

Dr. CRAIG M. ARNDT
P.E., C.H.F.P., C.B.P., D. Eng.
4202 Sonia Ct. Alexandria VA. 22309
703-298-8453
Craig_biometrics@live.com

Active Security Clearance: DoD Top Secret, SCI/SSBI

Summary of Experience

Dr. Arndt has extensive experience as a senior executive and technology leader in the research, engineering and defense industries, with extensive experience as an innovative leader in industry, academic and government. As a senior scientist at the Air Force Labs and the Air Force Institute of Technology, Dr. Arndt led the development of advanced control systems, as well as imaging and modeling systems for aircraft, smart bombs, and aircraft systems. As an engineer, scientist, inventor, and engineering manager at a number of leading defense contractors, Dr. Arndt was responsible for developing a wide range of communications, identifications, and counter terrorism technologies and systems. Dr. Arndt has led and managed business units, companies, and engineering organizations of all sizes located throughout the United States and internationally. As a program manager Dr. has managed programs ranging from research grants to Category 1D major Department of Defense acquisitions. Dr. Arndt is recognized as an international expert in biometric systems, human computer interface and human centered systems, image and signal processing, and artificial intelligence. As an active member of the academic and professional community, he has served as a technical expert for the Army and Defense Science Boards, the National Science Foundation, the International Standards Organization, the IEEE, and other public and private technical organizations.

Education

Doctor of Engineering in Electrical Engineering, University of Dayton, 1999
Master of Arts in National Security and Strategic Studies, Navy War College, 2009
Master of Science in Human Factors Engineering, Wright State University, 1991
Master of Science in Systems Engineering, Wright State University, 1989
Bachelor of Science in Electrical Engineering, Ohio State University, 1982 (Varsity letter 1980,81,82, All Big Ten 1981)
Graduate Level certificate in Quality Control, Wright State University, 1990
Executive training:

- Harris Crop 1998, Senior executive school
- Stanford / Hewlett Packard 2000, Senior executive training

Professional Certification

Professional Engineer: State of Ohio, E-050874
Certified Human Factors Professional, #948 (National level certification)
Certified Biometrics Professional
Department of Defense Acquisition Professional Certification (Level 3)
Joint Professional Military Education (JPME 1) (War College)

Description of Present Duties

As Professor of Systems Engineering at the Defense Acquisition University Dr. Arndt supports the development and education of the Department of Defense workforce, training and mentoring the current and future leaders of the DoD. As a recognized subject matter consultant, Dr. Arndt develops cutting-edge technologies and programs to solve the U.S. government's most complex challenges. Acting as a Senior Scientist and Technology Consultant to the U.S. Army Rapid

Dr. CRAIG M. ARNDT
P.E., C.H.F.P., C.B.P., D. Eng.
4202 Sonia Ct. Alexandria VA. 22309
703-298-8453
Craig_biometrics@live.com

Equipping Force (REF) and Joint Improvised Explosive Device Defeat Organization (JIEDDO), the Night Vision Lab, and other key government organizations, he provides expert consulting services and advice to senior government officials. Dr. Arndt supports government research and development of a wide range of technologies including electronic systems, radar systems, counter explosively formed penetrator (EFP) armor and armored vehicles, electro-optical sensors and systems, advanced signal processing, explosives detection systems, and forensics and biometric systems. Dr. Arndt works extensively on prototypes and advance technology demonstrators to transition advanced technologies from the lab to the field in direct support of Operation Iraqi Freedom/Operation Enduring Freedom. In addition to his responsibilities as a technology leader, Dr. Arndt has acquired significant experience in defense procurement and acquisition, including source selections, technology evaluation, program management, formal testing, life cycle logistics, MANPRINT, and fielding of systems to forward commands.

PROFESSIONAL EXPERIENCE

Professor (Full) of Systems Engineering and Management, Defense Acquisition University, 2010 -Present

- Develops and conducts lectures, case studies, simulations, workshops, and field trips.
- Prepares course material (student and instructor) according to current instructional systems design technology.
- Provides mentorship for senior executives and Flag and General officers throughout the Department of Defense.
- Provided advanced engineering and management support and consulting to key DoD programs.
- Develops and analyzes student assessments and provides student counseling to insure the highest degree of learning. Provides consulting support to the Defense Department, military services and other federal agencies including providing technical guidance and assistance on various matters including those of unusual complexity or without precedence.
- Conducts professional research as a subject matter expert publishing papers in professional journals and proceedings and making presentations at professional meetings, conferences, symposia, and seminars.

