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SYNAPSE, Symposium for Young Neuroscientists and Professors of the Southeast: A One-day, Regional Neuroscience Meeting Focusing on Undergraduate Research

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The Symposium for Young Neuroscientists and Professors of the Southeast (SYNAPSE; synapse.cofc.edu) was designed to encourage contacts among faculty and students interested in neuroscience. Since its inception in 2003, the SYNAPSE conference has consistently drawn faculty and undergraduate interest from the region. This unique meeting provides undergraduates with a valuable opportunity for neuroscience education; students interact with noted neuroscience faculty, present research results, obtain feedback from neuroscientists at other institutions, and form connections with other neuroscientists in the region. Additionally, SYNAPSE allows undergraduate students and faculty to attend workshops and panel

discussions about issues related to professional skills and career options. The SYNAPSE conference currently travels among host institutions in the southeastern United States in two-year cycles. This article briefly describes the genesis of SYNAPSE and reviews SYNAPSE conferences from 2006 through 2010. The goal of this paper is to highlight key issues organizers have experienced launching, sustaining, and hosting this regional undergraduate neuroscience conference as well as assist faculty to develop similar conferences.

Key words: undergraduate education; neuroscience; conferences

The critical importance of undergraduate research as a pivotal experience in the career development of the next generation of scientists has been well documented in a variety of contexts (Pascarella and Staver, 1985; Nagda et al., 1998; Maton et al., 2000; Landrum and Nelsen, 2002; Page et al., 2004; Seymour et al., 2004; Kierniesky, 2005; Levis-Fitzgerald, et al., 2005; Perlman and McCann, 2005; Summers and Hrabowski III, 2006; Hunter et al., 2007; Ishiyama, 2007; Cooley et al. 2008; Wayment and Dickson, 2008; Lei and Chuang, 2009; Jones et al., 2010; Lopatto, 2010). An undeniably important component of a rich undergraduate research experience is the opportunity to present research to scientists in the field at a conference (Carsrud et al., 1984). In recent years, increasing numbers of undergraduate students have presented their research results at the Society for Neuroscience (SfN) annual meeting. Importantly, the Faculty for Undergraduate Neuroscience (FUN) encourages undergraduate attendance at the SfN meeting in two important ways. FUN sponsors competitive travel awards to undergraduates who have authored SfN abstracts. In addition, FUN hosts a poster session exclusively for undergraduates at the SfN meeting, many of whom were not able to submit abstracts to SfN, but have produced research results and benefit from attending the SfN annual meeting (Hardwick et al., 2006).

Despite these important initiatives by FUN and SfN for undergraduate researchers, presenting an abstract at SfN's annual meeting and/or FUN's poster session at SfN remains far out of reach for many undergraduates. Travel

to such an international meeting is costly both financially and in terms of time. Moreover, SfN's spring abstract deadline, approximately five months before the annual fall meeting, is frequently incompatible with undergraduate research schedules, where results are often produced during summers, when undergraduates can devote full-time attention to their research.

Many regional and state scientific societies have long hosted annual meetings that facilitate undergraduate participation. Abstracts for these meetings are typically due only a few weeks in advance. The one-day meetings are often held on Saturdays to minimize interference with class attendance. These meetings are geared to a regional audience, requiring typically no more than a few hours travel by car. Such regional scientific meetings usually welcome all natural and physical scientific disciplines, and some extend to the social sciences, humanities, and creative disciplines. While exceptionally broad meetings that cover many disciplines provide convenient and affordable opportunities for students to present, a significant drawback is that a student may be the only person in the discipline or sub-discipline attending the meeting. Thus, undergraduates rarely experience opportunities to get feedback from an audience of peers and faculty members with knowledge within their field.

