

UAB's Environments Research and Educational Resources and Intramural Linkages

The UAB-ICRC has established relationships with numerous departments and centers at UAB, various state agencies, and more recently, with the University of Alabama. We highlight these relationships in the resources and environment and linkage section that follows. **Because it is an integral component of the ICRC, the UAB-UTC has immediate, direct access to the resources described in the following:**

(1) **The University of Alabama at Birmingham (UAB)** is one of three autonomous institutions within The University of Alabama System. UAB employs over 16,700 people, has a full-time faculty of 1,881, and a student enrollment of nearly 16,000 students (undergraduate to doctoral). It is the largest employer in the State of Alabama.

UAB is comprised of 12 academic schools in the health sciences and academic areas. The UAB Health Center includes the Schools of Medicine, Dentistry, Nursing, Optometry, Public Health, and Health Related Professions, the Joint Health Departments, the Graduate School, and the Lister Hill Library of the Health Sciences. The University's academic campus consists of the Schools of Arts and Humanities, Business, Education, Engineering, Natural Sciences and Mathematics, and Social and Behavioral Sciences, the Graduate School, and the Mervyn Sterne Library. University Hospital, the teaching hospital for the School of Medicine, is the 900-bed centerpiece of the UAB Health System. Outpatient care is provided through the Kirklin Clinic, which houses almost every specialty in adult medicine.

(2) **The University of Alabama School of Medicine (UASOM)** is one of the leading public medical schools in the Southeast. For nearly 50 years, it has educated and trained medical students in basic and clinical sciences, and furthered students' appreciation for socioeconomic factors in providing primary and specialized medical care. The School has an earned reputation of excellence in research and clinical care and is recognized as a leader in many fields. It currently has 1174 funded research grants and contracts, totaling approximately \$220 million in peer-reviewed research. In FY 2002, UASOM ranked 17th in the nation in research awards received from the National Institutes of Health (NIH). Dr. Robert Rich is Vice President and Dean, University of Alabama School of Medicine. Dr. Fine, Director of the ICRC, reports directly to Dr Rich.

(2-A) **The Southern Consortium for Injury Biomechanics (SCIB)** is the biomechanics research component of the UAB-ICRC. The SCIB was established in October of 2000, by UAB-ICRC leaders working with Dr. Barry Myers, Director of Duke University's Injury & Orthopaedic Biomechanics Laboratory. The Consortium is a unique confederation of highly regarded biomechanical engineers, physicians, and non-physician scientists from the U.S. who have committed to collaborate to achieve significant reduction in motor vehicle-related morbidity and mortality. The SCIB provides an operational platform for scientists to design and conduct cutting edge biomechanics research designated as

high priority by NHTSA, which helps NHTSA and the SCIB respond to Congressional mandates.

(2-B) **The Southeast Child Safety Institute (SECSI)** is a component of the Children's Hospital of Alabama. Its Director, Dr. Bill King, Professor of Pediatrics, is an ICRC Senior Scientist who co-taught with Dr. Fine the first graduate injury epidemiology course in the UAB School of Public Health (Epidemiology 603: Epidemiologic Principles and Prevention Strategies). Dr. King has had a major role in ICRC-supported and ICRC-related research projects, resulting in a number of publications in peer-reviewed journals. One of Dr. King's most recent published studies "Pediatric Pedestrian Injuries: A Community Assessment Using a Hospital Surveillance System" appeared in Academic Emergency Medicine. Its findings were drawn upon by Dr. David Schwebel for his proposed ICRC project, *Pediatric Pedestrian Safety in Virtual Reality: Phase 1*. Dr. King is Dr. Fine's principal advisor on pediatric injury prevention and control and a member of the Center Management Committee.

(2-C) **Center for Injury Sciences (CIS)** in the Department of Surgery was established in the late 1990's to complement the Department of Medicine-based ICRC. The CIS has a much narrower mission, focusing on the acute surgical care of injured patients and to a lesser extent, statewide trauma system development. The Center's basic science research unit lead by Dr. Irshad Chaudry examines oxidant species in hepatic ischemia-reperfusion, induced remote lung and renal injury, gender differences in traumatic injury response, and growth factor modulation of stromal stem cells to improve osseous repair following fracture.

