CURRICULUM VITAE

Chandler A. Phillips, M.D., P.E.

Department of
Biomedical, Industrial & Human Factors Engineering
Wright State University
Dayton, OH45435
937/775-5044

Current Position: Professor of Biomedical Engineering, Industrial Engineering, and Human Factors Engineering

Brage Golding Distinguished Professor of Research (2007-2010)

Director, Ergonomics Engineering Program

Education:

Stanford University, Stanford, CA- A.B., Biological Sciences, 1965

University of Southern California, Los Angeles, CA- M.D., 1969

University of California State College System - 1966-1969 - Engineering Extension Courses

Hospital of Good Samaritan, Los Angeles, CA- Straight Medicine Internship, 1970

Wright State University, Dayton, OH- A.B., Classical Languages, 1982

Licenses:

Physician and Surgeon Licenses:
State of California, Sacramento, CA (1970-2012)
State of Indiana, Indianapolis, IN- 1972
State of Ohio, Columbus, OH- 1973

Registered Professional Engineer Licenses:
P.E.: State of California, Sacramento, CA- 1974
P.E.: State of Ohio, Columbus, OH- 1981

First Class Commercial Radiotelephone License:
Federal Communications Commission, Detroit, MI- Renewed, 1986

Commercial Pilot (with Instrument-Airplane Rating)
Federal Aviation Administration
Oklahoma City, OK- 1978

Certifications:

Diplomate, National Board of Medical Examiners, 1970

Advanced Trauma Life Support, American College of Surgeons, 1982, 1986

Advanced Cardiac Life Support, American Heart Association, 1983, 1986, 1989, 1991, 1993, 1995, 1997

Certified Rehabilitation Technician in Functional Electrical Stimulation, 1984

Board Qualified, American Board of Emergency Medicine, 1987

Research and Professional Experience:

07/99 to Present: Professor of Biomedical Engineering, Industrial Engineering, and Human Factors Engineering
Department of Biomedical, Industrial & Human Factors Engineering
Wright State University
Dayton, Ohio 45435

01/89 to 06/99: Professor of Biomedical Engineering and Human Factors Engineering
Department of Biomedical and Human Factors Engineering
Wright State University
Dayton, Ohio 45435

07/84 to 12/88: Professor of Biomedical Engineering and Physiology
Departments of Biomedical Engineering and Physiology
Wright State University
Dayton, Ohio 45435

01/83 to 06/86: Deputy Director
National Center for Rehabilitation Engineering
Wright State University
Dayton, Ohio 45435

07/79 to 06/84: Associate Professor of Engineering and Physiology
Wright State University
Departments of Engineering and Physiology
Dayton, Ohio 45435

01/75 to 08/84: Program Director, Biomedical Engineering
Wright State University
Dayton, Ohio 45435

Research and Professional Experience: (cont'd)

01/75 to 06/79: Assistant Professor of Physiology and Engineering
Wright State University
Departments of Physiology and Engineering
Dayton, Ohio 45435

08/72 to 12/74: Research Physician
University of Dayton
Research Institute
Dayton, Ohio 45469

10/71 to 08/72: Research Medical Officer
6570th Aeromedical Research Lab.
Wright-Patterson AFB
Dayton, Ohio 45433

08/70 to 09/71: General Medical Officer
8th USAF Dispensary
Thailand, Southeast Asia

Courses Taught:

Department of Biomedical Engineering, WrightStateUniversity:

BME 399: Introduction to Biomedical Engineering
BME 422: Engineering Biophysics
BME 428: Biomechanics and Biothermodynamics
BME 463: Biomedical Computers I
BME 493: BME Senior Design I
BME 494: BME Senior Design II
BME 495: BME Senior Design III
BME 499: Bioinstrumentation
BME 628: Biomechanics and Biofluids
BME 699: Introduction to Biomaterials
BME 711: Cardiac Mechanics
BME 728: Advanced Biomechanics
BME 741: Neuromuscular Engineering

Department of Biomedical, Industrial, and Human Factors Engineering,
Wright State University:

BME 751: Human Control Engineering
BME 890: Advanced Human Factors Bioengineering

Courses Taught: (cont'd)

