

**Neuro-Ophthalmology Virtual Education Library  
G08 LM007919 Progress Report – Year 3 (8/1/2005 – 7/31/2006)  
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June 23, 2006**

The specific aims of the Neuro-Ophthalmology Virtual Education Library (NOVEL) project have not changed. There are no studies or results to report. The project web site is: <http://library.med.utah.edu/NOVEL/>

The overall goals of the NOVEL have been met, and good progress was made this year (8/1/2005 – 7/31/2006). The collaboration between the Eccles Health Sciences Library (EHSL) and the North American Neuro-Ophthalmology Society (NANOS) has continued to be very successful. The digital library has proven very useful to the NANOS members and the expanded collections have increased their level of confidence and enthusiasm. NANOS members have provided valuable feedback, contributions, and have a multitude of suggestions for expanding and enhancing the project

Specific accomplishments this year include:

**Shirley H. Wray, MD, PhD**, is one of the primary contributors to the NOVEL project. Her collection contains more than 100 video clips of patient cases. Neuro-imaging and pathology slides have been added as supplemental resources for 6 of the major subject areas, with more to come. The video clips will be completely processed by the end of the grant period. Dr. Wray's collection is invaluable as a teaching and research asset to the Neuro-ophthalmology community. She has personally seen to the peer-review of the case video by meeting with specific experts in the field. Her metadata is comprehensive and serves as a case study for each video clip.

The **J. Lawton Smith collection** of audio lectures has been completed and peer-reviewed by selected NANOS members. This collection serves an archival function, preserving the renown lectures by one of the most famous Neuro-ophthalmology mentors in North America and in doing so, preserving the state of knowledge in the field in the 1970's. The peer reviewers primarily functioned to review the lectures and add appropriate descriptions to the metadata records.

The **David G. Cogan collection** currently holds 91 video cases. These cases have been described and added to the database with complete metadata. The Cogan collection is enormous and there is great potential for more work to be done with these resources, but this teaching collection serves as a good representation of the breadth of Dr. Cogan's work as one of the pioneers in this discipline.

The NOVEL collections have been re-evaluated and re-organized according to the recently approved **Neuro-Ophthalmology Curriculum outline**, prepared by the NANOS Curriculum Committee and published in its final form in the March issue of the Journal of Neuro-Ophthalmology (JNO). Through the process of applying the outline to the NOVEL collections, some minor but significant additions were made to the outline, providing valued input to the committee and important refinements to the outline prior to final approval. This was another example of excellent collaboration between the library and the society through the NOVEL project.

We have added the **Walsh Society meeting** as a significant collection to NOVEL this year. The Walsh Society meeting is a unique segment of the annual North American Neuro-Ophthalmology Society meeting. When inaugurated in 1969, it was a separate meeting where cases presented were of a more complex nature and required to encompass pathology and radiology components, as well as neuron-ophthalmology. In 2002, the Walsh Society joined with NANOS and the two societies now hold a single, joint conference. In 2005, we collected the PowerPoint presentations, the video captures of those presentations, and all the accompanying radiology and pathology slides. These have been digitized, described and added to our database. We have also collected the 2006 meeting materials, and after a 6 month embargo ending in September, will be processing and adding those resources to NOVEL. In addition, we have scanned and added to the database the abstracts from 1986 through 2004, which are in the form of a "question and answer." The question presents the case, the answer provides the final diagnosis. This form of Q & A is a very popular aspect of the meeting. Following the "question", member of NANOS debate and discuss the possibilities and suggest diagnoses. After the debate, they are provided with the "answer", often followed by further debate. These 800+ Q & A abstracts have been added to NOVEL with brief records in the database at this time.

The **Moran Eye Center collection** received contributions from two members of the Neuro-Ophthalmology faculty. Bradley J Katz, MD, PhD contributed two case videos to NOVEL and used the URL to the NOVEL case in publications to allow his readers to view the patients. Judith E.A. Warner, MD contributed a case presentation she presented at the Walsh Society meeting in 2000. Dr. Warner has also been instrumental in providing original abstracts for digitization and addition to NOVEL in the Walsh Society Collection (above). The Moran collection has much more material in the form of video and slides waiting for digitization, description and addition to the database.