SYNAPTOGENESIS

SYNAPSE was conceived in 2002 as a one-day, regional, undergraduate neuroscience conference to provide the convenience and affordability of regional scientific

meetings with the focus of national or international disciplinary meetings (Epple, 1997). The development of SYNAPSE was initially discussed at the FUN / Project Kaleidoscope (PKAL) conference held at Trinity College in summer 2002. The creation of a regional network of undergraduate neuroscience meetings was an idea that developed from discussions by meeting organizers Julio Ramirez (Davidson College), Sarah Raskin (Trinity College), and Jeanne Narum (PKAL). Cheryl Frye, also in attendance at this meeting, had initiated and developed the successful NEURON conference (North East Undergraduate Research Organization in Neuroscience; <http://www.quinnipiac.edu/neuron.xml>) for undergraduate neuroscientists in the northeastern United States in the mid-1990's (Frye and Edinger, 2004; Goyette et al., 2007, McLaughlin et al., 2009). Cheryl's presentation at this FUN/PKAL meeting set the stage for the development of discussions about SYNAPSE (Julio Ramirez, personal communication).

The original SYNAPSE organizing committee included faculty from James Madison University (Cheryl Talley, Corey Cleland, and Sherry Seridikoff), Mary Baldwin College (Louise Freeman), Furman University (Judy Grisell), Washington College (Michael Kerchner), and Davidson College (Barbara Lom) (Talley, 2003). Initially held at James Madison University in 2003, the first SYNAPSE meeting in May 2003 attracted 94 participants from 13 institutions in five states. It featured 39 posters presented by undergraduate research students (Talley, 2003; Talley et al., 2003). In recent years, the NEURON and SYNAPSE models have also inspired two additional undergraduate, neuroscience meetings in distinct Midwestern regions: MIDBRAINS (www.macalester.edu/midbrainconference/; Dickinson et al., 2010) in the upper Midwest and mGLuRs in the eastern Midwest (<https://sites.google.com/a/owu.edu/mglurs/>; Yates and Leupen, 2010). The emergence of four regional undergraduate neuroscience meetings suggests a demand for regional neuroscience meetings geared to undergraduate participants.

SUSTAINING SYNAPSE

While the inaugural SYNAPSE conference was well attended and well received in 2003, low registration numbers for the 2004 SYNAPSE conference forced its cancellation, as well as a brief hiatus in 2005. At the PKAL/FUN workshop entitled "Undergraduate Neuroscience Education: Leadership, Laboratories, and a Curriculum for the 21st Century" held at Macalester College in 2005, several of the original SYNAPSE organizers met with additional faculty members from the region, developing a plan to revive SYNAPSE. Faculty members at Davidson College volunteered to host the conference for 2006 with support from Davidson's Howard Hughes Medical Institute (HHMI) funding for a keynote speaker. The second SYNAPSE meeting in 2006 boasted even stronger numbers than the first, attracting 114 participants representing 18 institutions from seven states, with undergraduates presenting 43 posters (Payne et al., 2006).

The third SYNAPSE conference in 2007, also held at Davidson College, attracted 126 attendees (Figure 1).

In 2008 and 2009, the College of Charleston hosted SYNAPSE, drawing 125 and 137 participants respectively. Wake Forest University hosted SYNAPSE 2010 with 144 registrants and will host SYNAPSE again in 2011 (Korey et al., 2010). This two-year cycle allows the hosting institution to learn what works well for their specific environment during the first year. By comparison, the second year requires much less organizational effort, thus allowing the host to fine tune the conference administration. Transfer of responsibility for hosting the next conference after this two-year cycle has, to this point, been informal. Importantly, each host passes on their experiences to the next host, allowing the subsequent conferences to learn from prior experiences, improving the quality and sophistication of the SYNAPSE's meeting.