In 1999, UAB's **Crash Injury Research Engineering Network Center (CIREN)** was established as the eighth such center by the NHTSA after receiving funding from Daimler-Chrysler, Mercedes-Benz USA, and Mercedes-Benz North America. This Center focuses on the consequences of motor vehicle collision from the perspective of physical damage to the vehicle as it relates to specific patient injury to identify new opportunities for automotive safety design. The focus of the UAB Center is on evaluation and prevention of car crashes in the elderly. The many ongoing programs at the University focusing on the elderly are all appropriate compliments for this activity.

(2-D) **Department of Physical Medicine and Rehabilitation (PM&R)** in the UASOM has a long-standing relationship with the ICRC. For example, when UAB's initial application to become an ICRC was submitted by Dr. Fine in 1986, he was a PM & R faculty member and the Department's Director of Research, positions he had occupied since early 1975. The relationship continued unfettered after Dr. Fine moved his academic appointment to the Department of Medicine in 1987, and acquired NCIPC funding in 1989. In fact, this linkage, more so than any other provided the intellectual underpinning for the ICRC's rehabilitation-oriented research focus. During the 1994-1999 grant period, Dr. Tom Novack was the PI on the ICRC's project, "Outcome Measurement Following TBI." For many years, Dr. Amie Jackson, PM & R Department Chair, was Co-Director of the ICRC's Rehabilitation Core. When her departmental duties increased to the point she could no longer serve the ICRC, she was succeeded

by her departmental colleague, Dr. Jay Meythaler. Other PM & R faculty who continue to play major roles in the ICRC include Dr. Michael DeVivo and Dr. Scott Richards. Dr. DeVivo is internationally known for his seminal work in the epidemiology of spinal cord injury. During preparation of research proposals for this competitive renewal application, Dr. DeVivo served as an intramural consultant on our project, *A Longitudinal Study of Rehabilitation Outcomes*, and as peer reviewer for Dr. David Brown's proposed research project, *Behavioral Study to Reduce Youth DUI and Risky Driving*. Dr. Richards is a highly regarded rehabilitation psychologist who succeeded Dr. Fine as Director of Research for the Department and who has been an ICRC-funded investigator on the project, "The Influence of Intentionality on Rehabilitation Outcomes in Neurotrauma (1992-1995)". Dr. Tim Elliott is another highly regarded rehabilitation psychologist, who is the PI of a proposed project in the current competitive renewal application, and until the summer of 2003, was a PM&R faculty member. Dr. Elliott is now a full-time Department of Psychology faculty member. Dr. Elliott is co-PI on the current ICRC project "Problem Solving Interventions with Video-Conferencing Technology for Caregivers of Persons with SCI" and PI for the proposed project, *Problem Solving for Caregivers of Persons with TBI*, which appears elsewhere in this application.

(2-E) **Department of Emergency Medicine** in the UASOM exists to provide the highest quality emergency medical care to patients, to participate in the education of health professionals, and to promote the development of the specialty of EM and related disciplines through excellence in patient care, teaching, and research. Faculty are actively involved in research in cardiac arrest, disaster preparedness, violence and injury prevention, minority education, emergency medical services (EMS) care, and information management. The Department maintains an EMS training office, disaster medicine and research fellowships, and houses the Center for Disaster Preparedness

(2-F) **Multi-Purpose Arthritis and Musculoskeletal Disease Center (MAMDC)** is an entity within the Arthritis and Musculoskeletal Center (AMC). Its Director, Dr. Robert Kimberly, is an internationally known expert in rheumatology and musculoskeletal disorders and is a member of the ICRC's Center Management Committee. Dr. Fine is a faculty and Executive Committee member of the MAMDC. Thus, the ICRC enjoys an especially close linkage with UAB's MAMDC. We believe this relationship is unique among the CDC-supported ICRCs and NIH-supported MAMDCs, and the synergism between the two Centers has positioned the UAB-ICRC to play an important role in the CDC-initiated National Arthritis Action Plan and the PHS-sponsored Healthy People 2010. Dr. Fine and Dr. Richard Maisiak published numerous collaborative manuscripts reflecting their studies related to the vocational rehabilitation experiences and outcomes of persons whose disabilities resulted from traumatic injury.