Another very significant development in the NOVEL project this year is the voluntary contribution of a collection of **resources related to the pupil by Randy H. Kardon, MD, PhD**, Director of Neuro-Ophthalmology Service, Ophthalmology and Visual Sciences at the University of Iowa. Dr. Kardon is a well respected pupil expert and he is contributing a collection of short video clips and slides illuminating various pupil functions and reactions. The pupil is a major subject area for neuron-ophthalmology and NOVEL users would benefit enormously by acquiring this collection. Dr. Kardon is preparing a series of educational units that will be presented as PowerPoint presentations with links to the video and slides in his collection.

The project was promoted at a variety of meetings this year:

NOVEL was provided a complimentary booth in the technology pavilion at the **American Academy of Ophthalmology (AAO) annual meeting** in Chicago, IL in October, 2005. NOVEL staff presented to hundreds of AAO members through this venue and received excellent feedback. Many AAO members were already using NOVEL as an educational resource, and many were expressly delighted to discover that this collection is available to them for free on the Web. Many AAO members noted that there were no neuro-ophthalmologists in their practice community and this resource would be valuable to them in identifying neuro-ophthalmic problems and determining when to refer patients.

NOVEL was well represented at the **NANOS 2006 annual meeting** in March 2006, in Tucson, AZ. A review of the progress of the project was presented in an auditorium

session to the entire participating membership. The most rewarding aspect of this presentation was the response from the audience when asked how many members had used the NOVEL collections. Nearly every had in an audience of nearly 400 was raised. A presentation was made for an optional attendance session describing how to utilize NOVEL resources. More than 80 members attended and were shown how to download the various formats, import them into PPT, and animate them if desired. Following the demonstration, members were invited to try the techniques on their own laptops, or to use one of the 6 TabletPCs brought by the NOVEL staff. The hands-on session was also attended by all 80 participants and was somewhat overwhelming for the three presenters. Additionally, in informal meetings with members throughout the meeting, the NOVEL team was congratulated on the progress and members described the value of the collections. One member exclaimed that he had gotten a DSL Internet connection at home so he could use NOVEL to prepare his lectures.

NOVEL was presented as a paper at the **Mid-continental Medical Library Association annual meeting** in Salt Lake City in September of 2005, NOVEL was presented in poster form at the **Medical Library Association annual meeting** in May 2006 in Phoenix, AZ.

**NOVEL Web usage:**(2005-2006 July – May, June stats not completed at this time)

July 04 – June 05	Totals	July 05-May 06	Totals
Hits	1,640,958	Hits	1,776,826
Page Views	422,915	Page Views	567354
Visits	305,309	Visits	274,179
Visitors	6,701	Visitors	7,758

It is notable that there is growth in most areas, even with an 11 month assessment for the current year. The international use of these open access collections is clear from the ever changing list of top 40 countries using the Web site:

**Top 40 Countries using NOVEL in May 2006**

Country	Users	Country	Users
United States	12,476	China	7
United Kingdom	124	Israel	7
Saudi Arabia	107	Colombia	6
Singapore	73	Turkey	6
Australia	54	Taiwan	6
Canada	47	Switzerland	6
Germany	30	Greece	6
Mexico	26	Thailand	6
Brazil	25	Belgium	6
Czech Republic	22	Guatemala	5
Italy	17	Yugoslavia	5
Netherlands	17	Hungary	5
India	10	Spain	5
Japan	10	Peru	5
New Zealand (Aotearoa)	8	Egypt	4
Malaysia	8	Poland	4
France	8	Chile	3
South Africa	7	Morocco	3
Romania	7	Finland	2
Argentina	7	Lebanon	2

<b>Total for 40 Countries</b>	<b>13,182</b>		
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NOVEL has received more than a dozen requests for use of the materials in publications and presentations. This led the PI to develop a description of expectations for crediting the source when using NOVEL materials which includes sample citations in a variety of citation styles. These can be cut, pasted into a reference list or PPT slide, and modified as needed.

Instructional materials are available from the NOVEL Updates page, with explicit instructions for downloading the variety of formats from the collections and for inserting the digital materials into PowerPoint. All presentation materials from the NANOS meeting from 2002-2006 are also available for users from the Updates page.

**Neuro-Ophthalmology Virtual Education Library (NOVEL):  
G08 LM007919 Request for Unpaid Extension of 9 months – 08/01/06 - 04/30/07  
Nancy T. Lombardo, Principal Investigator**

Our projections show that the NOVEL project will have approximately \$49,000.00 left at the end of our grant cycle. Much of this is due to the reallocation of staff on the project. Valeri Craige was not able to work 80% of her time as projected, but was limited to 30% due to other project obligations. Our programmer, Dustin Whitney, left our project for another job. We were able to hire a part time programmer as replacement for some of this staff loss, but were not able to achieve full recovery of time and expense. We would very much like to utilize these funds to continue and complete some of the collections we are currently organizing. The funds would primarily be used to retain our existing staff and utilize them in the same capacities that they have been contributing to NOVEL and for travel to bring our content experts to Utah to assist us directly in managing their collections. Upon expenditure of our final funds, our final report will demonstrate significant accomplishment if we are allowed this unpaid extension.

