Faculty & Topics
Marine Biological Laboratory
Woods Hole, MA

Alkon, Daniel
National Institutes of Health
"Memory"

Andersen, Bruce
Idaho Neurological Institute
"Squid Lab and Microscopy Techniques"

Awad, Issam
University of Colorado
"Philosophy of Science and Scientific Method"

Bartolomei, Juan*
Yale University
"The Olfactory Bulb as a Model Neural System"

Bernstein, Kerry
IBM Corporation
"The Microprocessor Chip's Brain Metaphor"

Bracken, Michael*
Yale University
"Evidence Based Neurosurgery"

D'Amore, Patricia
Schepens Eye Institute
"Angiogenesis and Neoplasia"

Dempsey Robert
University of Wisconsin
"Academic Careers and Tracks"

Edgerton, Reggie
University of California, Los Angeles
"Repetitive Patterned Exercise Therapy"

Fallon, Justin
Brown University
"Synapse Formation and Plasticity"

Friedlander, Robert
Brigham and Women's Hospital
Children's Hospital
"Programmed Cell Death"
"Introduction to Molecular Genetics"

Galbraith, Jim
National Institutes of Health
"History of the Squid Lab and MBL"

Hallett, Mark*
National Institutes of Health
SPECIAL LECTURE
"Cortical Reorganization in Humans"

Gunel, Murat
Yale University
"Signaling Pathways and Neural Cell Fate"

Loftus, Chris
University of Oklahoma
"Hypothermia"

MacDonald, R. Loch*
University of Chicago Medical Center
"Stem Cells as Therapeutic Agents"

McDonald, John W.
Washington University School of Medicine
"Stem Cells as Therapeutic Agents"

Oldfield, Edward
National Institutes of Health
"Convection Delivery to the Brain"

Oyesiku, Nelson
Emory University
"Molecular Biology of Pituitary Adenomas"

Schwob, James
Tufts University School of Medicine
"Neural Regeneration"

Silver, Jerry
Case Western Reserve University
"Glial Barriers and Scarring"

Tyler, Kenneth*
University of Colorado
"Viral Infections and the CNS"

Walker, Michael
National Institutes of Health
"Project Design and Grantsmanship"

** New RUNN Faculty*

http://www.societyns.org

ANNUAL REPORT

Splendid Science *in a* Unique Setting

Research Update in Neuroscience for Neurosurgeons (RUNN)

October 20-27 2001

Sponsored by
The Society of Neurological Surgeons

Course Director:
Issam Awad

Co-Directors:
Charles Hodge, Edward Oldfield, Allan Friedman, Robert Dempsey, and Bruce Andersen

Course Coordinator:
Catherine Awad

Mission Statement

The Mission of the course Research Update in Neuroscience for Neurosurgeons (RUNN) is to provide an introduction to and update of the latest concepts, hypotheses and methods of neurobiology and neuroscience relevant to neurological surgery. These are presented by accomplished neuroscientists in an atmosphere emphasizing scientific rigor, highlighting models of career development for neurosurgeon-scientists, and illustrating potential future neurosurgical applications. A milieu of total immersion in scientific discourse is designed to foster creative discussions among neurosurgical trainees and faculty.

Historical Background and Setting

The RUNN course was the brainchild of Henry Schmidek, formerly of Harvard University and the University of Vermont. The course was conceived in response to the anticipated expansion of neurosciences, which he predicted in the early 1980's. The course was to combat what he perceived as potential illiteracy in basic neurobiology that he feared would weaken the specialty of neurosurgery.

As so many neuroscientists from New England, Dr. Schmidek was very familiar with the Marine Biological Laboratory (MBL) at Woods Hole, Massachusetts. Established in 1888 as a non-profit institution devoted to research and education in basic biology, the MBL has been called "the uniquely national center for biology in this country" (Lewis Thomas, The Lives of a Cell). Scientists and students throughout the world come to MBL to conduct research, teach, study and collaborate. They often use the diverse and abundant organisms found in surrounding waters as model systems. Here research ships leave everyday to study the pristine waters around Martha's Vineyard sound and to collect and maintain more than 200 species of marine life. There are 230,000 square feet of research space, and a splendid library with an extraordinary repository of books and journals and incredible electronic connectivity to everything biological. It is here that the giant squid axon was (and continues to be) so closely studied unfolding the splendid story of molecular mechanisms of neural function. There are incredible microscopy facilities, numerous amphitheaters and teaching facilities, a quintessential scientific community in true life and work, and a magnificent setting for creativity and scholarly productivity. And there is Swope Hall, a simple dormitory sleepily straddling a quaint harbor, with a friendly staff that knows how to host students and scholars. It is all in Woods Hole, that lovely little spot and ideal gateway, along the magnificent coast of Cape Cod and nearby islands. With miles of bicycle trails and nearby ferries, the only competition to diligent scholarship at Woods Hole is the inspiring call of nature.

