

BOWLEY INC.

**FORENSIC • MEDICAL DEVICES • CONSUMER PRODUCTS • PATENT INFRINGEMENT • ENGINEERING
& REVERSE ENGINEERING • 3D SCAN, DESIGN & PRINT SERVICES • DRONE AERIAL MAPPING •
HISTORIC PRESERVATION & ARCHEOLOGY • EDUCATION • ANIMATIONS & ILLUSTRATIONS •
RESEARCH & DEVELOPMENT**

800.273.5170
888.432.3584 FAX
BOWLEYCONSULT.COM
BOWLEYCONSULTING@GMAIL.COM

SUSAN M. BOWLEY, PH.D. CURRICULUM VITAE 20 AUGUST 2025

EDUCATION:

ORISE POST-DOCTORAL FELLOW, FOOD AND DRUG ADMINISTRATION, 2001 – 2002

POST-DOCTORAL RESEARCH TOPIC: MECHANICAL FRAGILITY OF RED BLOOD CELLS (HEMOLYSIS).

PERFORMED BASIC RESEARCH TO OBJECTIVELY STUDY THE AMOUNT OF RED BLOOD CELL DAMAGE (HEMOLYSIS) CAUSED BY MEDICAL DEVICES TO BETTER PREDICT HEMOLYSIS.

PH.D. BIOMEDICAL ENGINEERING, UNIVERSITY OF VIRGINIA, 2000

DISSERTATION RESEARCH TOPIC: AGE-RELATED DIFFERENCES IN PHYSICAL ACTIVITY LEVEL AND BONE DENSITY IN HUMANS.

STUDENT FELLOWSHIP AWARD: MAZESS STUDENT FELLOWSHIP FROM THE NATIONAL OSTEOPOROSIS FOUNDATION AWARDED FOR DISSERTATION RESEARCH.

M.S. MECHANICAL ENGINEERING, STANFORD UNIVERSITY, 1992

AREA OF CONCENTRATION: THERMOSCIENCES

INDEPENDENT STUDY PROJECT: DEVELOPMENT AND CALIBRATION OF A DEVICE TO MEASURE TRANSPIRED EPIDERMAL WATER LOSS (TEWL) FROM PREMATURE INFANTS RELATED TO UNDERSTANDING SUDDEN INFANT DEATH SYNDROME (SIDS).

B.S. MECHANICAL ENGINEERING, UNIVERSITY OF CONNECTICUT, 1988

GROUP LEADER FOR SENIOR PROJECT: DEVELOPED A SELF-CONTAINED VEHICLE TO TRAVERSE THROUGH A COLUMN OF STYROFOAM PACKING PEANUTS (COMPETED AGAINST 20 STUDENT GROUPS).

AREAS OF EXPERTISE:

- **MECHANICAL AND BIOMEDICAL ENGINEERING**
- **INJURY CAUSATION BIOMECHANICS & PERSONAL INJURY**
- **CONSUMER PRODUCT LIABILITY**
- **MEDICAL PRODUCT LIABILITY**
- **MEDICAL DEVICE REGULATORY AFFAIRS**
- **SLIP, TRIP & FALLS**
- **ACCIDENT RECONSTRUCTION:**
 - **AUTO, MOTORCYCLE, BICYCLE, PEDESTRIAN, RAILROAD, MARINE, AND AVIATION**
- **3D LASER SCANNING AND DRONE AERIAL MAPPING**
- **PREMISES LIABILITY**
- **CRIMINAL CASES & SHOOTING RECONSTRUCTION**
- **PATENT INFRINGEMENT**
- **ENGINEERING ANALYSIS/R&D/FEA**
- **TRAINING & MENTORING**

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PRESENT POSITIONS:

BOWLEY INC.

JANUARY 2013 – PRESENT

OWNER, PRESIDENT & CEO

PRINCIPAL FORENSIC EXPERT WITNESS

CORPORATION WITH OPERATIONAL UNITS FOCUSING ON: FORENSIC, MEDICAL DEVICES, CONSUMER PRODUCTS, PATENT INFRINGEMENT, ENGINEERING & REVERSE ENGINEERING, 3D SCAN, DESIGN & PRINT SERVICES, DRONE AERIAL MAPPING, HISTORIC PRESERVATION & ARCHEOLOGY, EDUCATION, ANIMATIONS & ILLUSTRATIONS, AND RESEARCH & DEVELOPMENT. OFFICES IN CONNECTICUT (HQ), MARYLAND, AND NORTHERN CALIFORNIA.

PROFESSIONAL SOCIETY MEMBERSHIPS:

- NATIONAL ACADEMY OF FORENSIC ENGINEERS (NAFE)
- NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS (NSPE)
- AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) – PRIMARY FDA LIAISON TO ASTM F04.30.06 INTERVENTIONAL CARDIOLOGY TASK GROUP AND TASK GROUP CO-CHAIR 2005 – 2006; CPSC TECHNICAL REPRESENTATIVE FOR VARIOUS CONSUMER PRODUCT TASK GROUPS 2020 – 2022.
- AMERICAN SOCIETY OF BIOMECHANICS (ASB)
- SOCIETY OF AUTOMOTIVE ENGINEERS (SAE)
- AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

PREVIOUS POSITIONS:

SAN JOSE STATE UNIVERSITY

PART-TIME INSTRUCTOR

AUGUST 2017 – MAY 2023

MECHANICAL & BIOMEDICAL ENGINEERING DEPARTMENTS

TEACH LECTURE AND LABORATORY FOR THE FOLLOWING CLASSES: COMPUTER-AIDED DESIGN IN MECHANICAL ENGINEERING (ME 165) ONLINE COURSE, ADVANCED COMPUTER-AIDED DESIGN IN MECHANICAL ENGINEERING (ME 180) ONLINE COURSE, SENIOR DESIGN PROJECT I (BME 198A), AND DYNAMICS (ME 101). FACULTY ADVISORY EXPERIENCE: GRADUATE COMMITTEE MEMBER FOR M.S.M.E. GRADUATE STUDENT PROJECTS: “DESIGN AND DEVELOPMENT OF FIBER OPTIC GRIP FORCE SENSOR WITH COMPLIANT 3D PRINTABLE STRUCTURE FOR MRI APPLICATION” (2019/20); “INVESTIGATION OF THE MAGNETIC FIELD INDUCED BY THE HUMAN HEART” (2018/19), AND UNDERGRADUATE TECHNICAL ADVISOR FOR ME TEAM “UROV3” SENIOR DESIGN PROJECT (2018/19).

CONSUMER PRODUCT SAFETY COMMISSION (CPSC)

MAY 2020 – DECEMBER 2022

MECHANICAL ENGINEER, ENGINEERING SCIENCES, MECHANICAL & COMBUSTION DIVISION (ESMC)

ROCKVILLE, MD

THIS POSITION IS IN THE MECHANICAL AND COMBUSTION ENGINEERING DIVISION OF THE DIRECTORATE FOR ENGINEERING SCIENCES, OFFICE OF HAZARD IDENTIFICATION AND REDUCTION. THE DIVISION IS RESPONSIBLE FOR PROVIDING THE FULL RANGE OF PROFESSIONAL MECHANICAL ENGINEERING, COMBUSTION ENGINEERING AND MATERIALS ENGINEERING EXPERTISE REQUIRED FOR THE ANALYSIS AND EVALUATION OF THE SAFETY OF ALL CLASSES OF CONSUMER PRODUCTS. THE INCUMBENT SERVES AS AN EXPERT GENERAL ENGINEER, OR ORGANIZATIONALLY AS A SENIOR MECHANICAL ENGINEER, PROVIDING THE FULL RANGE OF PROFESSIONAL EXPERTISE, ADVICE AND ASSISTANCE TO MANAGEMENT, SENIOR STAFF AND OTHERS IN THE PROFESSIONAL ENGINEERING DISCIPLINE OF MECHANICAL ENGINEERING.

PREVIOUS POSITIONS: (CONTINUED)

CONSUMER PRODUCT SAFETY COMMISSION (CPSC) (CONTINUED)

CONSUMER PRODUCTS INVESTIGATED AND EVALUATED INCLUDED: TREADMILLS, RESIDENTIAL ELEVATORS, INFLATABLE BOUNCY HOUSE CHILD PLAYHOUSE, PLAYGROUNDS, FIRE ESCAPE SYSTEMS, OVEN/RANGE, PORTABLE BASKETBALL HOOP, SCUBA DIVE COMPUTER, CROSSBOW TRIGGER MECHANISM, ELECTRIC BALANCE BIKE FOR CHILDREN, BICYCLES, ELECTRIC SCOOTERS, BICYCLE PEDALS, AMUSEMENT PARK RIDES, DRESSERS/CSUs, AND SWIM SNORKEL.

U.S. PATENT & TRADEMARK OFFICE (USPTO)

JUNE 2019 – MAY 2020

PATENT EXAMINER (BIOMEDICAL ENGINEER)

ALEXANDRIA, VA

A PATENT EXAMINER (PE) REVIEWS APPLICATIONS TO DETERMINE WHETHER PATENTS CAN BE GRANTED FOR INVENTIONS. PATENTS GIVE INVENTORS THE RIGHT TO EXCLUDE OTHERS FROM MAKING OR SELLING THEIR INVENTIONS FOR A LIMITED TIME. AS A U.S. PATENT EXAMINER, YOU WILL HANDLE THESE BASIC PATENT EXAMINING FUNCTIONS: SEARCH PRIOR ART TO ENSURE THAT AN INVENTION IS NEW AND UNIQUE. PRIOR ART IS INFORMATION THAT HAS BEEN DISCLOSED TO THE PUBLIC ABOUT AN INVENTION BEFORE A GIVEN DATE - INCLUDING ANY RELATED PATENTS, PUBLISHED ARTICLES AND PUBLIC DEMONSTRATIONS. REVIEW PATENT APPLICATIONS TO ENSURE CONFORMITY TO FORMAL REQUIREMENTS. WRITE LEGAL OFFICE ACTIONS ON PATENTABILITY AND RESPOND TO PATENT APPLICANTS.