Specifically, we have a number of projects we wish to use these funds to complete:

- 1) Wray Neuro-visual Disorders collection
  - 2) Walsh Society Meeting
  - 3) Kardon Pupil Collection
  - 4) Moran Eye Center Collection
  - 5) Loewenfeld Pupil references
  - 6) Complete skew deviation animation – Newman-Toker
  - 7) Move Cogan Collection to University of Utah, Moran Eye Center
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- 1) Wray Collection: Excellent progress has been made on this valuable collection, but we would like to bring Dr. Wray to Utah for another visit to complete the work on the extremely detailed metadata she is preparing. Because Dr. Wray has clinical and teaching responsibilities in her roles at the Massachusetts General Hospital and the Harvard Medical School, it has been a challenge to find time for her to travel to Utah to work intensively on the project. She had intended to come in June of 2006, but that did not work out for her, so we are planning a trip in August, contingent on the continuation.
  - 2) Walsh Collection: While the 800+ Q & A abstracts have only brief records in the database at this time, an extension would allow Shona Dippie, our metadata expert, to enhance the descriptions and add standardized subject headings based on the NANOS curriculum outline. Shona is highly qualified to do this high level metadata description and the added descriptor will make materials in the collection vastly more findable by our users.
  - 3) Kardon Pupil Collection: We have only begun the video processing and would like to use this extension to allow our video technician to complete the processing. Our Web developer will then see that the PPT series is added to the database and linked appropriately to the other materials. We would like Dr. Kardon to visit Utah again to assist with this valuable addition to our collections.
  - 4) Moran Eye Center Collection: Kathleen B. Digre, MD, has a set of video cases to add to the Moran Center collection. These would be digitized, described and added to the database, provided this extension is approved. There is also a large optic disc slide collection that will be digitized and added.

- 5) The final significant project we wish to continue during this unpaid extension is the Irene E. Loewenfeld pupil references collection. In July of 2005, Irene Loewenfeld, PhD, author of the definitive textbook, *The Pupil*, donated to NOVEL her handwritten annotations on the thousands of references she used in writing the textbook. We are preparing a prototype, using scanned images of the cards, with scanned copies the reference articles whenever we are able to obtain permission for this use. We'd like to receive feedback from the Neuro-ophthalmology community as to the value of this kind of subject oriented reference tool.
- 6) We have nearly completed the animation on Skew Deviation in collaboration with David Newman-Toker. We would like to offer Dr. Newman-Toker the opportunity to visit one more time to finalize this animation and perhaps work on a second, as well as adding more of his teaching materials.
- 7) Currently, NOVEL is renting storage space to house the David G. Cogan collection of video, slides and documents near Johns Hopkins Medical Institutions where it is being evaluated by Neil R. Miller, Professor, Ophthalmology, Neurology, Neurosurgery. NOVEL has obtained space for this, and other, physical collections in the new Moran Eye Center building on the campus of the University of Utah. The extension will allow us to pay to move the David G. Cogan physical collection from the storage unit in Maryland to our permanent storage location at the University of Utah.

Budget, including NOVEL Staff for 6 months:

Name	Role	Percent	Monthly Salary	Benefits	4 mo Total	6 mo Total
Nancy Lombardo	PI	20%	\$1,041.00	\$343.53	5538.12	\$8307.18
Ray Balhorn	Video Technician	100%	\$3,146.00	\$1038.18	16736.72	\$25105.08
Alex Reid	Web Programmer	60%	\$1,502.00	\$495.66	7990.64	\$11985.96
Shona Dippie	Metadata Cataloger	25%	\$8,24.00	\$271.92	4383.68	\$6575.52
Valeri Craigle	Web Designer	25%	\$8,25.00	\$272.25	4389.00	\$6583.50
<b>Staff Total</b>					<b>39038.16</b>	<b>\$58557.24</b>

Other Budget Expenses:

Staff Total (from above)					<b>\$39038.16</b>
Travel (3 visits)				\$1,000.00	\$3,000.00
Move Cogan Collection					\$2,000.00
<b>Total</b>					<b>\$44,038.16</b>