Department of Biomedical, Industrial, and Human Factors Engineering, WrightStateUniversity (cont'd)

BME 890: Human Factors Engineering Workload Analysis
BME/HFE 710: Ergonomic Engineering
BME/HFE 725: Quantitative Workload Analysis
HFE 743: Human Factors in Rehabilitation Engineering
HFE 747: Advanced Ergonomics
HFE 749: Ergonomic Biodynamics

Department of Physiology, Wright State University:

PHS 701: Cardiovascular Physiology
PHS 702: Human Physiology I
PHS 703: Human Physiology II (Laboratory)
PHS 733: Cardiac Dynamics

School of Medicine, Wright State University:

PHM 513: Medical Physiology I
PHM 523: Medical Physiology II (Laboratory)
BEN 601: Medical Cardiac Dynamics
BEN 602: Clinical Neuromuscular Dynamics
BEN 801: Engineering in Medicine

Biomedical Sciences Doctoral Program:

BMS 673: Mathematical Modeling of Biosystems
BMS 890: Laboratory Elective in Biocomputers

Editorial Board Appointments:

Editorial Consultants Board, Journal of Biomechanics, 1984-1987

Editorial Review Board, Journal of Clinical Engineering, 1984-1998

Editorial Board, Universal Renaissance Journal, 1988-1994

Editorial Advisory Board, Automedica, 1988-2003

Editorial Board, Prosthetics and Orthotics Engineering, 1996-1998

Editorial Staff Appointment:

Regional Editor (North America), Automedica, 1997-2003

Reviewer:

Referee Editor:

Referee Editor, Annals of Biomedical Engineering, 1978, 1979

Referee Editor, Journal of Biomechanics, 1979-present

Referee Editor, Engineering Education, 1980-present

Referee Editor, Journal of Clinical Engineering, 1980-present

Referee Editor, I.E.E.E. Transactions on Biomedical Engineering, 1983-present

Referee Editor, International Journal of Man-Machine Studies, 1991-present

Referee Editor, Medical Engineering and Physics, 1993-present

Referee Editor, I.E.E.E. Transactions on Rehabilitation Engineering, 1999-present

Referee Editor, Journal of Aircraft, 2000-present

RefereeEditor, I.E.E.E. Transactions on Systems, Man and Cybernetics, 2001-present

Referee Editor, I.E.E.E. Engineering in Medicine and Biology Magazine, 2004-present

Grant Reviewer:

Extramural Reviewer, U.S. Veterans Administration, 1981-1990

Extramural Reviewer, Canadian Heart Association, 1981-1991

External Reviewer, National Science Foundation, 1984-present

External Reviewer, Medical Research Council of Canada, 1984-1994

External Reviewer, Natural Sciences and Engineering Research Council of Canada, 1985-1995

Member, Grant Review Panel, American Heart Association (Ohio Affiliate), 1984-1988

Reviewer: (cont'd)

Grant Reviewer: (cont'd)

Member, Special Study Section (SBIR), National Institutes of Health, 1984-1988

Chairman, Special Study Section (SBIR), National Institutes of Health, 1985

Member, Special Study Section (NIA), National Institutes of Health, 1986-1989

Chairman, Special Study Section (DRG), National Institutes of Health, 1987

Chairman, Special Study Section (NIA), National Institutes of Health, 1988

External Reviewer, Spinal Cord Injury Research Foundation, 1989-present

Special Reviewer, Human Development and Aging Study Section (N.I.A.), National Institutes of Health, 1990-1991

Panelist, National Science Foundation, 1991, 2000

External Reviewer, Alberta Heritage Medical Foundation, 1992-2002

External Reviewer, Welcome Trust of the United Kingdom, 1993

External Reviewer, Hong Kong Universities Consortium, 1995-1997

Special Reviewer, Medical Rehabilitation Research Subcommittee (NICHD), National Institutes of Health, 2002-present

External Reviewer, Science and Engineering Research Council of Singapore, 2005-present

Other Reviews:

External Faculty Evaluator, U.A.E. University, 1988-present

Book Reviewer, Oxford University Press, 1991

Book Reviewer, Springer-Verlag, 1997.

External Reviewer, Hong Kong Universities Consortium, 1998-present.