It is here that Henry Schmidek cast his RUNN course, and lobbied other residency program directors to send their trainees once a year. By the mid-1980's it was an established offering for two weeks each fall, immersing neurosurgery residents from New Orleans to Saint Louis, from Minnesota to Maryland, and from San Francisco to New York city. The faculty included scientists from the MBL, demonstrating microscopy and dissection and scientists from New England universities who would drive to MBL for one or two days to participate in RUNN. There would also be neurosurgery's rising academic stars as role models, and wiser icons telling their tales of successes and challenges in the laboratory.

There was nothing like it in neurosurgical education, and there still is not. The founding mission of the RUNN course remains relevant today, and its culture and milieu remain as appealing. This crown jewel of American neurosurgical education was adopted in the late 1980's by the American Association of Neurological Surgeons (AANS) and later by the Joint Committee on Education of the AANS and the Congress of Neurological Surgeons (CNS). This endorsement and administrative oversight by organized neurosurgery heralded an era of expansion and uninterrupted success under the Directorship of Charles Hodge, of Syracuse, New York, with his lovely wife Cathy shepherding the Course as its coordinator. In the mid 1990's Dr. Hodge became co-Director, passing the helm of Directorship to Cordell Gross, of Burlington, Vermont. In what has become a course tradition, Linda Gross served as Course Coordinator.

During this period, Charlie and Cordell cultivated a core of devoted faculty from the MBL, Syracuse, Vermont, Harvard, Brown, the National Institutes of Health (NIH), and other institutions who would participate on a regular basis as faculty. Many still receive the highest ratings from RUNN course attendees, and return again. Other RUNN attendees eventually became academic stars, and later leaders in neurosurgery and have become dedicated faculty. A requirement for faculty participation remains-- that the individual be an active and accomplished scientist, speaking on topics he/she actively investigates, and that he/she be an effective speaker. Only those who are highly rated would be invited again. Many would dazzle and inspire casting truly unforgettable lectures or discussions. The days would be filled with lectures, unhurried, with plenty of time for discussion. There would be long blocks of time for reading in the library, or for creative and vivid discussions with beer, wine and munchies late into the night. Friendships would be forged among attendees, and research ideas and even an occasional scholarly career would be hatched. All attendees stay at the dorm at Swope Hall, where the legendary cafeteria is like no other, and the views from each simple bedroom (many shared by two residents) as memorable.

Because of untimely illness in 1998 Dr. Gross asked to step down from the Directorship of the RUNN Course, which he had grown to love so much. The opportunity of change of leadership allowed a re-examination and re-commitment to the Mission and core values of the RUNN Course. The AANS and CNS asked the Society of Neurological Surgeons (SNS) to assume sponsorship and oversight of the course. Established in 1920 the SNS is known in neurosurgical lore as the "Senior Society" or organization of North American residency Program Directors. The SNS would insure Program Directors' continued commitment to this unique educational offering, and ensure residents' continued participation.

RUNN Course Leadership

Since 1999, the RUNN Course has been entrusted to the leadership of Course Director Issam A. Awad (of the University of Colorado), and Co-Directors Charles Hodge (of SUNY at Syracuse), Edward Oldfield (of the National Institutes of Health), Allan Friedman (of Duke University), Robert Dempsey (of the University of Wisconsin), and Bruce Andersen (of the Idaho Neurological Institute). Dr. Andersen works closely with Jim Galbraith and Paul Gallant (both of the National Institutes of Health) on the squid lab and microscopy workshop. Countless organizational, administrative and accounting tasks are carried out by Course Coordinator, Catherine Awad, who works throughout the year to insure RUNN is executed flawlessly.

The 2001 RUNN Course Curriculum: Tradition and Innovation

The founding mission and core values of the RUNN Course remained unchanged for this year's offering in 2001, and the SNS Executive Committee (representing North American Residency Program Directors) rearticulated its commitment to the course and its leadership.

In response to recent course evaluations and discussions with Program Directors and residents, the course was shortened in 1999 from two weeks to one full week, with travel days on both weekends, and this format which was very popular last year will be maintained. Length of individual lectures remains unchanged, including evening sessions. Curriculum content has been reshaped to include lectures covering the spectrum of molecular, cellular and systems neuroscience. These include coverage of topics on molecular genetics, signaling and receptors, stem cells, cell death, regeneration, oncogenesis, glial barriers, vascular tone and phenotype, chaos theory, cognitive information science, circuit modeling, and higher cortical function. There are focused tours of the MBL laboratories and the very popular microscopy seminar with hands-on dissection of squid giant axon (challenging the dexterity of the most agile young neurosurgeons!). There were discussions on academic career development, grantsmanship, history and philosophy of science and the scientific method, and history of the MBL. And there were the traditional opening get-acquainted reception and Course Orientation, and the farewell Clambake and certificate ceremony.