TRANSPORTATION SECURITY ADMINISTRATION (TSA)

TRANSPORTATION SECURITY OFFICER (TSO), SJC

NOVEMBER 2018 – MAY 2019

TRANSPORTATION SECURITY OFFICERS (TSOs) PROVIDE SECURITY AND PROTECTION OF AIR TRAVELERS, AIRPORTS, AND AIRCRAFT IN A COURTEOUS AND PROFESSIONAL MANNER. THIS INCLUDES:

- OPERATING VARIOUS SCREENING EQUIPMENT AND TECHNOLOGY TO IDENTIFY DANGEROUS OBJECTS IN BAGGAGE, CARGO AND ON PASSENGERS, AND PREVENTING THOSE OBJECTS FROM BEING TRANSPORTED ONTO AIRCRAFT.
- PERFORMING SEARCHES AND SCREENING, WHICH MAY INCLUDE PHYSICAL INTERACTION WITH PASSENGERS (E.G., PAT-DOWNS, SEARCH OF PROPERTY, ETC.), CONDUCTING BAG SEARCHES AND LIFTING/CARRYING BAGS, BINS, AND PROPERTY WEIGHING UP TO 50LBS.
- CONTROLLING TERMINAL ENTRY AND EXIT POINTS.
- INTERACTING WITH THE PUBLIC, GIVING DIRECTIONS, AND RESPONDING TO INQUIRIES.
- MAINTAINING FOCUS AND AWARENESS WHILE WORKING IN A STRESSFUL ENVIRONMENT WHICH INCLUDES NOISE FROM ALARMS, MACHINERY AND PEOPLE, CROWD DISTRACTIONS, TIME PRESSURE, AND DISRUPTIVE AND ANGRY PASSENGERS, TO PRESERVE THE PROFESSIONAL ABILITY TO IDENTIFY AND LOCATE POTENTIALLY LIFE THREATENING OR MASS DESTRUCTION DEVICES, AND TO MAKE EFFECTIVE DECISIONS IN BOTH CRISIS AND ROUTINE SITUATIONS.
- ENGAGING IN CONTINUOUS DEVELOPMENT OF CRITICAL THINKING SKILLS, NECESSARY TO MITIGATE ACTUAL AND POTENTIAL SECURITY THREATS, BY IDENTIFYING, EVALUATING, AND APPLYING APPROPRIATE SITUATIONAL OPTIONS AND APPROACHES. THIS MAY INCLUDE APPLICATION OF RISK-BASED SECURITY SCREENING PROTOCOLS THAT VARY BASED ON PROGRAM REQUIREMENTS.
- RETAINING AND IMPLEMENTING KNOWLEDGE OF ALL APPLICABLE STANDARD OPERATING PROCEDURES, DEMONSTRATING RESPONSIBLE AND DEPENDABLE BEHAVIOR, AND IS OPEN TO CHANGE AND ADAPTS TO NEW INFORMATION OR UNEXPECTED OBSTACLES.

PREVIOUS POSITIONS: (CONTINUED)

MISSION COMMUNITY COLLEGE

PART-TIME INSTRUCTOR, ENGINEERING

JUNE 2016 – MAY 2018

TEACH LECTURE AND LABORATORY FOR THE FOLLOWING COURSES: *INTRODUCTION TO ENGINEERING (ENGR 10)*.

SAN FRANCISCO STATE UNIVERSITY

PART-TIME INSTRUCTOR, ENGINEERING

JANUARY 2017 – DECEMBER 2017

TEACH LECTURE AND LABORATORY FOR THE FOLLOWING CLASSES: *INTRODUCTION TO ENGINEERING (ENGR 100)*, *ENGINEERING GRAPHICS AND DESIGN (SOLIDWORKS) (ENGR 290)*, AND *C PROGRAMMING (ENGR 103)*.

LAS POSITAS COMMUNITY COLLEGE

PART-TIME INSTRUCTOR, ENGINEERING

AUGUST 2017 – SEPTEMBER 2017

TEACH LECTURE AND LABORATORY FOR THE FOLLOWING COURSES: *ENGINEERING GRAPHICS (SOLIDWORKS) (ENGR 22)*.

YUBA COMMUNITY COLLEGE

FULL-TIME ASSOCIATE PROFESSOR OF ENGINEERING

AUGUST 2015 – JANUARY 2017

TEACH LECTURE AND LABORATORY FOR THE FOLLOWING COURSES: STATICS, COMPUTATIONAL PROBLEM SOLVING FOR ENGINEERS, PROPERTIES OF MATERIALS, INTRODUCTION TO ENGINEERING AND SCIENCE, ENGINEERING GRAPHICS AND DESIGN (SOLIDWORKS), PLANE SURVEYING AND CIRCUITS FOR ENGINEERS.

UCSC EXTENSION SILICON VALLEY

PART-TIME INSTRUCTOR

JULY – SEPTEMBER 2014

TAUGHT COURSES IN REGULATORY AFFAIRS AND MEDICAL DEVICE REGULATION. COURSES: INTRODUCTION TO MEDICAL DEVICE REGULATION, MEDICAL DEVICES: REGULATORY STRATEGIES AND MARKETING PATHWAYS AND REGULATION OF MEDICAL DEVICES AND DIAGNOSTICS.

ABBOTT MEDICAL OPTICS

MANAGER, REGULATORY AFFAIRS

AUGUST 2013 – APRIL 2014

COMBINES KNOWLEDGE OF SCIENTIFIC, REGULATORY, AND BUSINESS ISSUES TO ENABLE PRODUCTS THAT ARE DEVELOPED, MANUFACTURED, OR DISTRIBUTED TO MEET REQUIRED LEGISLATION. DEVELOP AND SUPERVISE REGULATORY PROFESSIONALS. DEPARTMENT/GROUP/SITE INFLUENCE AND GENERALLY RECOGNIZED AS AN EXPERT AND RESOURCE WITHIN THE DEPARTMENT. SHARES KNOWLEDGE AND EXPERTISE WITH OTHERS IN SUPPORT OF TEAM ACTIVITIES. ANALYZE BROAD SCOPE IMPLICATIONS OF CHANGING REGULATION AND GUIDANCE. IDENTIFY DATA NEEDED, OBTAIN THESE DATA AND ENSURE THAT THEY ARE EFFECTIVELY PRESENTED FOR THE REGISTRATION OF PRODUCTS WORLDWIDE.