President and Chief Technology Officer, Unlimited for Life (UFL) Inc. 2010 – Present

- Led the founding and development of UFL and the development of the company's product line of human system engineering products.
- Led the development of new sensor technologies for detecting human signals and feedback in different noise environments
- Developed the businesses relations with partner company's suppliers.
- P&L responsibility for the company
- Developed The Company's marketing strategy, branding, and distribution channel

Dr. CRAIG M. ARNDT
P.E., C.H.F.P., C.B.P., D. Eng.
4202 Sonia Ct. Alexandria VA. 22309
703-298-8453
Craig_biometrics@live.com

partners.

- Lead the first and second round financing of the company
- Develop new products and markets
 - Nation Security
 - Medical Systems
 - Education
 - Gaming

Chief Technology Officer, VP Engineering, Executive Program Manager, Ideal Innovations, Inc., 2004 - 2010

- Led Ideal Innovations' strategic planning and business development for several years, analyzing and utilizing market changes and trends to enable record growth for the company, increasing annual revenue from \$4 to \$75 million and over 300 staff.
- Initiated and developed the company's proposal process, establishing proposal writing methods and training corporate leadership.
- Led the proposal and engineering efforts which resulted in the award of an \$11B contract for MRAP (the DoD's most important program, leading a proposal team of over 200 staff).
- Directed and managed (P&L responsibility) the development of complex technology systems and programs for biometrics, forensics, DNA, armored vehicles, advanced electronics, electro-optical systems, and explosives detection systems.
- Provided direct support of OIF/OEF, including the development of new systems and rapid prototyping for the US Army REF and DoD JIEDDO.
- Directed field operations in Iraq, supporting the installation, testing and support of systems for the REF.
- Managed the development of facilities and labs in Iraq and Afghanistan.
- Was responsible for managing all aspects -- from research to delivery to the troops -- of advanced research projects including budgeting, source selection, program management, testing, and implementation and fielding of new technologies.

Technology Director, Mitretek Systems, 2002 - 2004

- Managed/directed the Identity Management Systems group, its staff, and their programs.
- Created strategic and business plans for Mitretek Systems and their customers.
- Mentored and managed the professional development of staff and technical professionals.
- Developed and managed advanced biometrics programs for Department of Defense, Department of State, Department of Homeland Security, and Department of Justice customers.

Executive Program Manager (General Manager) and Chief Scientist , STS International, 2002

- Established a major new laboratory and operations center to meet critical Department of Defense research and test requirements in biometrics and identity management, including setting up a management infrastructure, supervising selection of equipment and facilities,

Dr. CRAIG M. ARNDT
P.E., C.H.F.P., C.B.P., D. Eng.
4202 Sonia Ct. Alexandria VA. 22309
703-298-8453
Craig_biometrics@live.com

and enabling efficient use of resources.

- As General Manager for the company's largest division I had full P&L responsibility for the division and supported company wide business development.
- Managed a multi-million dollar budget, forecasting and defending budget requirements for the Army POM.
- Managed the development of DoD test standards and methods for biometrics.
- Recruited and managed a diverse staff of engineering computer programmers, program managers, technicians, and support staff; providing guidance for team leaders, professional development opportunities, and assessments of personnel performance.

Advanced Technology Engineering Manager, Hewlett Packard, 2000 - 2001

- Led the development of new policies, standards development, and engineering efforts to insure compliance of HP products with federal regulations for accommodation of disabled persons.
- Conducted market and trend analysis to identify future opportunities for advanced systems and management processes.
- Developed sophisticated man-machine designs and the development of HP's state-of-the-art test facility.

Group Manager, Harris Corp., 1996 - 2000

- Managed the safety, human factors and reliability engineering groups.
- Developed and managed department budget, goals and objectives.
- Provided systems engineering expertise in the development of communications, radar and surveillance systems.
- Identified new market opportunities and trends to increase corporate business.
- Designed and developed advanced satellite ground station command, control, and user interface systems.
- Managed test programs for major DoD programs.
- Recruited and hired senior staff for a wide range of programs and functions, provided input for employee assessments, and managed professional development opportunities.

Engineering Duty Officer, U.S. Navy, 1993 - Present

- Projects Officer for the Office of Naval Research.
- Managed advanced research programs and their budgets.
- Managed the training and operational readiness for officers and units.