The 2001 Special Lecture was delivered by Mark Hallett, Chief of the Neurology Branch at the National Institute of Neurological Disorders and Stroke at the NIH. He discussed cortical organization and the powerful tools of functional imaging in the study of brain plasticity. Dr. Hallett spent time with the attendees discussing the NIH and academic career tracks for neurologists and neurosurgeons. Dr. Michael Walker, also of the NIH, joined us again this year with his unique lifelong perspective of neurosurgical participation in NIH programs. He reviewed the countless programs and grants available to young investigators.

The collegial atmosphere at Swope Hall remained unchanged, as were the memorable late night sessions with munchies and beer and wine… We preserved several blocks of free time, and the extraordinary one on one interaction with faculty and among attendees. Each attendee received a complementary copy of the 1,600 page textbook Fundamentals of NEUROSCIENCE, edited by Zigmond, Bloom, Landis, Roberts and Squire (Academic Press 1999), a magnificent reference to topics covered in the lectures, and an outstanding source of suggested reading.

A Splendid Cast of Faculty

The faculty and topics (see list) represented a virtual who's who of American neuroscience. There were 23 faculty, representing an extraordinary student/faculty ratio of 2.6/1.0 (excluding course co-directors who did not lecture). Attendees were mesmerized by the dynamic speakers and a true realization of the splendid explosion of knowledge and possibilities. Many discussed personal choices in research mentorship and career direction.

Many faculty members had participated in the RUNN Course for several years, and all promised to come again if invited. The Course evaluations included countless constructive suggestions for next year. Individual faculty mean evaluation scores ranged 1.2 to 2.2 (scale 1-5, 1 best), with more than half scoring better than 2.0 (good), and none averaging a score of 3.0 (average) or worse.

An Enthusiastic Cast of Attendees

There were 59 attendees from 48 Programs (see list) with a balanced distribution among all regions of the United States and Canada. This represents an 11% increase in registered attendees as compared to 2000. We will work hard until we achieve representation of at least one participant from each North American Program. The future of American neurosurgery depends on the literacy and engagement of the next generation of neurosurgeons in the possibilities of neurosurgery. The RUNN course is a catalyst towards that end.

Course Report by Rudolph Schrot, MD, Resident Attendee

University of California-Davis

Sixty-four neurosurgery residents lived in Woods Hole, Massachusetts for one week. Trainees from throughout North America traded their familiar hospital or laboratory surroundings for the lecture hall, their comfortable accommodations for a college-style dormitory, and their bustling urban confines for a quaint New England fishing village. Woods Hole, a tiny otherwise unassuming Cape Cod village, is haunted by the ghosts of Nobel laureates. It is home to the famous Marine Biological Laboratory (MBL); the Woods Hole Oceanographic Institution, the National Marine Fisheries Service, the Woods Hole Research Center, and the Sea Education Association. Woods Hole is also home to the annual Review and Update in Neuroscience for Neurosurgeons (RUNN), celebrating its 20th annual session at the MBL from October 20th through 27th.

The 2001 RUNN course participants feasted on a smorgasbord of topics that ran the gamut of neuroscience. In a score or more 90-minute lectures, top neuroscientists passionately shared their investigative fields: angiogenesis, apoptosis, signaling pathways and cell fate, cortical plasticity, convection delivery, evidence-based medicine, glial barriers and scarring, the history of science, hypothermia, memory, model neural systems, molecular biology of pituitary adenomas, microprocessor design, molecular genetics, neuroregeneration, neurotransplantation, repetitive patterned exercise therapy, stem cells, synapse formation, and viral infections of the CNS. Attendees especially enjoyed practical aspects of the Course, such as the lecture "Project Design and Grantsmanship" by Dr. Michael Walker, recently retired director of the NIH NINDS Division of Stroke, Trauma, and Neurodegenerative Disorders. Freed from mundane distractions, participants reflected not only on the course material presented, but also on their own career development as well.

Even amid the grueling lecture schedule, attendees found a free afternoon for excursion to Martha's Vineyard or Boston. And thanks to an ingenious cadre of neurosurgery residents, the PowerPoint projector and PA system by day became a full screen movie theater with booming sound by night.

Dr. Issam Awad, Ogsbury-Kindt Professor and Chairman of Neurosurgery at the University of Colorado and RUNN Course Director, orchestrate the Course together with his wife Cathy and a team of Co-Directors. Setting a pace of informality and congeniality, Dr. Awad explains the philosophy of the Course: "It is not a board review… the real objective is to help you explore your own research involvement." The RUNN Course is administered under the auspices of the Society of Neurological Surgeons. For further information, go to the web site at **http://www.societyns.org**.