BOWLEY CONSULTING, LLC

OWNER, PRESIDENT & CEO

NOVEMBER 2008 – DECEMBER 2012

ENGINEERING CONSULTING FIRM SPECIALIZING IN: FORENSIC EXPERT WITNESS (MECHANICAL AND BIOMEDICAL ENGINEERING), ACCIDENT RECONSTRUCTION (AUTO, MOTORCYCLE, BICYCLE, PEDESTRIAN, RAILROAD, MARINE, AND AVIATION), INJURY CAUSATION BIOMECHANICS & PERSONAL INJURY, PRODUCT & PREMISES LIABILITY, MEDICAL DEVICES/REGULATORY AFFAIRS, ANIMATIONS & ILLUSTRATIONS, CRIMINAL & SHOOTING RECONSTRUCTION, ENGINEERING ANALYSIS/R&D, AND TRAINING & MENTORING (INCLUDING CLE).

BIOLOGICS CONSULTING GROUP, INC.

SENIOR CONSULTANT, MEDICAL DEVICES

APRIL 2008 – APRIL 2009

STRATEGIZING, PREPARATION AND CRITICAL REVIEW OF ALL TYPES OF MEDICAL DEVICE REGULATORY DOCUMENT FILINGS TO THE FDA INCLUDING PRE-IDE, IDE, 510(k) AND PMA SUBMISSIONS. PRODUCT DEVELOPMENT AND RESEARCH FOR DRUG/DEVICE AND BIOLOGIC/DEVICE COMBINATION PRODUCTS. PRODUCT DEVELOPMENT AND RESEARCH FOR ENGINEERING TESTING AND REQUIREMENTS FOR MEDICAL DEVICES. PREPARATIONS

BOWLEY INC. – FORENSIC

PREVIOUS POSITIONS: (CONTINUED)
BIOLOGICS CONSULTING GROUP, INC. (CONTINUED)

FOR FDA MEETINGS. REPRESENTING CLIENTS IN INTERACTIONS WITH THE FDA. CREATION, IMPLEMENTATION, AND REVIEW OF CLIENT-SPECIFIC REGULATORY STRATEGIES. PLANNING, WRITING, REVIEW OF RESPONSES TO AGENCY QUESTIONS. DEVELOPMENT OF CLIENT TRAINING CLASSES TO HELP CLIENTS BETTER UNDERSTAND THE REGULATORY PROCESS AS RELATED TO MEDICAL DEVICE SUBMISSIONS.

BOSTER, KOBAYASHI, AND ASSOCIATES
FORENSIC EXPERT WITNESS

AUGUST 2006 – DECEMBER 2008

A CONSULTING FIRM SPECIALIZING IN THE TECHNICAL ASPECTS OF ACCIDENT RECONSTRUCTION AND HIGHWAY DESIGN. TYPICAL ASSIGNMENTS INVOLVE APPLICATION OF THE LAWS OF PHYSICS AND PRINCIPLES OF BIOMEDICAL ENGINEERING IN ACCIDENT RECONSTRUCTION, PREMISES/PRODUCT LIABILITY AND INJURY CAUSATION.

SANTA CLARA UNIVERSITY **2008 WINTER & SPRING QUARTERS, AND 2009 FALL**
PART-TIME INSTRUCTOR, MECHANICAL ENGINEERING

DEVELOPED AND TAUGHT TWO NEW COURSES, COMPARATIVE BIOMECHANICS I: FLUIDS AND COMPARATIVE BIOMECHANICS II: SOLIDS AND STRUCTURES. THESE COURSES WERE FOCUSED ON THE APPLICATION OF ENGINEERING PRINCIPLES TO THE PHYSICAL WORLD. ALSO, DEVELOPED AND TAUGHT A NEW CLASS CALLED FORENSIC ENGINEERING. THIS COURSE FOCUSED ON ALL ASPECTS INVOLVED IN WORKING AS AN EXPERT WITNESS.

FOOD AND DRUG ADMINISTRATION (FDA), CENTER FOR DEVICES AND RADIOLOGICAL HEALTH

ROCKVILLE, MARYLAND

MECHANICAL/BIOMEDICAL ENGINEER – LEAD REVIEWER
NOVEMBER 2002 – JULY 2006

INTERVENTIONAL CARDIOLOGY DEVICES BRANCH, DIVISION OF CARDIOVASCULAR DEVICES

SERVED AS LEAD MEDICAL DEVICE REVIEWER WITHIN THE INTERVENTIONAL CARDIOLOGY DEVICES BRANCH IN THE OFFICE OF DEVICE EVALUATION (ODE) FOR CARDIOVASCULAR MEDICAL DEVICES. REVIEWS PREDOMINANTLY INVOLVED PRE-IDEs, IDEs, AND TO A LESSER EXTENT 510K AND PMA SUBMISSIONS FROM THE MEDICAL DEVICE INDUSTRY. MOST RESPONSIBILITIES INVOLVED ENGINEERING REVIEWS OF DRUG ELUTING STENTS AND STANDARDS DEVELOPMENT ACTIVITIES FOR BOTH THE INTERVENTIONAL CARDIOLOGY DEVICES AND THE PERIPHERAL VASCULAR DEVICES BRANCHES. SERVED AS PRIMARY FDA LIAISON TO ASTM F04.30.06 INTERVENTIONAL CARDIOLOGY TASK GROUP AND AS TASK GROUP CO-CHAIR DURING 2005 – 2006.