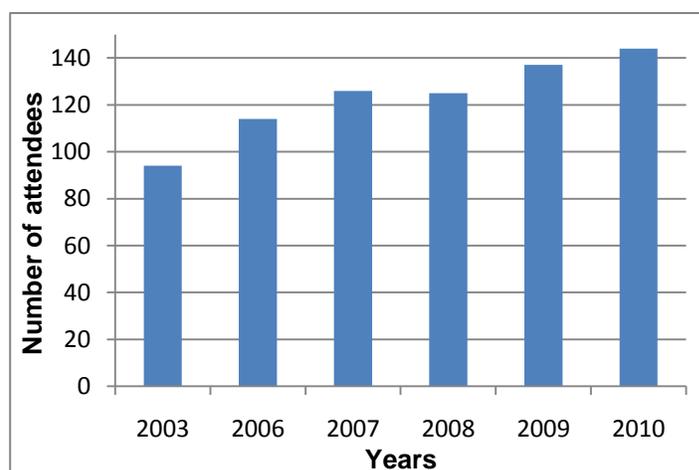


Figure 1. The number of attendees at SYNAPSE (blue bars) from 2003 and 2006-2010.

SYNAPSE WEBSITE

One of the important features for the revival of SYNAPSE in 2006 was the development of a conference website that remained at a consistent address on the web regardless of the hosting rotation (synapse.cofc.edu; Figure 2). The website was designed to accomplish several specific functions. The site conveys information about the SYNAPSE meeting including the vision and mission of SYNAPSE, the program for the upcoming conference, as well as accommodations, directions, etc. SYNAPSE's website also allows faculty and students to register for the conference and submit abstracts online. Finally, documents and photographs from prior SYNAPSE meetings are archived at the website. While the SYNAPSE conference has moved among institutions, the website has been hosted at the College of Charleston since 2006. Maintaining the website in a stable location has allowed for consistency in terms of the registration and abstract submission process and ease of finding information. The website's stable location also means that new hosting institutions do not need to create websites from scratch and can focus on local logistics of hosting the conference.

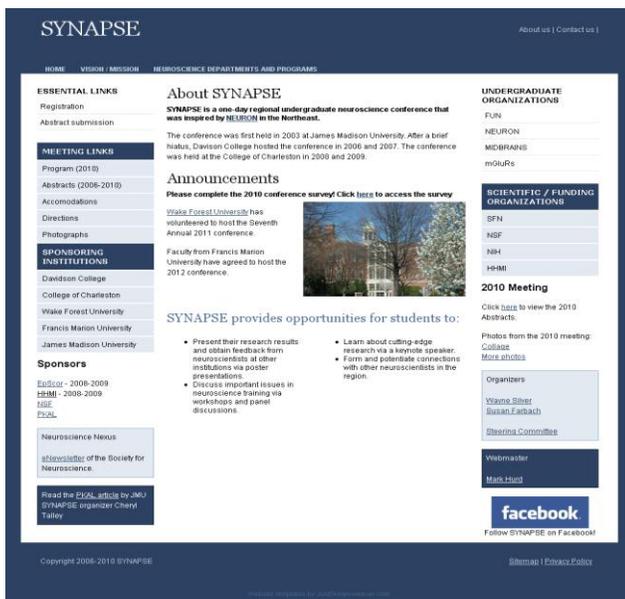


Figure 2. The 2010 SYNAPSE website serves as a consistent location for information on upcoming SYNAPSE meetings (regardless of host institution) as well as an archive of past SYNAPSE meetings. It is located at: synapse.cofc.edu.

SYNAPSE ATTENDEES

The average number of SYNAPSE attendees from 2006-2010 has been 115 ± 3 (SEM) people. Interestingly, female attendees have outnumbered males nearly two to one. In this time SYNAPSE has drawn participants and speakers from 12 states in or near the Southeast and 34 total colleges and universities (Figure 3).

HOSTING TEAM – SYNAPTIC CONTACTS

While it is most efficient for a single faculty member at the host institution to be the main contact person for the meeting, a team of faculty members and students is absolutely essential for organizing and executing the conference. It would be very difficult for a single individual to coordinate all the pre-conference arrangements such as room reservations, hotel arrangements, catering orders, printing, registration records, etc.