Conference Assignments:

Papers Review Committee, Commercial Applications Chairman, National Aerospace Electronics Conference, 1976-1980

National Aerospace Electronics Conference (NAECON):
Organizer and Moderator, Technology in Medicine Session, 1976
Moderator, Technology in Medicine Session, 1977
Organizer, Commercial Applications Session, 1977
Organizer and Moderator, Environmental Effects Session, 1978
Organizer, Physiological/Medical Interfaces Session, 1983
Moderator, Environmental Interactions Session, 1983
Organizer, Technology in Medicine Session, 1985

American Physiological Society, Fall Meetings, 1983:
Co-Chairman, Exercise Physiology Session

Annual Conference on Engineering in Medicine and Biology (ACEMB), 1983:
Chairman, Biomedical Applications Session

Third International Conference on Systems Engineering, 1984:
Chairman, Biomedical Systems I Session

American Physiological Society, Fall Meetings, 1985:
Co-Chairman, Exercise Physiology Session

Fifth International Conference on Systems Engineering, 1987:
Chairman, Biomedical Systems Session

International Conference of the I.E.E.E. Engineering in Medicine and Biology Society:
Technical Program Committee, 1995-1997

Fifteenth Southern Biomedical Engineering Conference:
Member, Local Arrangements Committee, 1995-1996
Co-Chair, Bioelectronics Session, 1996

National Aerospace and Electronics Conference:
Facilitator, Design of Haptic Interface Systems with Virtual Reality Applications (Tutorial), 1996

Thirty-Fourth Rocky Mountain Bioengineering Society Conference:
Member, Local Arrangements Committee, 1996-1997
Chair, Bioelectronics Session, 1997

Conference Assignments: (cont'd)

International Conference of the I.E.E.E. Engineering in Medicine and Biology Society, 1997:
Chair, Ergonomics and Human Performance Analysis II Session, 1997
Chair, Functional Electrical Stimulation I Session, 1997

Committee and Organizational Appointments:

Standards and Practices Review Board, Instrument Society of America: 1976-1980

Standards Committee, Engineering in Medicine and Biology Society (Institute of Electrical and Electronic Engineers): 1977-1982

Engineering in Medicine and Biology Chapter, Dayton Section of the IEEE:
Chapter Organizer, 1975
Chapter Chairman, 1976
Chapter Chairman, (re-elected) 1977

Dayton Section IEEE Executive Committee, 1976, 1977

Hospital Safety Committee, Dayton Area Safety Council, National Safety Council, 1976
Vice-Chairman, 1977-1980

Occupational Safety and Health Committee, Dayton Area Safety Council, National Safety Council, 1977-1980

NMES Standards Subcommittee, Association for Advancement of Medical Instrumentation, 1993-1995

TENS Standards Subcommittee, Association for Advancement of Medical Instrumentation, 1994-1995

TES Standards Subcommittee, Association for Advancement of Medical Instrumentation, 1995-1998

Awards Committee (Outstanding Engineer and Scientist Award), Affiliate Societies Council of Dayton, 1995 –1998

Awards Committee (Outstanding Laboratory Scientist Award), Armstrong Aerospace Research Laboratory, U.S. Air Force, 1996-1997

Awards Committee (Outstanding Engineer and Scientist Award), Affiliate Societies Council of Dayton, 2003-present

Consulting Appointments:

Courtesy-Consulting Staff, DearbornCountyHospital, Lawrenceburg, Indiana, 1972-1974

Consultant, U.S. Air Force, Aerospace Medical Research Laboratories (Wright-Patterson AFB), 1974

Courtesy-Consulting Staff, StouderMemorialHospital, Troy, Ohio, 1975-1997

Affiliate Medical Staff, Upper Valley Medical Center, Troy, Ohio, 1997-present

Consultant, National Institute of Occupational Safety and Health, 1975-1976

Consultant, Medicine and Bioengineering, DaytonVA Hospital, 1976-1980

Consultant, U.S. Army Aeromedical Research Laboratory, (Fort Rucker, AL), 1979

Consultant, U.S. Air Force, Aerospace Medical Research Laboratories (Wright-Patterson A.F.B.), 1981-1982

