke University, Germany), Claus Vielhauer (Brandenburg University of Applied Science, Germany)</i>
	1410-1440	BREAK

Session 3	<b>Biometrics</b>	
	1440-1510	Evaluation of Binary Pixel Aging Curves of Latent Fingerprint Traces for Different Surfaces Using a Chromatic White Light (CWL) Sensor. <i>Ronny Merkel, Jana Dittmann (Otto-von-Guericke University, Germany), Claus Vielhauer (Brandenburg University of Applied Science, Germany)</i>
	1510-1540	Using Global Knowledge of Users' Typing Traits to Attack Keystroke Biometrics Templates. <i>Abdul Serwadda, Vir Phoha, Ankunda Kiremire (Louisiana Tech University, USA)</i>
	1540-1610	Comparative Study on Fusion Strategies for Biometric Handwriting. <i>Tobias Scheidat, Claus Vielhauer (Brandenburg University of Applied Science, Germany)</i>
	1800-2100	SOCIAL EVENT: Albright Knox Tour & Banquet
<b>Day II</b>		
	0800-0900	Registration & Breakfast (Porter-DeVeaux Room)
Invited Talk	0900-1000	Chet Hosmer, Chief Scientist & Sr. Vice President, Allen Corporation
	1000-1030	BREAK
Session 4	<b>Steganography</b>	
	1030-1100	On Dangers of Overtraining Steganography to Incomplete Cover Model. <i>Jessica Fridrich, Jan Kodovsky, Vojtech Holub (Binghamton University, USA)</i>
	1100-1130	Steganalysis of JPEG-Based Adaptive Steganography. <i>Qingzhong Liu (Sam Houston State University, USA)</i>
	1130-1150	A Square-Root Law for Active Wardens. <i>Enping Li, Scott Craver (Binghamton University, USA)</i>
	1150-1300	LUNCH (Cataract Room)
Invited Talk	1300-1400	Tony Rodriguez, Chief Technology Officer, Digimarc
	1400-1430	BREAK
Session 5	<b>Protocols</b>	
	1430-1500	Semi-automated communication protocol security verification for watermarking – pros and cons illustrated on a complex application scenario. <i>Christian Kraetzer, Ronny Merkel, Robert Altschaffel, Eric Clausing, Maik Schott, Jana Dittmann (Otto-von-Guericke University, Germany)</i>
	1500-1520	Processing Encrypted Floating Point Signals. <i>Martin Franz (CASED, Germany), Stefan Katzenbeisser (TU Darmstadt, Germany)</i>
	1520-1540	Multi-biometrics Based Crypto-biometric Session Key Generation and Sharing Protocol. <i>Sanjay Kanade, Dijana Petrovska, Bernadette Dorizzi (Institut TELECOM SudParis, France)</i>
Session 6	<b>Applications</b>	
	1540-1600	Contextualizing Security for Digital Long-term Preservation. <i>Kun Qian, Maik Schott, Christian Kraetzer (Otto-von-Guericke University, Germany)</i>

1600-1630

**Building Multimedia Security Applications in the MPEG Reconfigurable Video Coding (RVC) Framework.** *Junaid Jameel Ahmad, Shujun Li (University of Konstanz, Germany), Ihab Amer (German University in Cairo, Egypt), Marco Mattavelli (EPFL, Switzerland)*

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## Registration

*Registration is now online. The registration fees are:*

Before August 31		After August 31	
ACM/SIG member	\$450.00	ACM/SIG member	\$500.00
Non-member	\$500.00	Non-member	\$550.00
Student	\$350.00	Student	\$350.00

**IMPORTANT NOTE: Each presented paper must have an author registered at a non-student rate.**

The registration site can be found at

<http://www.regonline.com/acmmultimediasecurityworkshop>

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## Social Events

Attendees to this years MM&Sec will have the opportunity to participate in a number of social events which highlight the Niagara/Buffalo area.

### Wednesday, 28 September 2011

*Power authority tour, 1515-1615:* Everyone (attendees and guests) is invited on a tour of the Niagara Power Authority. Attendees can make their own way to the location, or meet up with the group in the hotel lobby at 1445 (A-1 Taxi is approximately \$5/per person round trip). [Driving directions.](#)

*Cocktail Reception at the Red Coach Inn, 1900-2100:* Please join us at the Red Coach Inn overlooking the Niagara Rapids for wine and appetizers. [Walking directions.](#) [More on the Red Coach Inn.](#)

14:45-15:00	Meet at the Sheraton at the Falls Hotel
15:00-15:15	Depart to New York Power Authority
15:15-16:15	New York Power Authority Tour
16:15-16:30	Return to the Sheraton at the Falls Hotel
18:45-19:00	Depart for Red Coach Inn (short walk)
19:00-21:00	Reception (cocktails and hors d'oeuvres) Red Coach Inn, Niagara Falls
21:00-21:15	Return to hotel

### Thursday, 29 September 2011

*Social Dinner and tour of the Albright-Knox Art Gallery, 1800-2200:* Attendees will be picked up by bus and transported to the Albright-Knox Art Gallery in downtown Buffalo where we will enjoy a private tour of the gallery, followed by a three course dinner. [More on Albright-Knox.](#)

16:30-16:45	Meet at the Sheraton at the Falls Hotel
16:45-17:00	Depart for Albright Knox Art Gallery, Buffalo (Bus will be provided.)
17:00-17:45	Travel to Albright Knox Art Gallery
17:45-18:00	Arrive at Albright Knox Art Gallery

18:00-18:45	Albright Knox Art Gallery Tour
19:00-21:30	Dinner, Albright Knox Café
21:30-22:00	Return to Sheraton at the Falls Hotel

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## Submission

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## Venue

*UPDATE: The MM&SEC sessions will be held in the Porter-DeVeaux room of the conference center. If entering from the main entrance Old Falls Street (between the Sheraton and the Conference Center), turn left and continue until you pass through the double doors. The registration desk will be straight ahead, and the Porter-DeVeaux room will be to the right.*

This year's MM&SEC conference will be held at The Conference Center Niagara Falls ([www.conferencecenterniagarafalls.com](http://www.conferencecenterniagarafalls.com)), in downtown Niagara Falls NY (USA) and just steps away from the scenic Niagara Falls.

Directions (from the venue [website](#))

### **From Buffalo-Niagara International Airport (BUF):**

1. Turn Slight left onto NY-33 W.
2. Merge onto I-90 E/New York State Trwy E toward I-290/Niagara Falls/Albany.
3. Merge onto I-290 w/Youngman Exwy via exit number 50 toward Niagara Falls.
4. Merge onto New York State Trwy/I-190 N toward Niagara Falls (Portions Tolls).
5. Take the R. Moses Pkwy exit- exit number 21 toward Niagara Reservation/State Park.
6. Merge onto Robert Moses State Pkwy N.
7. Take exit City Traffic.
8. At the 2nd light make a left onto Rainbow Blvd.
9. Turn Right onto Third St.  
(Old Falls Street is a pedestrian walk on the left hand side, adjacent to the Intercontinental Hotel.)

Total Est. Time: 28 minutes

Total Est. Distance: 24.62 miles

### **FROM BUFFALO:**

Take the I-190 North towards Niagara Falls

Merge onto the Robert Moses Parkway North Exit – Exit #21

Stay in the right hand lane on the Robert Moses Parkway and exit towards “city traffic”

At the second traffic light, turn left onto Rainbow Blvd

Turn right onto Third Street

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