JDFSL V11N1

The Journal of Digital Forensics, Security and Law

Volume 11, Number 1 (2016)

Editorial Board

Editor-in-Chief
Glenn S. Dardick, PhD, CCE, CCFP
ADFSL
Florida, USA

Associate Editor-in-Chief
Diane Barrett, PhD, CISSP
Bloomsburg University
Pennsylvania, USA

Frank Adelstein, PhD
Cayuga Networks
New York, USA

John W. Bagby, JD
The Pennsylvania State University
Pennsylvania, USA

Ibrahim (Abe) Baggili, PhD
University of New Haven
Connecticut, USA

David P. Biros, PhD
Oklahoma State University
Oklahoma, USA

Frank Breitinger
University of New Haven
Connecticut, USA

Raymond Choo, PhD
University of South Australia
South Australia, Australia

Kam Pui (KP) Chow, PhD
University of Hong Kong
Hong Kong, China

Fred Cohen, PhD, CEO
Management Analytics
California, USA

Philip Craig, PhD, CISSP, CCFP
Daytona State College
Florida, USA

David Dampier, PhD
Mississippi State University
Mississippi, USA

Barbara Endicott-Popovsky, PhD
University of Washington
Washington, USA

Nick V. Flor, PhD
University of New Mexico
New Mexico, USA

Virginia N. L. Franqueira, PhD
University of Derby
United Kingdom

Simson Garfinkel, PhD
NIST
Maryland, USA

Pavel Gladyshev, PhD
University College Dublin
Ireland

Sanjay Goel
University at Albany
State University of New York
New York, USA

Joshua James, PhD
Soonchunhyang University
South Korea

Andy Jones, PhD
University of South Wales
UK

Erin Kenneally, MFS, JD
Elchemy, Inc.
University of California San Diego
California, USA

Gary C. Kessler, PhD, CCE, CCFP, CISSP
Embry-Riddle Aeronautical University
Florida, USA

Jigang Liu, PhD
Metropolitan State University
Minnesota, USA

Michael M. Losavio, JD
University of Louisville
Kentucky, USA

Andrew Marrington, PhD
Zayed University
UAE

Martin Oliver, PhD, CCFP
University of Pretoria
South Africa

Richard Overill, PhD, FBCS
King's College London
United Kingdom

Denise Pheils, PhD, CISSP, PMP
Texas A&M
Texas, USA

Copyright © 2016 ADFSL, the Association of Digital Forensics, Security and Law. Permission to make digital or printed copies of all or any part of this journal is granted without fee for personal or classroom use only and provided that such copies are not made or distributed for profit or commercial use. All copies must be accompanied by this copyright notice and a full citation. Permission from the editor is required to make digital or printed copies of all or any part of this journal for profit or commercial use. Permission requests should be sent to Editor, JDFSL, 4350 Candlewood Lane, Ponce Inlet, FL 32127, or emailed to editor@jdfsl.org. ISSN 1558-7215

© 2016 ADFSL
Call for Papers

The *Journal of Digital Forensics, Security and Law* has an open call for papers in, or related to, the following subject areas:

1) Digital Forensics Curriculum  
2) Cyber Law Curriculum  
3) Information Assurance Curriculum  
4) Digital Forensics Teaching Methods  
5) Cyber Law Teaching Methods  
6) Information Assurance Teaching Methods  
7) Digital Forensics Case Studies  
8) Cyber Law Case Studies  
9) Information Assurance Case Studies  
10) Digital Forensics and Information Technology  
11) Law and Information Technology  
12) Information Assurance and Information Technology

Guide for Submission of Manuscripts

Manuscripts should be submitted through the *JDFSL* online system in Word format using the following link: [http://www.jdfsl.org/for-authors](http://www.jdfsl.org/for-authors). If the paper has been presented previously at a conference or other professional meeting, this fact, the date, and the sponsoring organization should be given in a footnote on the first page. Articles published in or under consideration for other journals should not be submitted. Enhanced versions of book chapters can be considered. Authors need to seek permission from the book publishers for such publications. Papers awaiting presentation or already presented at conferences must be significantly revised (ideally, taking advantage of feedback received at the conference) in order to receive any consideration. Funding sources should be acknowledged in the *Acknowledgements* section.

The copyright of all material published in *JDFSL* is held by the Association of Digital Forensics, Security and Law (ADFSL). The author must complete and return the copyright agreement before publication. The copyright agreement may be found at [http://www.jdfsl.org/for-authors](http://www.jdfsl.org/for-authors).

Additional information regarding the format of submissions may be found on the *JDFSL* Web site at [http://www.jdfsl.org/for-authors](http://www.jdfsl.org/for-authors).
Contents

Call for Papers .......................................................................................................................... 2
Guide for Submission of Manuscripts ...................................................................................... 2
From the Editor-in-Chief ........................................................................................................... 5
In-the-Wild Residual Data Research and Privacy .................................................................... 7
William Bradley Glisson, Tim Storer, Andrew Blyth, George Grispos and Matt Campbell
Evidential Reasoning for Forensic Readiness ......................................................................... 37
Yi-Ching Liao and Hanno Langweg
Low Budget Forensic Drive Imaging Using Arm-Based Single Board Computers .............. 53
Eric Olson and Narasimha Shashidhar
Digital Forensics in Law Enforcement: A Needs Based Analysis of Indiana Agencies ......... 77
Teri A. Cummins Flory
Subscription Information .......................................................................................................... 99
FROM THE EDITOR-IN-CHIEF

Welcome to JDFSL’s first issue for 2016! I would like to thank our editorial board, reviewers, and the JDFSL team for bringing this issue to life.

Beginning with this issue, the Journal formally becomes affiliated with Embry-Riddle Aeronautical University (ERAU). We have now merged our current systems into their IT supported systems through the ERAU Scholarly Commons portal. ERAU Scholarly Commons currently hosts 2 open access journals and utilizes the Digital Commons BePress Repository. For more information, see the following:

- Scholarly Commons: http://commons.erau.edu/
- IJAAA: http://commons.erau.edu/ijaaa/
- JAAER: http://commons.erau.edu/jaer/
- Digital Commons: http://digitalcommons.bepress.com/online-journals/ forensics.

We hope to continue to improve the JDFSL, and are very happy to begin the year with a strong JDFSL issue and our partnership with Embry-Riddle Aeronautical University.

Dr. Glenn S. Dardick, PhD, CCFP, CCE
Editor-in-Chief
Associate Professor, Embry-Riddle Aeronautical University