Consultant, Adria Laboratories, Inc. (Columbus, OH), 1981-1983

Consultant Staff, WhiteAmbulatoryCareCenter, WrightStateUniversity, Dayton, OH, 1981-1991

Senior Physician, Dayton Veterans' AdministrationMedicalCenter, 1984-1985

Consultant, Therapeutic Technologies, Inc., 1984-1985

Consultant, Bio-Stimu-Trend Corp., 1986-present

Consultant, Universal Energy Systems, 1986-1994

Affiliate Physician, Cleveland Clinic Comprecare Program, 1988-present

Consultant, MONAD Corp., 1989-present

Consultant, U.S. Air Force, Armstrong Laboratory, (Wright-Patterson A.F.B.), 1996-present

Professional Affiliations:

Aerospace Human Factors Association (CHARTER MEMBER)
Aerospace Medical Association (FELLOW)
Aerospace Physiology Association
Aircraft Owners and Pilots Association (HONOR MEMBER)

Professional Affiliations:(cont'd)

American Academy of Neurologic and Orthopedic Surgeons (HONORARY FELLOW)
American Association of University Professors
American Institute of Medical and Biological Engineering (FELLOW)
American Physiological Society (1980-2005)
American Society of Biomechanics (1972-1997)
Biomedical Engineering and Life Sciences Branch (Aerospace Medical Association)
Engineering Education Society (I.E.E.E.)
Engineering in Medicine and Biology Society (I.E.E.E.)
Institute of Electrical and Electronic Engineers (LIFE FELLOW)
Institute of Industrial Engineers (SENIOR MEMBER)
Ohio Academy of Science (FELLOW)
Ohio Classical Conference
Systems, Man and Cybernetics Society (I.E.E.E.)
Society of Automotive Engineers

Honors:

Commendation Medal, United States Air Force, 1971
Vietnam Campaign Medal, United States Air Force, 1971
A.M.A. Physicians Recognition Award, 1977, 1980, 1983
Exceptional Achievement Award, Dayton Section of I.E.E.E., 1983
Faculty Commendation, Wright State University, 1983
Humanitarian Award, Crotched Mountain Rehabilitation Center, 1983
Resolution of Commendation, Ohio State House of Representatives, 1983
Certificate of Appreciation, Graduating Class of 1983, School of Medicine, Wright State University, 1983
Appreciation Award, Aeromedical Research Laboratory, WPAFB, 1983
Certificate of Appreciation Citation, Armed Forces Communications and Electronics Association, Dayton-Wright Chapter, 1984
Harry Rowe Mimno Award, National Aerospace and Electronics System Society, Institute of Electrical and Electronics Engineers, 1984
Outstanding Engineering Achievement in the United States Award, National Society of Professional Engineers, 1984
Outstanding Paper, National Engineering in Medicine & Biology Society, Institute of Electrical and Electronic Engineers, 1984.
Celebrando El Futuro Recognition Award, National Cash Register Corporation, 1984
Outstanding Engineer and Scientist Award, Affiliate Societies Council of the Engineering and Science Foundation of Dayton, 1985
Doctor of Philosophy (Ph.D.) in Humane Letters (Honorary), University for Humanistic Studies at Las Vegas, Nevada, 1985
Fellow (Honorary), American Academy of Neurological and Orthopedic Surgeons, 1985
Ten Year Outstanding Service Award, Wright State University, 1985
Repasky Lecturer, Middletown Regional Hospital (Ohio), 1985
Recommendation for a Nobel Prize Nomination (Medicine and Physiology) by the American Academy of Orthopedic and Neurological Surgeons, 1986

Honors: (cont'd)