A team of faculty members allows the distribution of tasks and collective wisdom to make the hosting much more manageable. The assistance of a research technician and/or administrative professional is also particularly helpful in arranging the many logistics that need attention before and during the conference. Moreover, it is critical to have additional people “on deck” for the day of the conference to register, guide, and manage guests, ensuring that they know where to go and that they get to sessions on time. Undergraduates are an excellent resource for this purpose and they are often very eager to show off their institution and can add energy and creativity (e.g. a neuron drawn in chalk in the Figure 4 to direct guests along the sidewalk to the building).

Davidson College students called themselves the Synaptic Contacts in 2006, a name that subsequent host institutions have also adopted (Figures 4 & 5). At each meeting these Synaptic Contacts have been clearly identifiable by

distinctive nametags and/or t-shirts, with their role as campus ambassadors pointed out at the start of the conference.



Figure 3. SYNAPSE host institutions (red placard icon) and participating institutions (blue P symbol and yellow stars) are plotted on a map of the southeastern United States. The blue P was removed in cases where it significantly occluded the red placard icons. The six SYNAPSE meetings thus far (2003, 2006-2010) at four different institutions (James Madison University, Davidson College, College of Charleston, and Wake Forest University) have attracted participants from 34 total institutions located in 12 states. As all six SYNAPSE meetings have been held in the Carolinas and Virginia, it is not surprising that most attendees hail from colleges and universities in these states, though undergraduates and faculty have also traveled from more distant locations such as Arkansas, Indiana, and Florida to attend SYNAPSE. © 2010 Google – Map data ©2010 – Europa Technologies, Google, INEGI.



Figure 4. Davidson's 2007 SYNAPSE team of undergraduates, staff, and faculty members named themselves the Synaptic Contacts. Here they share a synaptic handshake at the conclusion of the meeting in front of a chalk neuron diagram that delineated the pathway from parking to the building where the meeting was held.



Figure 5. College of Charleston's 2008 Synaptic Contacts sporting SYNAPSE t-shirts. The host team served as ambassadors to guests visiting campus, positioning themselves throughout campus to guide guests to parking and event sites.

SYNAPSE LOGOS

Meeting logos have been designed by the hosting institutions since 2006 (Figure 6). These creative logos have served to identify the host institution as well as, in some cases, the geographic location. T-shirts, tote bags and flash drives featuring the logos have been very popular with attendees as free items included in their registration.

PUBLICIZING SYNAPSE

SYNAPSE is held in late March, typically near Brain Awareness Week (Cameron and Chudler, 2003; Friedman, 2008). The timing of the SYNAPSE conference is scheduled to occur between spring break and final exams. Given the wide variety in academic calendars and Easter weekend, it is a challenge to identify a Saturday in March or April that does not pose a conflict for all colleges and universities in the region and fits with the host institution's other commitments. The conference generally starts around 9:00 AM. The closing address generally occurs in the mid-afternoon so that guests can drive home by a reasonable hour on Saturday evening.

Each year, SYNAPSE is typically announced in the fall including details about the date and speaker(s) as well as registration prices and deadlines. In January additional details are provided for abstract submission, poster presentations, schedule, etc. These conference details are communicated using a number of methods. The conference website (synapse.cofc.edu) along with targeted e-mail to Biology, Neuroscience, and Psychology faculty members and department chairs in the region are the primary forms of communication because they are inexpensive and can be regionally directed. Additional announcements are made via FUN's electronic newsletter, at the SfN meeting, and/or SYNAPSE website.

FINANCING SYNAPSE

SYNAPSE has been supported partially by grants from the HHMI (2006, 2008), the South Carolina Experimental

Program to Stimulate Competitive Research (EPSCoR) program (2008-09), and The National Institute of Neurological Disorders and Stroke (NINDS) (2010). Institutional support from James Madison University (2003), Davidson College (2006-07), the College of Charleston (2008-09), and Wake Forest University (2010-11) has also been critical for the success of SYNAPSE. Registration fees also fund the conference. However, these registration fees are purposely held to modest amounts in order to encourage as much participation as possible. For example, 2010 registration fees for students and faculty were \$25 and \$30 respectively. Early registration was encouraged with reduced rates (less \$5).