(2-G) **The UAB Center for Aging** is an interdisciplinary activity that promotes the health and well-being of older persons by conducting and promoting age-related research, training students and faculty to conduct research, disseminating new knowledge, and supporting community outreach and clinical programs targeting older and elderly persons. In the broadest sense, the UAB Center for Aging seeks to enhance the health

and well-being of older people in Alabama, the United States, and the world through innovative research, education, and clinical programs in aging. Its Director, Dr. Richard Allman, is an active ICRC faculty member and a frequent intramural seed research grant proposal peer reviewer. Dr. Richard Sims, an ICRC Assistant Scientist and Center for Aging faculty member, is a regular lecturer on injuries among the elderly in our introductory injury epidemiology course (EPI 603), a regular Research In Progress Seminar Series presenter and, like Dr. Allman, a frequent intramural seed research grant proposal peer reviewer. Dr. Fine is a Senior Scientist in the Center for Aging. In addition, fifteen other ICRC faculty members hold secondary faculty appointments in the Center for Aging, which is physically located in the same building housing ICRC headquarters, thus promoting frequent interaction between the personnel and faculty from both Centers.

(2-H) Department of Pathology (in the UASOM) – The Jefferson County Coroner / Medical Examiner’s Office provide clinical inpatient, outpatient, and outreach pathology-related services to the UAB community. The ICRC continues to have close working, research, and teaching relationships with the Department of Pathology thru the Coroner/Medical Examiner’s office. As part of the ICRC's previous violence prevention-related research, Dr. Fine and the Coroner/Medical Examiner, Dr. Robert Brissie, Professor of Pathology and an ICRC Senior Scientist, conducted a well-received often cited study of homicides occurring over a twelve year period in Alabama's most populous county. The results were published in The Journal of Forensic Sciences and received considerable national attention (58). In addition, Dr. Brissie is a regular lecturer in the ICRC-sponsored injury epidemiology course offered at least once each year by the School of Public Health and has recently accepted Dr. Fine’s invitation to be a lead presenter/discussant in the new Doctoral Seminar in Intentional Injury (EPI 700) being offered for the first time in fall 2003.

(3-A) Department of Epidemiology in the School of Public Health (SOPH) conducts research and educational programs focusing on the distribution and determinants of disease in humans, including injury. It also has research and training programs addressing issues in international health. For many years, Dr. John Waterbor, Associate Professor of Epidemiology and an ICRC Senior Scientist, has been central to the advancement of the injury epidemiology curriculum in the department and SOPH. Numerous masters and doctoral level students completing the introductory injury epidemiology survey (Epi 603) have gone on to full-time positions with the Injury Prevention Division of the Alabama Department of Public Health. Currently, Ms. Andrea Underhill, a full-time ICRC Program Administrator and team member of the project, *“Longitudinal Study of Rehabilitation Outcomes”*, is pursuing her doctorate in epidemiology with a major emphasis on injury and Ms. Katherine Terry, the ICRC’s Program Administrator II holds an MPH in epidemiology. There are numerous other examples of linkages, and excellent on-going relationships between the ICRC and Department of Epidemiology.

(3-B) Department of Biostatistics in the SOPH provides assistance to the UAB community in applying existing statistical techniques to studies in these health-related

fields and on the development of new statistical techniques. The ICRC's primary UAB-based statistical consultant is Dr. Al Bartolucci, Professor of Biostatistics and an original ICRC faculty member who helped Dr. Fine prepare UAB's first (and all subsequent) applications to the CDC. Now, Dr. Bartolucci is one of the three ICRC faculty members who make up the Center's Research Support Services Unit.

Dr. George Howard, Chairman of Biostatistics, is an advisor to Dr. Fine and is also a member of the Executive Committee of MAMDC, along with Dr. Fine. Dr. Howard has proposed a unique linkage for collaborative injury research between the UAB-ICRC and his **Reasons for Geographic and Racial Differences in Stroke (REGARDS)** cohort of 30,000 community-dwelling residents which is designed to be a nationally representative sample of the US populations over the age of 55. Collaborating with REGARD, we would explore injury-related research opportunities in the cohort including establishing predictors of automobile crashes, falls, and other injuries.