A.M.A. Physicians Recognition Award, 1986, 1989, 1992
MillerComm Lecturer, University of Illinois at Urbana-Champaign, 1986
Statement in the Congressional Record by Hon. Thomas N. Kindness, 1986
Fritz J. Russ Award, Dayton section of I.E.E.E., 1987
Appreciation Award, Student B.M.E. Society, Wright State Univ., 1987
Commemorative Award, Consortium for Learning Technologies, State of New York, 1988
Fifteen Year Outstanding Service Award, Wright State University, 1990
Senior Member, Institute of Electrical and Electronic Engineers, 1991
Fellow, Institute of Electrical and Electronics Engineers, 1994
A.M.A. Physicians Recognition Award, 1995, 1998, 2001
Eminent Engineer, Tau Beta Pi (National Honor Engineering Society), 1995
Twenty Year Outstanding Service Award, Wright State University, 1995
Innovation Honor, American College of Physician Executives, 1996
Certificate of Appreciation Award, Rocky Mountain Bioengineering Society, 1997
Fellow, American Institute of Medical and Biological Engineering, 2000
Outstanding Faculty Member Award (College of Engineering and Computer Science), Wright State University, 2000
Associate Fellow, Aerospace Medical Association, 2000
Twenty Five Year Outstanding Service Award, Wright State University, 2000
Professional Excellence Award, Life Sciences and Biomedical Engineering Branch, Aerospace Medical Association, 2001
Senior Member, Institute of Industrial Engineers, 2001
John Paul Stapp Award, Aerospace Medical Association, 2002
Certificate of Appreciation Award, American Academy of Neurological and Orthopedic Surgeons, 2002
A.M.A. Physicians Recognition Award, 2004, 2007, 2010
Fellow in Aerospace medicine, Aerospace Medical Association, 2004
Member Service Award, Society of Automotive Engineers, 2005
Thirty Year Outstanding Service Award, Wright State University, 2005
Brage Golding Distinguished Professor of Research, Wright State University, 2007
Life Fellow, Institute of Electrical and Electronic Engineers, 2009
Fellow, Ohio Academy of Science, 2010
Thirty Five Year Outstanding Service Award, Wright State University, 2010
Medical Science Award of Excellence, American Biographical Institute, 2011
A.M.A. Physicians Recognition Award, 2013

Biographical Listings:

Who's Who in the Mid-West, 1976, 1978, 1998
American Men and Women of Science, 1978, 1980, 2008
Dictionary of International Biography, 1978, 1986
Men of Achievement, 1978, 1987
International Who's Who in Education, 1980
Who's Who in Engineering, 1980-1990

Biographical Listings: (cont'd)

Who's Who in Technology Today, 1980-1990
International Who's Who in Engineering, 1982, 1988
International Leaders in Achievement, 1987
Who's Who in Science and Engineering, 1998-present
Who's Who in Healthcare and Medicine, 1999-present
Who's Who in America, 1999-present

Grants and Contracts:

1. Phillips, C.A. (Principal Investigator) and Minardi, J.E. (Co-investigator): A Thermodynamic Interpretation of Cardiac Catheterization Data. Submitted to: American Heart Association,
Miami Valley Heart Chapter. Period of Grant: January 1, 1973 to December 31, 1973. Outcome: Funded ($12,000).

2. Phillips, C.A. (Principal Investigator) and Minardi, J.E. (Co-investigator): A Thermodynamic Interpretation of Cardiac Catheterization Data. Submitted to: American Heart Association, MiamiValley Heart Chapter. Period of Grant: January 1, 1974 to December 30, 1974. Outcome: Funded ($15,000).

3. Phillips, C.A. (Principal Investigator), Grood, E.S. and Schuster, B. (Co-investigators): An Energetic Evaluation of Cardiac Contraction. Submitted to: American Heart Association, Miami Valley Heart Chapter. Period of Grant: January 1, 1975 to December 31, 1975. Outcome: Funded ($10,000).

4. Phillips, C.A. (Principal Investigator), Grood, E.S. and Schuster, B. (Co-investigators): A Study of Left Ventricular Dynamics. Submitted to: American Heart Association, Miami Valley Heart Chapter. Period of Grant: January 1, 1976 to December 31, 1977. Outcome: Funded ($10,000).

5. Phillips, C.A. (Principal Investigator) and Black, W. (Co-investigator): Non-Invasive Analysis of Left Ventricular Compliance. Submitted to: American Heart Association, Miami Valley Heart Chapter. Period of Grant: January 1, 1979 to December 31, 1979. Outcome: Funded ($5,450).