Generous Educational Grants

We acknowledge generous educational grants in support of the 2001 RUNN Course by Paugh Surgical, Allegiance V. Mueller, Medtronic, Zeiss, Anspach, and Mizuho. These contributed to subsidizing general operating costs, faculty travel, honoraria, and the purchase of a reference textbook for each participant. Idaho Neurological Institute and Allegiance V. Mueller donated microsurgical instruments.

Toward RUNN 2002 and Beyond!

We have finalized space contract with the MBL for the years 2002 through 2009. The RUNN 2002 will take place from October 27-November 3, 2002. The SNS and the Course Co-Directors and Coordinator are committed to maintaining the best of the RUNN Course, while continuing to strive to enhance curriculum content and value to each registrant. We continue to call on Residency Program Directors to support this unique gem of North American Neurosurgical Education, by providing their residents the opportunity of exposure to, and update on the best of neurobiology. We hope that future courses will also appeal to fellows and young faculty at formative states of their academic careers, and to practicing neurosurgeons who want to get reacquainted with the future of neurosurgery!

RUNN Web Site
http://www.societyns.org
RUNN 2002
October 27-November 3

Future Course Dates Marine Biology Laboratory Woods Hole, MA

October 27-November 3, 2002
October 26-November 2, 2003
October 30-November 6, 2004
October 23-30, 2005
October 21-28, 2006
October 20-27, 2007
October 18-25, 2008
October 17-24, 2009

RUNN Course Attendees October 20-27, 2001

Participant	Institution
Ryan Jewell, MD	University of Vermont
Anthony Harris, MD	University of Pittsburgh
Murali Raju, MD	SUNY Syracuse
Simon Salerno, MD	Albany Medical Center
Lynda Yang, MD	University of Michigan
Luis Rodriguez, MD	University of Michigan
Samir Lapsiwala, MD	University of Wisconsin
John O'Toole	Columbia University
Ty J. Olson, MD	Columbia University
Alfred T. Ogden, MD	Columbia University
J Mocco, MD	Columbia University
Stephen Yip, MD	University of British Columbia
Mark Bryniarski, MD	University of Kansas
Jeremy Denning, MD	Baylor College of Medicine
Hemant Serin, MD	University of Colorado
Sean Markey, MD	University of Colorado
Jeffrey M. Tomlin, MD	University of Rochester
Brian Bunch, MD	Medical College of Wisconsin
Lloyd Mobley, MD	University of Nebraska Medical Center
Ted Flotte, MD	University of Mississippi
Parag Patil, MD	Duke University
Ratan Bhardwaj, MD	University of Toronto
Simone Betchen, MD	Mt. Sinai Medical Center
Charles E. Weaver, MD	Brown University
Christopher Aho, MD	Oregon Health Sciences Center
Samuel Chul Kim, MD	New England Medical Center
Farrokh Farrohi, MD	University of Texas, San Antonio
Chad Morgan, MD	University of Cincinnati
David Yeh, MD	University of Cincinnati
Anand V. Germanwala, MD	University of Pittsburgh
Matthew Wetzel, MD	University of Pittsburgh
Robert Dodd, MD	Stanford University
Scott Purvines, MD	Indiana University
Marilyn Gates, MD	National Naval Medical Center
Rudolph Schrot, MD	UC Davis
Hunaldo Villalobes, MD	University of Buffalo
Niteen Andalkar, MD	University of Buffalo
Shaun O'Leary, MD	Henry Ford Hospital
Rebekah C. Austin, MD	Wake Forest University
Hitham H. Khalil, MD	Pennsylvania State University
Matthew Wilson, MD	University of Tennessee
Loi Phuong, MD	Mayo Clinic
Juan Ortega, MD	Allegheny general
Judy Pilitsis, MD	Wayne State University
Ali Chahlavi, MD	Cleveland Clinic Foundation
Bimal Rami, MD	University of Maryland
Amit Banerjee, MD	University of Tennessee
Paul House, MD	University of Utah
David Lundin, MD	University of Washington
Kevin Kelly, MD	Rush Presbyterian-St. Luke's
Patrick Cooper, MD	National Capital Consortium
Jonas Gopez, MD	Temple University
Michael Stoffman, MD	Yale University
Ali Bydon, MD	Henry Ford Hospital
Anthony Hadden, MD	Loma Linda University
Kevin Waldron, MD	University of Illinois at Peoria
Mark Shaya, MD	Baylor College of Medicine
Nirav Shah, MD	University of Maryland
Cheng Tao, MD	Medical College of Georgia