(3-C) **Lister Hill Center for Health Policy (LHCHP)** in the SOPH promotes outreach, training, and education in Health Care Policy to the UAB community. LHCHP is headed by Dr. Michael Morrissey, a health economist with an excellent international reputation and Chairman of the Department of Health Organization and Policy, the SOPH Department in which Dr. Fine holds a secondary appointment. Dr. Morrissey is the ICRC's principal health economics consultant, an ICRC Senior Scientist, and a previously funded ICRC investigator. Another faculty member from the LHCHP, Dr. David Grabowski, works collaboratively with Dr. Morrissey on injury control-related issues in the LHCHP and has been funded by the ICRC and the SCIB. Our Centers co-sponsored the important training initiative, "The Economics of Motor Vehicle Safety".

(4) **Department of Biomedical Engineering in the School of Engineering (SOE)** offers curricula leading to Bachelor of Science, Master of Science, and Doctor of Philosophy degrees in Biomedical Engineering. SOE faculty have developed injury control-related BME course work after the UAB-ICRC was established in 1989. Dr. Dale Feldman, Professor of Biomedical Engineering and an ICRC Senior Scientist, is currently an ICRC-supported investigator of a productive research initiative, "Home Health Delivered Albumin Scaffold."

(5) **Department of Psychology in the School of Social and Behavioral Sciences** is home to several of UAB's Centers, established research programs, laboratories, and training sites. The **Taub Training Clinic**, opened in 2001, is home to the innovative therapy "Taub Training or Constraint-Induced Movement" which helps patients improve use of their disabled limbs following stroke or other neuromotor disorders. The soon-to be completed ICRC-sponsored project, "Outcome of Upper Extremity Constraint-Induced Therapy after TBI" is being conducted by Dr. Sharon Shaw, a Senior ICRC faculty member who directs The Taub Training Clinic.

(6-A) **UAB Office of Research Compliance** ensures that research at UAB is conducted in accordance with all applicable laws and regulations. The Office's research compliance efforts promote ethical research practice and operate to prevent, detect,

and resolve behavior not conforming to laws and regulations. The Office is staffed by the UAB Research Compliance Officer, Samuel Tilden, MD, JD, and by the Billing Compliance Officer, Carolyn McDowell, MBA. Dr. Tilden is responsible for monitoring and evaluating the effectiveness of the campus research compliance program with federal, state, and university regulations and reporting any concerns to the appropriate university officials or compliance committees. Ms. McDowell is responsible for overseeing, implementing, and monitoring guidelines and processes for appropriate billing of clinical services furnished under clinical trials.

(6-B) **UAB Institutional Review Board for Human Use** protects the rights and welfare of human research subjects recruited to participate in UAB research activities. The Office of the Institutional Review Board for Human Use provides administrative support for UAB's two Institutional Review Boards. The UAB-IRB has the authority to approve, require modifications in, or disapprove all research activities that fall within its jurisdiction as specified by the federal regulation, state law, and local institutional policy. This competitive renewal application is in conformance with the University's IRB rules and regulations.

(6-C) **UAB Vertebrate Animal Protection** oversees all animal facilities at UAB that are directed by full time veterinarians and are accredited by the Association for Assessment and Accreditation of Laboratory Animal Care International (AAALAC). UAB has a Letter of Assurance (A3255-01) on file with NIH's Office of Laboratory Animal Welfare (OLAW) and is licensed as a research facility (64-R-0004) by the United States Department of Agriculture (USDA).

(6-D) **UAB-Conflict of Interest Review Board (CIRB)** is specialized standing committee that reviews UAB investigators' financial disclosures to determine whether a financial conflict of interest exists, and if needed, to institute an appropriate plan for managing, reducing, or eliminating the conflict. UAB's Conflict of Interest policy requires all investigators to file original financial disclosure statements with grant and contract proposals. All faculty members involved with a project are required to submit a disclosure. If an individual is listed on the "key personnel" list or budget pages, then a disclosure is required. No project may be initiated until all Conflict of Interest issues have been resolved.