6. Petrofsky, J.S. (Principal Investigator) and Phillips, C.A. (Co-investigator): Microprocessor Stimulation of Muscle in the Paralyzed. Submitted to: National Institutes of Health. Period of Grant: March 1, 1979 to June 30, 1982. Outcome: Funded ($172,000).

7. Petrofsky, J.S. (Principal Investigator) and Phillips, C.A. (Co-investigator): Isometric Exercise Performance under Zero-G Conditions. Submitted to: N.A.S.A.. Period of Grant: December 15, 1979 to October 15, 1980. Outcome: Funded ($28,100).

Grants and Contracts: (cont'd)

8. Petrofsky, J.S. (Principal Investigator) and Phillips, C.A. (Co-investigator): Cardio-vascular Responses to Isometric Exercise. Submitted to: American Heart Association (Miami Valley Heart Chapter). Period of Grant: January 1, 1980 to December 30, 1980. Outcome: Funded ($12,000).

9. Phillips, C.A. (Principal Investigator) and Petrofsky, J.S. (Co-investigator): Effect of U.S. Army Head Gear on Neck Muscle Loading and Fatigue. Submitted to: U.S. Army, Dept. of Defense. Period of Grant: June 1, 1980 to May 30, 1981. Outcome: Funded ($107,000).

10. Petrofsky, J.S. (Principal Investigator) and Phillips, C.A. (Co-investigator): Cardio-respiratory Responses to Isometric Exercise. Submitted to: National Institutes of Health. Period of Grant: August 1, 1980 to July 31, 1983. Outcome: Funded ($250,000).

11. Phillips, C.A. (Principal Investigator) and Petrofsky, J.S. (Co-investigator): Influence of U.S. Army Headgear Parameters on Neck Muscle Loading and Fatigue. Submitted to: U.S. Army, Dept. of Defense. Period of Grant: June 1, 1981 to December 15, 1982. Outcome: Funded ($76,128).

12. Petrofsky, J.S. (Principal Investigator) and Phillips, C.A. (Co-investigator): Electrical Muscle Trainer Development. Submitted to: Spinal Cord Society. Period of Grand: March 1, 1982 to February 28, 1983. Outcome: Funded ($7,360).

13. Petrofsky, J.S. (Principal Investigator) and Phillips, C.A. (Co-investigator): Electrical Stimulation of Paralyzed Muscle. Submitted to: American Paralysis Foundation. Period of Grant: August 1, 1982 to June 30, 1983. Outcome: Funded ($64,000).

14. Petrofsky, J.S. (Principal Investigator) and Phillips, C.A. (Co-investigator): Functional Electrical Stimulation. Submitted to: Spinal Cord Society. Period of Grant: August 1, 1982 to August 2, 1983. Outcome: Funded ($83,293).

15. Phillips, C.A. (Principal Investigator), and Petrofsky, J.S. (Co-Investigator): Neck Muscle Endurance and Fatigue as a Function of Helmet Loading: The Definitive Mathematical Model. Submitted to: U.S. Army, Department of Defense. Period of Grant: December 16, 1982 to June 15, 1984. Outcome: Funded ($70,963).

16. Petrofsky, J.S. (Principal Investigator) and Phillips, C.A. (Co-investigator): Cardio-vascular Stresses During Electrical Stimulation. Submitted to: American Heart Association (Miami Valley Heart Chapter). Period of Grant: January 1, 1983 to December 31, 1983. Outcome: Funded ($15,966).

17. Petrofsky, J.S. and Kimura, K.K. (Co-Principal Investigators) and Phillips, C.A. (Co-Investigator): Active Physical Therapy: A Pilot Study. Submitted to: U.S. Veterans Administration. Period of Grant: October 1, 1983 to March 30, 1984. Outcome: Funded ($322,000).

Grants and Contracts: (cont'd)

18. Petrofsky, J.S. (Principal Investigator) and Phillips, C.A. (Co-investigator): Reversal of Osteoporosis in the Spinal Cord Injured: A Two-Dimensional Approach. Submitted to: American Paralysis Association. Period of Grant: April 1, 1984 to December 31, 1984. Outcome: Funded ($41,300).