Director of Research, Air Force Institute of Technology, U.S. Air Force, Civil Service, 1985 - 1996

- Using technical knowledge and experience, developed advanced avionics and flight control systems for key programs.
- Acted as the principle investigator and program manager at the Air Force Labs; directed research in advanced displays and target recognition systems.
- As Director of Research for the Air Force Institute of Technology, led patent committee, directed technology transfer efforts and developed partnering initiatives with industry.

Dr. CRAIG M. ARNDT
P.E., C.H.F.P., C.B.P., D. Eng.
4202 Sonia Ct. Alexandria VA. 22309
703-298-8453
Craig_biometrics@live.com

Energy System Engineer, Dayton Power and Light, 1982 – 1985

- Developed models of electric power generation system.
- Designed and developed high voltage electrical power transmission systems.
- Managed the development of regulatory reports and system analysis in compliance with State and Local Governments.

PUBLICATIONS AND PROFESIONAL ACTIVITIES

Referred Journals

1. J. P. Goble, P. Suarez, S. K. Rogers, D. W. Ruck, C. M. Arndt, M. Kabrisky, "A Facial Feature Communications Interface for the Non-Vocal," IEEE Engineering in Medicine and Biology, (Sept. 1993), pp 1-4.
2. P. Suarez, C. M. Arndt, J. P. Goble, S.K. Rogers, D.W. Ruck, M. Kabridky, "Theory and development of an Axis System for Anthrometric Head And Face Data," IEEE Engineering in Medicine and Biology (Oct. 1994), pp 328-332.
3. C. M. Arndt, R. Pinno, D. Tumey, "Computer Vision Technologies for Automotive Safety," Society of Automotive Engineering (April 1999).
4. C. M. Arndt, "Dyslexia Diagnosis and Re-mediation Planning Tool," Orton Dyslexia Society (June 1999).
5. C. M. Arndt, "The Need for Template Revocation in Large Biometric Systems," Sigma (Spring 2004).
6. L. Nadel, C. M. Arndt, E. Ansari, "Development of Multiple Biometric Systems including Biometric Fusion," Sigma (Spring 2004).
7. C. M. Arndt, "The Loss of Privacy and Identity in the 21st Century, Causes and Possible Solutions," Biometric Technology Today (June 2006), pp 3-4.

Technical Reports

1. C.M. Arndt, "Development of the Expert System Domain Advisor and Analysis Tool," AL-TR-1991-0150, Defense Technical Information Center, 1991.
2. B. Brett, E. M. Dougherty, G. M. Waltensperger, C.M. Arndt, "Minuteman III Weapon Systems, System Safety Assessment, Human Reliability Analysis (HRA)," AL/CF-TR-1994-0125, Defense Technical Information Center, 1994.
3. C. M. Arndt, B. Purvis, S. Turner, H. H. Heaton, L. Houcher, R. T. Haberlandt, R. N. Norton, "Video Character Recognition System," AL/CF-TR-1996-0012, Defense Technical Information Center, 1996.
4. C. M. Arndt, M. A. O'Hair, "A Non-Linear Analysis of Dyslexic Spelling using Neural Nets," AL/HR-TR-1996-0219, Defense Technical Information Center, 1996.
5. C. M. Arndt, M. Kabrisky, "Language Input and Masking Experiment," AL/HR-TR-1997-0148, Defense Technical Information Center, 1997.
6. C. M. Arndt, "Console Design and System Human Factors Analysis," Harris/TRW-D27542 June 1998.
7. C. M. Arndt, "Computer design and architecture for Wide area network," Lockheed

Dr. CRAIG M. ARNDT
P.E., C.H.F.P., C.B.P., D. Eng.
4202 Sonia Ct. Alexandria VA. 22309
703-298-8453
Craig_biometrics@live.com

Martin 1998-A0015, Nov. 1998.