SYNAPSE
2007

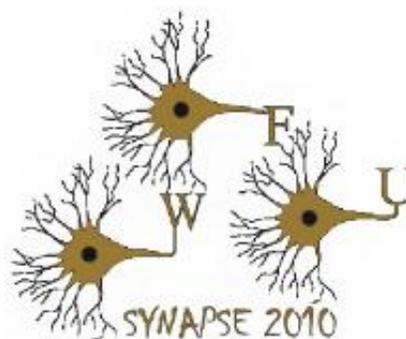
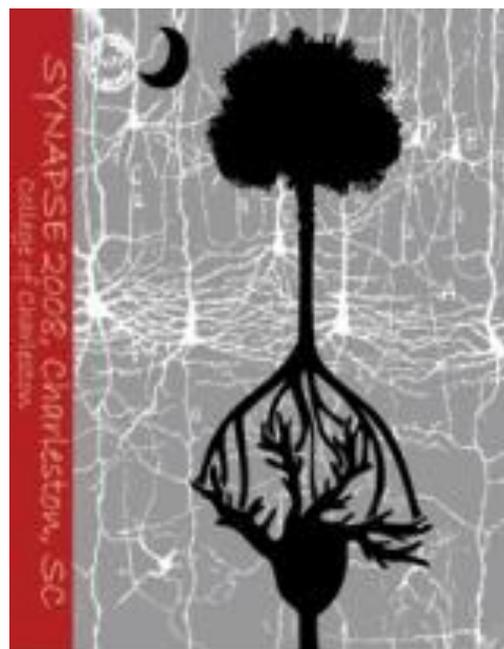


Figure 6. Examples of SYNAPSE logos from Davidson College (2007), College of Charleston (2008), and Wake Forest University (2010). Each logo was designed by a member of the host institution's team and reproduced on conference materials to provide a consistent and identifiable look.

The primary expenses for SYNAPSE conferences in the past have included printing conference materials, catering breakfasts, lunches, and snacks, renting poster boards, and/or funding the travel and honoraria of invited speakers. At the 2010 conference, WFU supplied the conference program via USB flash drives (featuring the SYNAPSE logo) in an effort to make SYNAPSE greener. Travel expenses for outside speakers as well as a modest honorarium have been common for all the conferences held thus far. In some cases speaker expenses have been supported in part by the host institution and/or held in conjunction with a complementary event. SYNAPSE speakers were each very understanding of the limited budget of this special meeting, not expecting large stipends or luxury accommodations. (Additional details on specific speakers are provided below.)

REGISTRATION

Abstract submission deadlines are set about two weeks in advance of the conference date in order to accommodate students who are actively generating data up until the meeting. Yet, it is important for the conference organizers to obtain a reasonable estimate of how many people will be attending in order to prepare materials and make arrangements. Thus, SYNAPSE has decoupled registration and abstract submission deadlines – offering discounts for early registration as well as penalties for late registration. Most attendees will register for the meeting before they submit an abstract (the inverse of the process for the SfN meeting). Some hosts have been able to accommodate on-site registrations, while others have not. The decoupling of registration and encouragement of early registration has been critical to hosting the meeting. Most registration fees have been collected by check, which has been problematic for the increasing number of undergraduates who do not use checks. In the future, an online or credit card payment system will allow all aspects of the registration process to be conducted online.

POSTER SESSIONS

SYNAPSE's primary goal is to provide a positive and useful experience for each student presenter. The central and most important foci of each SYNAPSE meeting are the poster sessions where undergraduates present their research to other neuroscientists (Figure 7). Students present their data and communicate their ideas as well as develop relationships with other students during these poster presentations. As the SYNAPSE conference has developed, morning poster sessions followed the opening keynote address. Afternoon sessions occur just before the closing address of the conference. Each poster session is typically one to two hours in duration. Some institutions have access to freestanding poster boards for display, while others have creatively taken advantage of hallway bulletin boards and open spaces to organize the poster sessions. In general, half the students are slated to present in each session so that presenters are able to visit other student posters. In order to ensure traffic at each poster as well as the opportunity for each poster presenter to interact with neuroscientists from multiple institutions the

organizers quietly assign each registered faculty member to visit a few specific posters during each poster session. Assignments are made by discretely putting a slip of paper or simple spreadsheet into the registration folder of each faculty member attending. This aspect has been an important feature of making SYNAPSE a friendly and developmental experience for student presenters. For many undergraduates, SYNAPSE represents the first opportunity for them to present their research away from their home institution.