19. Petrofsky, J.S. and Kimura, K.K. (Co-principal Investigators) and Phillips, C.A. (Co-investigator): Active Physical Therapy: Application of FES to Rehabilitation Medicine. Submitted to: U.S. Veterans Administration. Period of Grant: April 1, 1984 to March 30, 1985. Outcome: Funded ($800,000).

20. Phillips, C.A. (Principal Investigator) and Rowley, B.A. (Co-Investigator): Senior Design Projects in Rehabilitation Engineering. Submitted to: National Science Foundation. Period of Grant: September 1, 1987 to December 31, 1988. Outcome: Funded ($5,000).

21. Phillips, C.A. (Principal Investigator) and Rowley, B.A. (Co-Investigator): Undergraduate Bioengineering Design Projects. Submitted to: National Science Foundation. Period of Grant: January 15, 1989 to June 30, 1991. Outcome: Funded ($33,000).

22. Phillips, C.A. (Principal Investigator) and Rowley, B.A. (Co-Investigator): Undergraduate Bioengineering Design Projects. Submitted to: National Science Foundation. Period of Grant: July 1, 1991 to Dec. 31, 1994. Outcome: Funded ($43,000).

23. Trimble, J.L., Repperger, D.W. and Phillips, C.A. (Co-Principal Investigators): Development of Spastic Tolerant Stick Controllers. Submitted to: Joint VA/DoD. Period of Grant: Jan. 1, 1992 to Dec. 31, 1992. Outcome: Funded ($62,000).

24. Phillips, C.A. (Principal Investigator) and Cacioppo, A.J. (Co-Investigator): Investigation of Spasticity with Application to an Adaptive Force Reflecting Stick Controller. Submitted to: Systems Research Laboratories. Period of Grant: Mar. 30, 1992 to Feb. 28, 1994. Outcome: Funded ($20,000).

25. Ho, C.C., Repperger, D.W., and Phillips, C.A. (Co-Principal Investigators): Design and Development of a Wireless TENS for Pain Management. Submitted to: Joint VA/DoD. Period of Grant: March 1, 1994 to February 28, 1995. Outcome: Funded ($50,000).

26. Phillips, C.A. (Principal Investigator) and Cacioppo, A.J. (Co-Investigator): Design and Development of an Integrated TENS Delivery System for Individualized Patient Therapy. Submitted to: System Research Laboratories. Period of Grant: June 1, 1994 to May 31, 1995. Outcome: Funded ($17,600).

Grants and Contracts: (cont'd)

27. Phillips, C.A. (Principal Investigator): Bioengineering Design Projects for the Disabled. Submitted to: National Science Foundation. Period of Grant: August 1, 1994 to July 31, 1997. Outcome: Funded ($66,600).

28. Phillips, C.A. (Principal Investigator): PilotState Modeling Support for the SIRE Laboratory. Submitted to: Logicon Technical Services. Period of Grant: July 1, 1997 to June 30, 1998. Outcome: Funded ($96,771).

29. Phillips, C.A. (Principal Investigator): Bioengineering Design Projects for the Disabled. Submitted to: National Science Foundation. Period of Grant: July 1, 1997 to June 30, 1999. Outcome: Funded ($40,413).

30. Phillips, C.A. (Principal Investigator) and Koubek, R. J. (Co-Investigator): PilotState Modeling Support for the SIRE Laboratory: A Continuation. Submitted to: Logicon Technical Services. Period of Grant: July 1, 1998 to April 30, 1999. Outcome: Funded ($63,200).

31. Phillips, C.A. (Principal Investigator), Reynolds, D.B. and Koubek, R.J. (Co-Investigators): Biomedical and Human Factors Engineering Design Projects for Disabled Persons. Submitted to: National Science Foundation. Period of Grant: July 1, 1999 to December 31, 2004. Outcome: Funded ($129,000).

32. Koubek, R.J. (Principal Investigator), Narayanan, S., Phillips, C., and Wheatley, M. (Co-Investigators): Adaptive Interface Development for the Synthesized Immersion Research Laboratory. Submitted to: DAGSI/AFRL. Period of Grant: July 1, 1999 to June 30, 2001. Outcome: Funded ($400,000).

33. Phillips, C.A.: Modeling and Control of Pneumatic Muscle Actuators. Submitted to: Systronics. Period of Support: December 15, 2000 to December 15, 2001. Outcome: Funded ($15,000).