ORISE POST-DOCTORAL FELLOW

JUNE 2001 – NOVEMBER 2002

HYDRODYNAMICS AND ACOUSTICS BRANCH, DIVISION OF PHYSICAL SCIENCES

PERFORMED BASIC RESEARCH TO OBJECTIVELY STUDY THE AMOUNT OF RED BLOOD CELL DAMAGE (HEMOLYSIS) CAUSED BY MEDICAL DEVICES TO BETTER PREDICT HEMOLYSIS. ONE TYPE OF DEVICE STUDIED WAS THE CLASS OF ROLLER PUMPS USED IN CARDIOPULMONARY BYPASS SURGERY. OTHER STUDIES INVOLVED DETERMINATION OF A RELIABLE BENCH-TOP BLOOD FRAGILITY TESTER. LABORATORY STUDIES WILL BE CONTINUED INTO THE FUTURE AND BE COMPLEMENTED WITH PIV FLOW VISUALIZATION AND FLUENT FEM OF SEVERAL BLOOD DAMAGE MODELS.

GEORGE WASHINGTON UNIVERSITY

2006 SPRING SEMESTER

PART-TIME INSTRUCTOR, MECHANICAL AND AEROSPACE ENGINEERING

DEVELOPED AND TAUGHT A NEW COURSE, BIOMECHANICS I, FOCUSING ON HUMAN BIOMECHANICS.

PREVIOUS POSITIONS: (CONTINUED)

MONTGOMERY COLLEGE

2004 & 2005 SPRING SEMESTERS

PART-TIME FACULTY, MATHEMATICS, SCIENCE, PHYSICS AND ENGINEERING DIVISION

TAUGHT PHYSICAL SCIENCE 101, A LABORATORY-BASED SCIENCE COURSE FOR NON-SCIENCE MAJORS. RESPONSIBLE FOR TEACHING AND DEVELOPMENT OF LECTURES, DISCUSSIONS AND LABORATORY SESSIONS.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION, AMES RESEARCH CENTER

MOFFETT FIELD, CALIFORNIA

MECHANICAL/BIO MEDICAL ENGINEER

AUGUST 1994 – JUNE 2001

MUSCULOSKELETAL BIOMECHANICS LABORATORY, LIFE SCIENCE DIVISION

BIOMEDICAL ENGINEERING DISSERTATION RESEARCH IN THE MUSCULOSKELETAL BIOMECHANICS LABORATORY INVOLVING DEVELOPMENT OF A GROUND REACTION FORCE (GRF) SENSOR, DIRECTION OF ASSOCIATED HUMAN RESEARCH STUDIES, AND INVESTIGATION OF BASIC ASPECTS OF MUSCULOSKELETAL REMODELING. LABORATORY WEBSITE MISTRESS/DEVELOPER ([HTTP://LIFESCI.ARC.NASA.GOV/~RWHALEN](http://lifesci.arc.nasa.gov/~rwhalen)).

GENERAL: HEAT TRANSFER ANALYSIS AND DEVELOPMENT OF A FINITE ELEMENT MODEL USING COSMOS/M FOR A SHUTTLE PAYLOAD. INTERCRANIAL PRESSURE RESEARCH: INSTITUTED AN IMPROVED DATA ACQUISITION METHOD WITHIN ONE MONTH. INITIATED EVALUATION OF RESPONSE WAVEFORM (AMPLITUDE VS. TIME) IN INTERCRANIAL PRESSURE. CONFERRED WITH REGULATORY CONSULTANT TO DOCUMENT TESTING FOR FUTURE FDA APPROVAL.

ACTING ASSISTANT DIVISION CHIEF

SEPTEMBER 2000 – DECEMBER 2000

LIFE SCIENCE DIVISION

ADMINISTRATIVE ACTIVITIES: REPRESENTED THE LIFE SCIENCE DIVISION IN MEETINGS RELATED TO PERSONNEL, BUDGET, PROJECTS, PROMOTION AND OUTREACH. PREPARED REPORTS RELATED TO SAFETY, ONGOING PROJECTS (FLIGHT AND GROUND BASED) AND GENERAL INFORMATION.

FULL-TIME GRADUATE STUDY FELLOWSHIP

AUGUST 1993 - AUGUST 1994

BIOMEDICAL ENGINEERING DEPARTMENT, UNIVERSITY OF VIRGINIA

COMPLETED ALL COURSE WORK REQUIRED FOR THE PH.D. DEGREE IN BIOMEDICAL ENGINEERING. SURPASSED SCHOOL OF ENGINEERING REQUIREMENTS BY PASSING THE FOREIGN LANGUAGE MASTERY EXAM FOR PH.D. CANDIDATES IN FRENCH.

PROJECT ENGINEER

SEPTEMBER 1992 - AUGUST 1993

HUMAN POWERED CENTRIFUGE PROJECT, LIFE SCIENCE DIVISION

(PROFESSIONAL DEVELOPMENT PROGRAM, COMPETITIVELY SELECTED)

LED AND MANAGED THE HUMAN POWERED CENTRIFUGE PROJECT. WROTE FACILITY CHECKOUT, TESTING, AND OPERATION PROCEDURES. SCHEDULED WORKFLOW AND ESTABLISHED BUDGETS FOR ALL PHASES OF THE PROJECT. ACHIEVED A REDUCTION IN INITIAL PROJECT COST ESTIMATE (ESTIMATED AT OVER \$100,000) BY RECOGNIZING AND INSTITUTING A SIMPLER AND MORE COST-EFFECTIVE SOLUTION.