Figure 7. Faculty and students at the SYNAPSE 2010 poster session hosted by Wake Forest University. Poster presentations by undergraduates are the central feature of SYNAPSE meetings, providing students with opportunities to practice communicating their research to an audience of neuroscientists who can provide useful feedback.

TRAVEL AWARDS & ORAL PRESENTATIONS

In 2008, SYNAPSE organizers began providing opportunities for a few (4-5) students to present their research orally to the full audience. Students interested in the 15-minute oral presentation option must submit abstracts for consideration in early February, several weeks in advance of the abstract deadline for poster presentation. Faculty members from the host institution typically gather to judge and rank order these abstracts in mid-February. While the strength of the research has been the primary consideration for selecting abstracts for talks, variety in topic, lab, and institution are also considered. Students selected to give oral presentations receive a travel award to defray their costs associated with attending the conference. SYNAPSE meetings at the College of Charleston and Wake Forest University have been able to provide travel awards of approximately \$200, which usually covers a student's expenses in full.

KEYNOTE AND CLOSING ADDRESSES

All SYNAPSE conferences have been fortunate to feature leading researchers from the neuroscience community presenting keynote addresses. Speakers, affiliations and address titles are summarized in Table 1.

These speakers have been selected because they are

well-regarded neuroscientists that strongly support undergraduate participation in neuroscience. They have been uniformly enthusiastic about the prospect of interacting with undergraduate students from the moment the invitation is extended through the day of the SYNAPSE meeting. Student poster presenters are particularly honored and excited when such an accomplished researcher visits their poster, an experience that would be nearly impossible at a large meeting such as SfN. Several keynote speakers have been funded by HHMI specifically for their innovations in undergraduate science education, making this group of elite investigators particularly appropriate for this conference. SYNAPSE speakers have

Year	Speaker	Keynote Address
2006	HHMI Professor, Dr. Ron Hoy, Cornell University	Hearing on the Fly: Basic to Translational Research in Auditory Neuroscience
2007	HHMI Professor, Dr. Darcy Kelley, Columbia University	The Vocal Synapse: Perception and Production
2008	HHMI Professor, Dr. Diane O'Dowd, University of California, Irvine	Neurobiology in <i>Drosophila</i> : Small Brain, Large Potential
2009	Dr. Marcy MacDonald, Harvard University & Massachusetts General Hospital	Huntington's Disease: Genetics and Neuroscience
2010	Dr. Linda Bartoshuk, University of Florida	Behavioral Neuroscience: Taste Psychophysics From the Laboratory to the Table

Table 1. SYNAPSE speakers, affiliations, and address titles from 2006-2010.



Figure 8. HHMI Professor Dr. Ron Hoy (Cornell University) gives the keynote address at the 2006 SYNAPSE conference at Davidson College.

been open and willing to interact with undergraduates; in fact, two have agreed to be interviewed by a student with a special interest in writing about scientists (Ruble, 2006, 2007). Again, this sort of interaction is a special hallmark of the SYNAPSE ethos of providing undergraduates with access to neuroscientists as they consider their career goals.

In addition to these key note speakers, SYNAPSE has also featured closing addresses from other distinguished researchers. These speakers are summarized in Table 2.

Year	Speaker	Keynote Address
2008	Dr. Jerome Kurent, Professor of Medicine and Neuroscience, Medical University of South Carolina (MUSC)	Neuroethics
2009	Dr. Misha Angrist, Duke Institute for Genome Sciences and Policy	Personal Genomics
2010	Dr. Sharon Letchworth, Targacept	Neuroscience Drug Development-Past, Present and Future

Table 2. SYNAPSE closing address speakers, affiliations, and address titles from 2008-2010.