34. Rothrock, L. (Principal Investigator), Harvey, C., Narayanan, S., and Phillips, C. (Co-Investigators): Adaptive Aiding Using Physiological Operator Functional State Assessment. Submitted to: DAGSI/AFRL. Period of Grant: August 1, 2001 to July 31, 2003. Outcome: Funded ($200,000).

35. Rothrock, L. (Principal Investigator), Harvey, C., Narayanan, S., and Phillips, C. (Co Investigators): Adaptive Aiding Using Physiological Assessment in Hybrid Simulation Systems. Submitted to: State of Ohio/OBR. Period of Grant: July 1, 2001 to June 30, 2002. Outcome: Funded ($40,210).

36. Phillips, C.A.: Modeling and Control Development of Information Theoretic Systems. Submitted to: Systronics. Period of Grant: December 16, 2001 to December 16, 2002. Outcome: Funded ($10,000).

Grants and Contracts: (cont'd)

37. Phillips, C.A. (Principal Investigator) and Reynolds, D.B. (Co-Investigator): Biomedical, Industrial, and Human Factors Engineering Design Projects for Disabled Persons. Submitted to: National Science Foundation. Period of Grant: January 1, 2005 to December 31, 2010. Outcome: Funded ($128,000).

38. Phillips, C.A. (Principal Investigator): Development of Human Operator Informatic Models by Utilizing Theoretical Models of Information Processing Strategies to Evaluate Visual Display Information Throughput. Submitted to: Ball Aerospace. Period of Grant: July 25, 2008 to July 24, 2009. Outcome: Funded ($20,000).

39. Phillips, C.A.(Principal Investigator): Development if Human Operator Informatic Models (HOIM) for Research on Non-Invasive Brain Stimulation Affects on Information Processing Performance. Submitted to: Infoscitex. Period of Grant: July 18, 2011 to July 4, 2013. Outcome: Funded ($40,000).

40. Phillips, C.A. (Principal Investigator): Pilot Work State Monitoring. Submitted to: Ball Aerospace. Period of Grant: December 10, 2012 to June 10, 2013. Outcome: Funded ($12,000).

PUBLICATIONS:

Journal Articles:

1. Phillips, C.A.: The velocity-strain relationship: application in normal and abnormal left ventricular function. Annals Biomed. Engrg. 5:329-342, 1977.

2. Phillips, C.A., E.S. Grood, R.E. Mates and H.L. Falsetti: Left ventricular function: correlation with deformation of the myocardium. J. Biomech. Engrg. 100:99-104, 1978.

3. Walburn, F.J. and C.A. Phillips: Discussion. J. Biomech. Engrg. 100:104, 1978.

4. Phillips, C.A. and E.S. Grood: Contractile filament stress: comparison of different disease states in man. Ohio J. Science 78:259-266, 1978.

5. Grood, E.S., C.A. Phillips and R.E. Mates: Contractile filament stress in the left ventricle and its relationship to wall stress. J. Biomech. Engrg. 101:225-231, 1979.

6. Phillips, C.A., E.S. Grood and B. Schuster: Contractile filament and series elastic work and power: mathematical development and application to left ventricular cineangiographic measurements. J. Biomech. 12:551-557, 1979.

7. Phillips, C.A. and E.S. Grood: Contractile filament and series elastic work and power: clinical correlation with left ventricular function. J. Biomech. 12:559-566, 1979.

8. Phillips, C.A., E.S. Grood, W.J. Scott and J.S. Petrofsky: Cardiac chemical power: I. Derivation of the chemical power equation and determination of equation constants. Med. and Biol. Engr. Comp. 17:503-509, 1979.

9. Phillips, C.A., E.S. Grood, W.J. Scott and J.S. Petrofsky: Cardiac chemical power: II. The application of chemical power, work and efficiency equations to characterize left ventricular energetics in man. Med. and Biol. Engr. and Comp. 17:510-517, 1979.

10. Petrofsky, J.S. and C.A. Phillips: Constant velocity contractions in skeletal muscle of the cat. Med. and Biol. Engr. and Comp. 17:583-592, 1979.

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