Extramural Linkages

The UAB-ICRC also has established links to other universities and their entities, public health agencies, and public and private sector entities that participate in our proposed research, education, training, evaluation, and oversight activities. As described elsewhere, because it is an integral component of the ICRC, the UAB-UTC has immediate, direct access to the resources described in the following:

(7) **The University of Alabama (Tuscaloosa) (UA)** is the state's oldest public university and is the senior comprehensive doctoral-level institution in Alabama. It is one of three institutions in The University of Alabama System, the other two being UAB and the University of Alabama in Huntsville. The University's research and instructional

programs form a base for extensive outreach activities, providing continuing linkages with business, industry, and government through applications of new knowledge. These relationships cause the University's influence to extend beyond the bounds of the state as it assists developmental efforts at regional, national, and international levels.

UAB-ICRC has a unique linkage with UA researchers. Specifically, Drs. Debra McCallum, David Brown, and Nancy Rhodes are collaborating with our Center in this current proposal, demonstrating the UAB-ICRC's commitment to multi-disciplinary work in our region.

(7-A) **The Institute for Social Science Research (ISSR)** at the UA is an interdisciplinary organization that promotes and conducts research in the social sciences. Its current Director is Dr. Debra McCallum, an ICRC Senior Scientist and Director of the ICRC's proposed Research Services Support Unit. Dr. John Bolland, the ISSR's former Director, is an ICRC Senior Scientist and is the PI of our current youth violence proposal, *Preventing Youth Violence in Inner-City Neighborhoods*. The ISSR offers statistical analysis consulting, computer packages, social research methods assistance, short courses on statistical and methodological procedures, and access to the Social Science Data Archive and to the Capstone Poll.

(7-B) **The Capstone Poll**, part of the UA's ISSR, provides a variety of services including sampling design, questionnaire construction, interviewing, data analysis, and results presentation in a formal written report. Data are collected through mail interviews, telephone interviews, and in-person interviews, including focus groups. Technical reports are tailored to meet the needs of the project and sponsor. The telephone interviewing facility is equipped with a computer-assisted telephone interviewing (CATI) system, allowing for a high degree of accuracy and rapid turn-around for data analysis. Data are collected by an experienced group of telephone interviewers. The Capstone Poll undertakes studies on a wide variety of topics including political attitudes and participation, government services, health care, corporate decisions, aging, crime and victimization, and attitudes about state and local government units. Most work of the Poll is performed on a contractual basis for government, non-profit organizations, private companies, the media, and faculty and administrators affiliated with the University of Alabama. The facilities of the Capstone Poll are also available for use in conducting computer-based experiments and simulations. The 20 semi-private booths are linked by a system of networked computers utilizing software designed for computer-aided data collection from individual subjects. The UAB-ICRC leadership hopes to make Capstone Poll services available to other ICRC's in the NCIPC network in the future. Dr. Debra McCallum, Director of the Capstone Poll, is the Director of the UAB-ICRC proposed Research Support Services Unit.

(7-C) **Institute for Communications Research (ICR)** at UA is a premier center in the country for conducting basic and applied communication research. At the ICR, leading communication researchers work with state-of-the-art equipment for investigating and evaluating a wide range of communication behavior. One area of specialization for the ICR is evaluation research, both formative and summative. Typically, the combination of

approaches includes quantitative and qualitative assessments, as well as laboratory and field methodologies. Dr. Nancy Rhodes, co-investigator of the ICRC's proposed project, *Behavioral Study to Reduce Youth DUI & Risky Driving*, is a Research Scientist with the ICR and an ICRC Associate Scientist.

(7-D) **University Transportation Center for Alabama (UTCA)** is located on the campus of each of the University of Alabama System Institutions. The relationship between the ICRC/SCIB and the UTCA is an important example of an intrastate, extramural linkage. Dr. Dan Turner, the Director and PI of the UTCA, is a long-time ICRC faculty member. The UTCA conducts transportation education, research, and technology transfer activities involving faculty members and students from The University of Alabama, The University of Alabama at Birmingham, and The University of Alabama in Huntsville (UA, UAB and UAH). The mission of the Center is to advance technology and expertise in the multiple disciplines that comprise transportation through the mechanisms of education, research, and technology transfer while serving as a university-based center of excellence.