PANEL DISCUSSIONS

Two SYNAPSE meetings (2007-08) included panel discussions for the benefit of undergraduate students to learn more about graduate and medical school. At the 2007 meeting, Dr. Julio Ramirez moderated a panel discussion consisting of current medical and graduate students in a variety of programs at regional institutions (Figure 9).



Figure 9. Panel discussion at SYNAPSE 2007, hosted by Davidson College. The panel included medical and graduate students in a variety of programs.

In 2008, this panel discussion format was repeated where attendees learned about admissions to graduate programs from Dean James Buggy from The Graduate School at the University of South Carolina and Karen Eippert, the Director of Pre-Professional Health Advising at the College of Charleston. Former students from the College of Charleston currently enrolled in MD and/or PhD

programs also contributed to the panel. This panel discussion was moved into a workshop based on feedback from the conference assessment.

LUNCH WORKSHOPS

Workshops have been a staple at all the SYNAPSE meetings and have typically been conducted in conjunction with lunch. Boxed lunches are provided and attendees are able to attend workshops on a variety of topics during this time. Workshop leaders are typically volunteer faculty members from the host institution and/or SYNAPSE Steering Committee. At most SYNAPSE meetings workshop sign-up is handled at check-in and each workshop is offered twice so that attendees may select two workshops of interest. Workshops at SYNAPSE meetings (Figure 10) have included important themes such as the following:

- Applying to Graduate or Medical School
- Research Fellowships for Summer Research & Graduate School
- Interviewing Techniques
- Selecting an Area of Study in Neuroscience
- Research Ethics
- Publishing in the Sciences & Career Options



Figure 10. Lunch workshop at the 2009 SYNAPSE conference hosted by the College of Charleston. These small group discussions emphasize current topics, professional skills, and career options.

Additional workshops at specific SYNAPSE meetings have taken advantage of local expertise to address topics such as the following:

- Balancing Life and Work
- Scientific Writing
- Neurons in Action
- Personal Genomics and Modern Medicine
- Taste
- Animal Rights
- Teaching Undergraduate Neuroscience in the Digital Age
- Brain Awareness Week
- How to Make a Good Looking Poster
- Confocal Microscopy

Ideas for these workshops have been generated by Steering Committee members as well as the outside speakers. The lunch workshops are designed to help students to learn more about areas of research, professional skills, ethics, current topics, teaching, and/or alternative career paths in neuroscience in small group formats.

ACCOMMODATIONS

Hotel accommodations for guests are arranged by the host institution's leadership team in the fall. These accommodations are typically reserved at a comfortable and reasonably priced hotel located near the host institution. Hotels have been very willing to reserve a block of rooms at a discount for advance registrants. Attendees are then responsible for making and confirming their own hotel reservations. Information for accommodations is included on the conference website several months in advance. The number of attendees that have required hotel accommodations has generally been about half of the total number of attendees.

PRESYNAPTIC ACTIVITIES

Several, but not all, SYNAPSE conferences have involved an informal preconference get together at various venues. James Madison University sponsored a presynaptic pizza party at the 2003 meeting. In 2006 at Davidson, students had the opportunity to watch a movie (*Awakenings*), while faculty gathered informally in the campus guesthouse as a way to strengthen regional faculty networks. At the 2009 meeting, College of Charleston faculty hosted an informal get together at a local restaurant to allow students and faculty who arrived early for the conference an opportunity to mingle. At the 2010 meeting, faculty members from Wake Forest University and Winston Salem State University (WSSU) hosted a dinner reception where WSSU faculty member Dr. Azeez Aileru gave a talk entitled, "The neurobiology of hypertension: The silent killer."