8. C. M. Arndt, "Development and application of face recognition technologies for automotive systems" Doctoral dissertation, University of Dayton, 20 Nov., 1999
9. D. D'Amato, P. Donald. C. M. Arndt, D. McGarry, H. Wechsler, "U.S. Department of State, Face Recognition Evaluation Approach," 31 January 2003.
10. C. M. Arndt, T. Cantwell, "Credentialing Systems Technology," DHS, July 2007.
11. C. M. Arndt, T. Cantwell, "Biometric Access Control Technology Guide," Department of Homeland Security, July 2007.
12. C. M. Arndt, "Terrorism and Counter Terrorism Modeling and Analysis," March 2009, United States Naval War College, Thesis.
13. C. M. Arndt, "Final Test Report and Analysis of the Narcosis, Advance laser detection system, May, 2010, US Army Night Vision Lab.
14. C. M. Arndt "Live fire testing", Aug, 2010, Acqupedia, Defense Acquisition University.
15. C. M. Arndt "System Safety", Nov., 2011, Acqupedia, Defense Acquisition University.
16. C. M. Arndt "Human Factors Engineering", Nov., 2011, Acqupedia, Defense Acquisition University.
17. C. M. Arndt "Human Systems Integration", Nov., 2011, Acqupedia, Defense Acquisition University.
18. C. M. Arndt "Professor Instrumental in Developing Professional Certification Program for Biometrics" Insight magazine, Vol. 10 No. 1, Jan-Feb 2012
19. C. M. Arndt "Defending and exploiting the intersection of cyber security and identity management in offensive and defensive asymmetric warfare operations" Strategic Studies Group (SSG) the Theme for SSG XXXI; "WARFIGHTING IN THE COMPLEX ELECTROMAGNETIC (EM) ENVIRONMENT". Jan 2012.

Conference Proceedings

1. C. M. Arndt, "Cockpit Automation Design Issues and Recommendation," Proceedings of the AIAA Flight Simulation Technologies Conference, pp 286-391, Sep. 17-10, 1990, Dayton, Ohio.
2. C. M. Arndt, " Applications of Neural Networks to Landmark Detection in 3-Dimensional Surface Data" (Invited Paper), Proceeding of the SPIE Conference, Applications of Artificial Neural Networks III, pp. 880-885, 21-24 April 92, Orlando Fla.
3. C. M. Arndt, "Task Allocation and Automation in Design and Operation of Man-Machine System," Proceeding of the National Aerospace and Electronics Conference, pp. 687, May 18-22, 1992, Dayton Ohio.
4. C. M. Arndt, "Failure Mode Workload Theory and Planning" Proceeding of the National Aerospace and Electronics Conference," pp. 729, May 18-22, 1992, Dayton, Ohio.
5. C. M. Arndt, "The Study and Development of Combined Artificial Intelligence Architectures to Solve Important Problems in Computer Vision," Proceedings of the National Aerospace and Electronics Conference, pp. 867, May 18-22, 1992, Dayton,

Dr. CRAIG M. ARNDT
P.E., C.H.F.P., C.B.P., D. Eng.
4202 Sonia Ct. Alexandria VA. 22309
703-298-8453
Craig_biometrics@live.com

Ohio.

6. C. M. Arndt, M. A. O'Hair, "Advances in Computer Aided Dyslexic Diagnostic Tools," 1995 Annual Orton Dyslexia Conference, 8-12 Oct, 1995, Houston, TX.
7. C. M. Arndt, "Use of Advanced Human Engineering in the design of the Next Generation War Ship," Naval Engineering Workshop, 10, 11 Feb, 2001, Washington, D. C.
8. D. Fentress, R. Lanier, C.M. Arndt, "The Effects of an Arm-Fire Mechanism on Operator Performance in a Simulated Crane Control Task," Proceedings of Human Factors and Ergonomics Society, Annual Meeting, Minneapolis, Minnesota, October 8-12, 2001.
9. C. M. Arndt, "Development of a Standard Taxonomy for defining biometric applications," Proceedings of the Biometrics Consortium Conference, Crystal City VA, September 22-24, 2003.
10. D. D'Amato, C. M. Arndt, D. McGarry, "A Study of the Accuracy of Face Recognition for Processing U. S. Passports and Visas," Proceedings of the Biometrics Consortium Conference, Crystal City, VA, September 22-24, 2003.
11. C. M. Arndt, "Promise and Problems of Biometric Systems in Security of Ports, Ships, and Containers," IEEE OES Homeland Security Technology Workshop, December 10-11, 2003, Warwick, RI.
12. D. McGarry, C. M. Arndt, S. McCabe, D. D'Amato, "Effects of compression and individual variability on face recognition performance," SPIE Defense and Security 2004, 12-16 April 2004, Orlando, Florida.
13. C. M. Arndt, "Biometric Template Revocation," SPIE Defense and Security, 2004, 12-16 April 2004, Orlando, Florida.
14. N. Hall, C. M. Arndt, "Importance of Biometric to Addressing Vulnerabilities of the U.S. Infrastructure," SPIE Defense and Security 2004, 12-16 April 2004, Orlando, Florida.
15. C. M. Arndt, "Biometrics Role as a Technology Enabler in Local, Regional, and Global Identity Management (IM) System Issues in Research, Development and Implementation," Proceedings of the Biometrics Consortium Conference, Crystal City, VA, September 20-22, 2004.
16. C. M. Arndt, "Biometrics Reboot, future Advances and Application of Biometric Technology" Proceedings of the ISC2 Secure Americas Conference, Crystal City VA, May 24-25, 2010
17. C. M. Arndt, A. J. Clark, "Multi-Domain Situational Awareness", 49th Annual Army Operations Research Symposium, Ft Lee, VA October 13th 2010