FACILITY ENGINEER

NOVEMBER 1988 - SEPTEMBER 1992

SPACE TECHNOLOGY AND AERONAUTICAL TEST AND SIMULATION DIVISIONS

EXPERIENCE WORKING IN THREE DIFFERENT TEST FACILITIES: ARC-JET FACILITIES

COMPLEX, 3.5-FOOT HYPERSONIC WIND TUNNEL, 14-FOOT TRANSONIC WIND TUNNEL.

MANAGEMENT/GENERAL: COORDINATED AND DETERMINED FACILITY RELATED

EQUIPMENT TO SUPPORT MODEL TESTING. INSPECTED AND DOCUMENTED FACILITY TO

ADVOCATE FUTURE FUNDING ALLOCATION AND PLANNING. COORDINATED AND

MONITORED VARIOUS FACILITY PROJECTS (\$100,000 - \$950,000). WROTE FACILITY

REPORTS ASSOCIATED WITH OPERATIONAL READINESS AND ACCIDENT INVESTIGATIONS.

MANAGED AND DIRECTED THROUGH SHOPS VARIOUS FACILITY PROJECTS AND

UPGRADES (\$5,000 - \$10,000). COORDINATED ENGINEERS FROM OTHER

ORGANIZATIONS IN INVESTIGATING AND SOLVING FACILITY PROBLEMS AS APPROPRIATE.

PREVIOUS POSITIONS: (CONTINUED)

NASA, AMES RESEARCH CENTER – CONTINUED:

TECHNICAL: INVESTIGATED, INSPECTED, AND DIAGNOSED FACILITY SHUTDOWN PROBLEMS AND ACCIDENTS. DETERMINED TUNNEL CRITICAL ELECTRICAL DEVICES AND ANALYZED FACILITY OPERATIONAL LOGIC SEQUENCE. PERFORMED VARIOUS STRUCTURAL AND HEAT TRANSFER CALCULATIONS. DESIGNED AN INSERT/RETRACT MECHANISM FOR AN OXYGEN SENSOR. CALCULATED MAKEUP WATER REQUIRED FOR COOLING TOWER OPERATION. SELECTED VARIOUS UPGRADES TO FACILITY EQUIPMENT INCLUDING PUMPS, THERMOCOUPLES, AND VALVES. *SPECIAL PROJECT:* DIRECTED AND MANAGED TURNING VANE SET INSPECTION, EVALUATION, AND REPAIR PROJECT (\$300,000) INCLUDING SCHEDULING AND MANPOWER.

UNIVERSITY OF CONNECTICUT, MECHANICAL ENGINEERING DEPARTMENT

FLUID MECHANICS LABORATORY, STORRS, CONNECTICUT

LAB ASSISTANT

JUNE 1984 - JULY 1988

ASSISTED GRADUATE STUDENT IN FLUIDS LAB PERFORMING RESEARCH ON OPTIMIZATION OF DIFFUSERS AND TURBINE END WALLS USING THE ICE-FORMATION METHOD. TESTING IN WATER AND WIND TUNNELS. APPLIED HELIUM BUBBLE AND LASER INDUCED FLUORESCENT DYE FLOW VISUALIZATION TECHNIQUES. WORKED INDEPENDENTLY TO TEST AND ORGANIZE DATA ON THE NEW DIFFUSERS. WORKED WITH VARIOUS SHOP TOOLS AND TECHNIQUES SUCH AS THE DRILL PRESS, AND CASTING THE ICE-FORMATIONS WITH HOT BEESWAX, PLASTER AND DENTAL MATERIAL.

PUBLICATIONS/ABSTRACTS:

- BOWLEY, S.M. AND MALINAUSKAS, R.A. (2003). EVALUATION OF PARAMETERS AFFECTING BOVINE BLOOD HEMOLYSIS TESTING. PODIUM PRESENTATION AND ABSTRACT FOR THE ASME 2003 SUMMER BIOENGINEERING CONFERENCE, KEY BISCAYNE, FL.
- MALINAUSKAS, R.A. AND BOWLEY, S.M. (2002). RED BLOOD CELL MECHANICAL FRAGILITY TESTER. ABSTRACT FOR THE FDA SCIENCE FORUM MEETING, WASHINGTON, DC.
- BOWLEY S.M., AND WHALEN R.T. (2001). PHYSICAL ACTIVITY AND BONE DENSITY IN WOMEN. PODIUM PRESENTATION AND ABSTRACT FOR ORS MEETING, SAN FRANCISCO, CA.
- BOWLEY S.M., BREIT G.A., AND WHALEN R.T. (1999). ACCURACY OF MONITORING PEAK FORCE AND TEMPORAL PARAMETERS OF GAIT USING A CAPACITANCE INSOLE SYSTEM. PODIUM PRESENTATION AND ABSTRACT FOR ASB MEETING, PITTSBURGH, PA.
- BOWLEY S.M., BREIT G.A., AND WHALEN R.T. (1998). OBJECTIVE MEASUREMENT OF DAILY HUMAN ACTIVITY. ABSTRACT FOR ASBMR MEETING, SAN FRANCISCO, CA.
- BOWLEY S.M., BREIT G.A., AND WHALEN R.T. (1998). CAPACITANCE INSOLE SENSOR CALIBRATION AND PERFORMANCE TESTS FOR USE IN HUMAN ACTIVITY MONITORING. ABSTRACT FOR ASB/NACOB MEETING, WATERLOO, ONTARIO, CANADA
- ARIAGNO R.L., GLOTZBACH S.F., BALDWIN R.B., RECTOR D.M., BOWLEY S.M., MOFFAT R.J. (1997). DEWPOINT HYGROMETRY SYSTEM FOR MEASUREMENT OF EVAPORATIVE WATER LOSS IN INFANTS. J. APPL. PHYSIOL. 82(3):1008-1017.
- GREENLEAF J.E., GUNDO D.P., WATENPAUGH D.E., MULENBURG G.M., MARCHMAN N., LOOFT-WILSON R., HARGENS A.R., AND BOWLEY S.M. (1996). CYCLE-POWERED SHORT RADIUS (1.9M) CENTRIFUGE: EXERCISE VS. PASSIVE ACCELERATION. ABSTRACT FOR 17TH ANNUAL GRAVITATIONAL PHYSIOLOGY MEETING, WARSAW, POLAND.
- TORIKOSHI S., BALLARD R.E., WATENPAUGH D.E., MURTHY G., BOWLEY S.M., YOST W.T., AND HARGENS A.R. (1995). MEASUREMENT OF TRANSCRANIAL DISTANCE DURING HEAD-DOWN TILT USING ULTRASOUND. ABSTRACT FOR 16TH ANNUAL INTERNATIONAL GRAVITATIONAL PHYSIOLOGY MEETING, RENO, NEVADA.