(8) **Alabama Department of Public Health (ADPH)** has a successful, productive, long-term relationship with the UAB-ICRC. In fact, establishment of the UAB-ICRC stimulated ADPH leadership to establish the ADPH's Injury Prevention Division. Today, that Division endeavors to reduce death and disability from intentional and unintentional injury through coordination and implementation of health promotion and education programs and special events. The Injury Prevention Division is composed of two branches: The Injury Education Branch and The Injury Surveillance Branch.

The **Injury Education Branch** oversees the CDC-funded "Alabama Smoke Alarm Initiative", discussed previously in this proposal, that ensure that areas in Alabama with high fire fatality rates have access to home smoke alarms and receive information regarding fire prevention, smoke alarm installation and maintenance, and home evacuation plans. The **Injury Surveillance Branch** oversees the Alabama Trauma Registry and the Alabama State Capacity Building Injury Surveillance Program. The Alabama Trauma Registry, discussed previously, collects injury data from all state acute care facilities. The Alabama State Capacity Building Injury Surveillance Program seeks to reduce the intentional and unintentional injuries in the state by increasing the state's capacity for injury surveillance. The effort is steered by an Injury Advisory Board on which Dr. Fine serves.

(9) **Alabama Department of Rehabilitation Services (ADRS)** is the primary state agency that provides rehabilitation services to the disabled and has been recognized nationally as a model for state rehabilitation agencies. Mr. Steve Shivers, Director of the ADRS, is a member of the ICRC's External Advisory Committee.

The **Impaired Driver's Trust Fund (IDTF)** was created by the Alabama legislature in 1992, and has since evolved into a major advocacy and service-delivery mechanism for Alabamians who suffered a SCI or TBI. A state law passed in 1993, increased the punishment for DUI violations by an additional \$100 fine. The extra money goes directly

into the Alabama IDTF where it helps cover the cost of post-acute medical care, rehabilitation therapies, medications, attendant care, home accessibility modifications, and equipment necessary for activities of daily living for Alabama residents who could not afford these goods and services on their own. Although many people suffering from brain and spinal cord injuries already benefit from extensive assistance provided by the Alabama Department of Rehabilitation Services, gaps in service nonetheless exist. The IDTF tries to correct the disparity by expanding services to the severely disabled. These avenues include providing computers, specialized communication equipment, and other devices that help disabled Alabamians function better in society. Dr. Fine was one of three authors of the enabling legislation. Since its inception, Alabama governors have appointed an advisory board to oversee disbursements of the trust fund, investigate needs, and report their findings to the state legislature. Dr. Fine has a permanent position on this board and has served on it since its inception.

(10) **Alabama Head Injury Foundation (AHIF)** was established in 1983, to increase public awareness of TBI and to stimulate the development of supportive services. Today, the AHIF is among the largest state brain injury associations in the nation with model programs and statewide services. The ICRC has had an ongoing relationship with the AHIF since being designated, by CDC, as a “Corresponding ICRC” (non-funded) in 1986. This relationship has continued and flourished over the years. Dr. Fine has worked closely with the AHIF’s Executive Director, Mr. Charles Priest, on a vast number of important projects the latest of which was on a grant application to the Alabama Disabilities Council for funding to stimulate increased community volunteerism and housing renovations for Alabamians with disabilities.

(11) **Southeastern Regional Injury Control Network (SERICN)** is the nation’s oldest injury control network, which brings together public health departments from Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee to support each state’s public health initiatives, provide training sessions and information exchange, and facilitate development of statewide and interstate injury control programs. Many other volunteer state and federal agencies contribute to as well as participate in SERICN activities. These include The University of North Carolina Injury Prevention Research Center, the National Center for Injury Prevention and Control, the National Highway Traffic Safety Administration, the Children’s Safety Network, the Consumer Product Safety Commission, the Kentucky Injury Prevention Research Center, and the Maternal and Child Health Bureau. A decade ago, no network like this existed and most states in the Southeast worked independently on injury prevention and control. This situation was remedied in 1991 by SERICN’s creation. SERICN’s current Chairman is UAB-ICRC’s Katherine Terry, MPH. UAB-ICRC helps foster interagency collaboration and communication for SERICN by underwriting travel expenses.