Books

1. Contributing author, DoD Handbook: 743A Anthropometry of U. S. Military Personal
2. Editor and contributing author, International Standards on Biometric Testing ISO/IEC 19795-1: 2006 Information Technology –Biometric performance testing and reporting – Part 1: Principles and framework
3. Contributing author, "European Union, Best Practices in Biometrics and Identity

Dr. CRAIG M. ARNDT
P.E., C.H.F.P., C.B.P., D. Eng.
4202 Sonia Ct. Alexandria VA. 22309
703-298-8453
Craig_biometrics@live.com

Management,” Aug 2004

4. Contributing author, 2007 Army Sciences Board Study: “Identity Management in the Department of Defense”

Additional papers, reports and presentation of a classified nature, not available for public review.

Editing

- Guest Editor of the Journal Technology, for a topical issue on Biometrics
- Editorial Review Board / Journal of Identity Management
- Editorial Review Board / Identity Educations Consortium Identity Management Journal
- Reviewer: IEEE Journals
- Reviewer: Defense Acquisition Review Journal

U.S. Patents

1. 7,212,655 - Fingerprint verification system
2. 7,039,221 - Facial image verification utilizing smart-card with integrated video camera
3. 7,020,310 - Animated toy utilizing artificial intelligence and fingerprint verification
4. 6,963,659 - Fingerprint verification system utilizing a facial image-based heuristic search method
5. 6,807,291 - Animated toy utilizing artificial intelligence and fingerprint verification
6. 5,386,103 - Identification and verification system
7. 12/389722 - System and Method for Knowledge Verification Utilizing Biopotentials and Physiologic Metrics (pending)

Professional Activities

- ABIT accreditation Board
- Led the development of the IEEE certification in biometrics (Certified Biometrics Professional)
- Certification exam development committee, Board of certification in profession Ergonomics
- Executive Advisory Board George Mason University
- Member Purdue University, Biometrics Research Lab Advisory Group
- National Defense Industry Association (NDIA) Committee on Biometrics
- U.S. delegate to ISO international standards committees
- Advisor to the U.S. Army Science Board
- Advisor to the Defense Science Board

Academic Appointments (Adjunct Professor)

- Wright State University, Department of Biomedical and Human Factors Engineering, 1989 - 1996
- Florida Institute of Technology, Department of Human Factors Engineering, 1997 - 1999
- San José State University, Department of Systems Engineering, 2000 - 2001

Dr. CRAIG M. ARNDT
P.E., C.H.F.P., C.B.P., D. Eng.
4202 Sonia Ct. Alexandria VA. 22309
703-298-8453
Craig_biometrics@live.com

- West Virginia University, Department of Electrical Engineering, 2002 - 2009
- George Mason University, Department of Engineering, 2009-present

Course and Program Development

Major Programs:

- Developed the Department of the Human Factors Engineering program at Wright State University
- Developed the Department of the Biometric Engineering program at West Virginia University
- Computer Game development program at George Mason University

Developed Courses in:

- Engineering for Product Liability (Graduate level, San Jose State)
- Advanced Biometrics and Sensor Systems (Graduate level, West Virginia University)
- Man-Machine Interface for computer game design (undergraduate level, George Mason University)
- Advanced Systems Engineering and Science and Technology Management for the Defense Acquisition University
- Short courses in biometrics and forensics for the U.S. Navy and the Department of Homeland Security

Major External Funding Research

- Development of advanced face recognition systems using three dimensional sensor data, Air Force Research Labs, 1990
- Neural Network development of AI systems, Air Force Research Labs, 1991
- Variability in data collection of human anthropometrics, Air Force Research Labs, 1993
- Advanced human centered control systems design, NASA, 1997
- Factors affecting the performance of face recognition systems, MITOR Systems, 2002
- Development of Multi-Mode biometric systems for hostile environments, US Navy, 2009
- Development of next generation Brainwave control systems, NASA, 2007
- Brainwave alternative polygraph systems, Office of the Sec of Defense, 2008