PUBLICATIONS/ABSTRACTS: (CONTINUED)

- BOWLEY S.M. (1995). THE HUMAN POWERED CENTRIFUGE FACILITY AT NASA AMES RESEARCH CENTER. ABSTRACT FOR AIAA MEETING, AIAA-95-3572.

SPECIALIZED TRAINING AND EXPERIENCE:

- **CERTIFIED ENGLISH XL VIT TRIBOMETER (CXL) OPERATOR**
- **PRACTICAL SHOOTING INCIDENT RECONSTRUCTION (MAY 19-23, 2025, 5 DAYS)**
TRITECH FORENSICS/AIA, DOVER, NH
- **NRA CERTIFIED CONCEALED CARRY WORKSHOP INSTRUCTOR (AUGUST 2025)**
- **NRA CERTIFIED CHIEF RANGE SAFETY OFFICER INSTRUCTOR (JANUARY 2025)**
- **NRA CERTIFIED BASIC PISTOL INSTRUCTOR (DECEMBER 2024)**
- **PRINCIPLES AND PRACTICE OF ENGINEERING EXAMINATION (PE) PREPARATION COURSE, MECHANICAL-MACHINE DESIGN AND MATERIALS EXAM – IN PROCESS (ONLINE)**
SCHOOL OF PE
- **3D LASER SCANNER AND SCENE SOFTWARE CERTIFIED INSTRUCTOR (TRAIN THE TRAINER COURSE PUBLIC SAFETY) (JANUARY 23 – 27, 2023, 5 DAYS)**
FARO TECHNOLOGIES, LAKE MARY, FL
- **PLI PATENT BAR REVIEW COURSE – IN PROCESS (ONLINE)**
- **PC-CRASH TRAINING WORKSHOPS: ESSENTIALS AND ADVANCED – JANUARY 23 – 26, 2018 (4 DAYS)**
MEA FORENSIC ENGINEERS AND SCIENTISTS LTD, IRVINE, CA
 - TRAINING IN BOTH ESSENTIALS AND ADVANCED TOPICS FOR PC-CRASH ACCIDENT RECONSTRUCTION SOFTWARE.
- **PLI PATENT BAR REVIEW COURSE – OCTOBER 29 – NOVEMBER 2, 2014 (5 DAYS)**
PLI CALIFORNIA CENTER, 685 MARKET STREET, SAN FRANCISCO, CA
- **ANIMAL CARE EXPERIENCE, 2005 – 2014**
 - WILDLIFE TECHNICIAN & STAFF (200 HOURS), WILDLIFE VOLUNTEER (63 HOURS), DOMESTIC PET HOSPITAL INTERNSHIP (185 HOURS), VT PROGRAM ANIMALS (120 HOURS), EMERGENCY MEDICAL CLINIC, AND RESEARCH HOSPITAL (FDA).
- **CERTIFIED VETERINARY ASSISTANT, 2013**
FOOTHILL COLLEGE, LOS ALTOS HILLS, CA
- **VETERINARY TECHNICIAN, 1-YEAR COURSEWORK, 2012 – 2013**
FOOTHILL COLLEGE, LOS ALTOS HILLS, CA
- **ARC-CSI CRASH CONFERENCE & BOOT CAMP – MAY 21 – 26, 2011 (6 DAYS)**
LAS VEGAS MOTOR SPEEDWAY, LAS VEGAS, NV
 - **BOOT CAMP:** VEHICLE TESTING EQUIPMENT FAMILIARITY, PLANNING & CONDUCTING 1 LIVE FULLY INSTRUMENTED CRASH TEST ON THE CONFERENCE CRASH DAY (MAY 23RD).
 - **CONFERENCE:** OBSERVATION AND DOCUMENTATION OF 9 VEHICLE CRASH TESTS, PRESENTATIONS ON TOPICS RELATED TO ACCIDENT RECONSTRUCTION OF VEHICLE CRASH TESTING.
- **BOSCH CDR TECHNICIAN & DATA ANALYST CERTIFICATION – MAY 9 – 13, 2011 (5 DAYS)**
RUSTY HAIGHT, WORCESTER, MA
 - CERTIFICATION IN CDR (CRASH DATA RETRIEVAL) EDR (EVENT DATA RECORDER) OR 'BLACK BOX' DOWNLOAD (IMAGING) PROCESS AND SUBSEQUENT ANALYSIS OF DATA. COURSE COVERED DATA RETRIEVAL AND ANALYSIS FOR: GENERAL MOTORS, FORD, CHRYSLER, AND PREVIEW OF TOYOTA VEHICLES.
- **FLIGHT TRAINING FOR PRIVATE PILOT CERTIFICATE**
 - CURRENTLY LOGGED OVER 30 HOURS OF FLIGHT TIME TOWARD THE PRIVATE PILOT CERTIFICATE (VFR).