These various presynaptic meetings were designed to allow attendees to develop regional contacts that may lead to employment, graduate school opportunities, etc. However, these Friday evening activities are difficult to plan because the number of people who attend can vary dramatically. Furthermore, those attendees that do arrive on Friday evening are frequently tired and/or hungry from their travels, arriving late and/or leaving early from the planned event. Consequently, a sign-up process and/or additional fees are recommended to ensure participation in these types of optional Friday evening activities.

ASSESSMENT

Surveys of participant experiences at SYNAPSE have been an essential element since 2006. While the methods for administration of these surveys have changed over the years (from paper based instruments to electronic based surveys), the same core questions have been posed. The questions on the survey have fallen into the following general categories: general demographics, undergraduate research experience, preconference details (website,

registration process, etc.), general events (e.g. keynote and closing addresses, student travel award sessions, poster sessions), lunch workshops, general reactions to the conference, travel time to the conference, and open ended responses to provide feedback on the conference. The responses to the surveys have provided important feedback to shape future conferences. For example, workshops have been revised or eliminated based on feedback from the assessment process and attendance numbers.

The surveys also indicate that 54% of the students attending have conducted a research project. Thirty-three percent of the students plan to conduct/continue scientific research over the summer, and 28% plan to conduct/continue scientific research for course credit in future semesters. In addition, approximately half (45%) of the undergraduates that attend are thinking about applying to graduate school, 39% of the attendees are considering medical school, while 24% are considering M.D./Ph.D. programs. About 15% are thinking of working as a research technician after graduation while 13% are considering other pursuits such as law school, veterinarian training, teaching, PsyD or clinical psychology programs, investing, publishing, dental school, surgery, and forensic science. Unfortunately, we do not have follow up data on all of these students, but informal evidence suggests that a majority of these students are admitted to graduate programs or medical school.

Student comments from SYNAPSE have been very positive. For example, students indicate that SYNAPSE was "extremely well organized, everything was well thought-out and went so smoothly." "For undergrads without prior presenting experience this is excellent." Others found the conference to be a "good and relaxed first experience at poster presentations." Another student indicated that, "For undergraduate students, the information on applying to graduate school and choosing programs was absolutely invaluable."

It is also clear from these data that the majority of the attendees come from small liberal arts to mid-sized institutions. Larger research universities in the region have not typically sent undergraduates to SYNAPSE, with the notable exception of the University of South Carolina. A more targeted outreach effort early in the fall with follow up efforts near the end of the year and early in the spring to these institutions may enhance attendance from students and faculty at larger institutions.

STEERING COMMITTEE

The 2010 conference saw the formal organization of a SYNAPSE Steering Committee consisting of: Barbara Lom and Julio Ramirez (Davidson College), Mark Hurd, Chris Korey, and Elizabeth Meyer-Bernstein (College of Charleston), Wayne Silver (Wake Forest University), Kirk Dineley and Latha Malaiyandi (Francis Marion University), Leslie Sargent Jones (Appalachian State University), Sarah M. Sweitzer (University of South Carolina), and Eric Birgbauer (Winthrop University). The formation of an official SYNAPSE Steering Committee signifies collaboration, community, and commitment of faculty

members in neuroscience throughout the region to ensure that SYNAPSE meetings are well organized, attended, and supported well into the future.

FUTURE SYNAPSE MEETINGS

Wake Forest University has generously volunteered to host SYNAPSE again in 2011 and a team of faculty members from Francis Marion University in Florence, South Carolina, have agreed to host the 2012 SYNAPSE conference. Thus, in six meetings SYNAPSE has established itself as a sustainable regional conference with a strong base of supporters, participants, and traditions to provide opportunities for undergraduate neuroscientists to discuss their research with other neuroscientists.

SUMMARY

Since 2006, SYNAPSE has provided undergraduate students with a unique opportunity to develop their interests and skill sets related to neuroscience. The SYNAPSE conference allows these students to present their data in a supportive environment and interact with faculty and other students from the southeastern United States who share similar interests in neuroscience. Given the consistent participation, willing host institutions, and newly created Steering Committee, SYNAPSE is well positioned to continue to offer this important undergraduate conference for future undergraduate neuroscientists.

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