SPECIALIZED TRAINING AND EXPERIENCE: (CONTINUED)

- **MARINE ACCIDENT INVESTIGATION (MS101) – JANUARY 26 – 30, 2008 (5 DAYS)**
NTSB TRAINING CENTER, ASHBURN, VIRGINIA
 - USCG INVESTIGATIONS RELATIONSHIP; GATHERING, EXAMINING, AND ANALYZING DATA RELATED TO ENGINEERING INVESTIGATIONS; GATHERING, EXAMINING, AND ANALYZING DATA RELATED TO DECK OPERATIONS INVESTIGATIONS; HUMAN FACTORS IN MARINE ACCIDENTS; INTERVIEWING; MEDICAL FACTORS IN MARINE ACCIDENTS; USING ELECTRONIC DATA IN MARINE ACCIDENT INVESTIGATIONS; SURVIVAL FACTORS INVESTIGATIONS.
- **HUMAN FACTORS IN ACCIDENT RECONSTRUCTION – JANUARY 12 – 16, 2008 (5 DAYS)**
JEFFERY MUTTART, SACRAMENTO, CALIFORNIA
 - ACTAR CLASS PROVIDED TRAINING IN BEST METHODS TO ESTIMATE PERCEPTION-RESPONSE TIME FOR SITUATIONS RELATED TO ACCIDENT RECONSTRUCTION.
- **PC-CRASH TRAINING WORKSHOPS: ESSENTIALS AND ADVANCED – AUGUST 13 – 17, 2007 (5 DAYS)**
MEA FORENSIC ENGINEERS AND SCIENTISTS LTD, UBC ROBSON SQUARE, VANCOUVER, BC, CANADA
 - TRAINING IN BOTH ESSENTIALS AND ADVANCED TOPICS FOR PC-CRASH ACCIDENT RECONSTRUCTION SOFTWARE.
- **TRAFFIC ACCIDENT RECONSTRUCTION II – APRIL 30 – MAY 4, 2007 (5 DAYS)**
NORTHWESTERN UNIVERSITY CENTER FOR PUBLIC SAFETY, EVANSTON, ILLINOIS
 - SEQUEL TO ACCIDENT RECONSTRUCTION I. TRAFFIC ACCIDENT RECONSTRUCTION USED TO DETERMINE HOW AN ACCIDENT OCCURRED AND TO DESCRIBE THE EVENTS OF AN ACCIDENT BY USE OF EQUATIONS OF MOTION, MOMENTUM AND ENERGY. CASE STUDIES INVOLVED MOTORCYCLE AND PEDESTRIAN ACCIDENTS IN ADDITION TO VEHICLE-TO-VEHICLE COLLISIONS.
- **TRAFFIC ACCIDENT RECONSTRUCTION I – JANUARY 15 – 26, 2007 (10 DAYS)**
NORTHWESTERN UNIVERSITY CENTER FOR PUBLIC SAFETY, EVANSTON, ILLINOIS
 - TRAFFIC ACCIDENT RECONSTRUCTION USED TO DETERMINE HOW AN ACCIDENT OCCURRED AND TO DESCRIBE THE EVENTS OF AN ACCIDENT BY USE OF EQUATIONS OF MOTION, MOMENTUM, AND ENERGY. CASE STUDIES INVOLVED VEHICLE-TO-VEHICLE COLLISIONS.
- **FORENSIC ANALYSIS OF MEDICAL RECORDS IN INJURY BIOMECHANICS AND ACCIDENT RECONSTRUCTION – OCTOBER 23 - 24, 2006 (2 DAYS)**
SOCIETY OF AUTOMOTIVE ENGINEERS PROFESSIONAL DEVELOPMENT SEMINAR, TROY, MICHIGAN
 - MEDICAL RECORDS AND HOW TO READ THEM, THE TYPES OF INFORMATION THEY CONTAIN, AND THE INSIGHTS THEY CAN PROVIDE REGARDING RESTRAINT USAGE AND DEPLOYMENT, INJURY MECHANISM, SEVERITY AND OUTCOME, AND THE EFFECTS OF PRE-EXISTING CONDITIONS.
- **CERTIFIED NURSING ASSISTANT (CNA) 2005-2007**
- **PADI OPEN WATER DIVER CERTIFICATION (SCUBA) SINCE 2000**
- **ENGINEER IN TRAINING (EIT) CERTIFICATION FOR CALIFORNIA (REGISTRATION #XE096520) SINCE 1995**
- **FIRE FIGHTER SINCE 1994**
- **REGISTERED EMERGENCY MEDICAL TECHNICIAN (EMT) 1993-2008**
- **RECREATIONAL BOATER SINCE 1973**