The American Fisheries Society

Genetics Section Newsletter

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In This Issue:

President's Message

Dear Genetics Section Members,

Plans are coming together for the annual meeting this year in Seattle, Washington, and it looks like it will be a blockbuster meeting. There were more than 120 proposals submitted for symposia, three of which address the application of genetic data and techniques to investigate contemporary questions. The first symposium was proposed by **Christian Smith** and **Patrick DeHaan** entitled "Incorporating Genetic Data into Population Introduction Programs." The second symposium was put forward by past section presidents **Jeff Hard**, **Lisa Seeb**, and **Jim Seeb** and is entitled "Conservation Genetics and Genomics in Fisheries". Finally, **Lorenz Hauser**, **Gary Carvalho**, and I have submitted a proposal for a session titled "Larval dispersal, population connectivity and the management of marine species." Further descriptions of these symposia are included in this newsletter. If the list of titles and presenters are any indication, this will be a meeting you won't want to miss.

In addition to quality sessions, there are plans underway for a social event for the section. I can't say much about it at this time, but you'll want to reserve an evening during the week for this opportunity to meet with friends and colleagues as we celebrate one of our own. Stay tuned for more information.

It's time once again to encourage students to prepare submissions for the **Wright Travel Award**. For those who are new to the section, this is an annual award intended to recognize excellence in graduate-level work in fisheries genetics. It also provides travel assistance for the recipient to attend the national meeting. In addition, there is an opportunity for a student attending the national meeting to serve as an 'ad hoc' member of the section's Executive Committee. Contact me (bill.templin@alaska.gov) if you are interested.

Sincerely,

Bill Templin
AFS Genetics Section President

Announcing the
AFS Genetics Section Graduate Award
in Memory of James E. Wright

The Genetics Section of the American Fisheries Society is pleased to announce the **James E. Wright Graduate Award**. This award is presented annually by the Genetics Section at the AFS Annual Meeting and is intended to recognize excellence in graduate-level work in fisheries genetics and to assist graduate students with travel to the national meeting. The section anticipates awarding two checks for $500 each to attend the 2010 AFS annual meeting in Pittsburgh. All graduate students are encouraged to apply.

Selection will be based on the following criteria:

1. Potential for success in research in fisheries genetics (60%)
2. Anticipated contribution to upcoming annual meeting, e.g. paper, poster, or other contribution (20%)
3. Service to the Society, its Sections, or Chapters (10%)
4. Demonstrated need for travel assistance (10%)

Application Procedure:

1. Applicant must be a full or affiliate member of the Genetics Section at the time of application.
2. Application package should include:
    a. A brief curriculum vitae including anticipated degree, date of completion, and career goals
    b. A statement of the thesis or dissertation and abstract of progress to date
    c. The names and addresses of two references familiar with the applicant's background and abilities.
    d. A statement of previous service to the Society, its Sections, or Chapters, and need for travel assistance.
    e. A statement addressing anticipated contribution to the upcoming annual meeting.

Deadline for application is: June 17, 2011

All application materials should be sent via postal or email to: Jeffrey B. Olsen, Conservation Genetics Laboratory, U.S. Fish and Wildlife Service, 1011 East Tudor Road, Anchorage, Alaska 99503. Phone (907) 786-3598, Email: jeffrey_olsen@fws.gov.

Symposium Announcement

"Conservation Genetics and Genomics In Fisheries"

Overview: Rapid advances in tools and approaches from molecular genetics, genomics, and the analysis of phenotypic data associated with molecular pedigrees are providing unprecedented opportunities to improve our understanding of the amount, distribution and functional significance of genetic variation in natural populations and its dynamics over ecologically relevant time. Complete genome sequences will soon be available for many species, although such information for many organisms that are highly exploited or of conservation concern may take considerably longer to emerge. However, it is also increasingly clear that our ability to detect natural or human-induced selection in species of conservation concern is usually confounded with ecological heterogeneity or genetic drift—we often overestimate our ability to detect, much less characterize, change associated with selection.

This symposium will examine what we know about functional genomic variation, what we need to know, and the implications of this state of knowledge for conservation of fishes. The contributors to this symposium will also explore the limits as well as the promise of genetics and genomics as applied to conservation and management of fishes. In doing so we seek to indicate where genomics is likely to have the most impact in documenting and helping to stem the widespread loss of genetic and genetically based phenotypic diversity in the wild.

Organizers: Jeff Hard and Linda Park, NOAA Fisheries, Northwest Fisheries Science Center, Seattle WA 98112, jeff.hard@noaa.gov and linda.park@noaa.gov; Jim Seeb and Lisa Seeb, School of Aquatic & Fishery Sciences, University of Washington, Seattle, WA 98195, jseeb@u.washington.edu and lseeb@u.washington.edu.

List of presentations:

Presenter	Tentative Title
Daniel Gomez-Uchida	Illuminating SNP Discovery and Population Genomics of Puget Sound Chinook Salmon Through the Transcriptome
Daniel Heath	Partitioning Transcriptional Variance In Fish: Patterns of Population and Family Divergence
Devon Pearse	Genome Screens Identify Chromosomal Regions Under Divergent Selection In Steelhead/Rainbow Trout
Eleni L. Petrou	When Chum Salmon Meet: Examining a Zone of Secondary Contact In Alaska Using Single Nucleotide Polymorphisms
Emma Timmins-Schiffman	Gene Expression as An Indicator of Environmental Stress In the Pacific Oyster
Eric C. Anderson	Intergenerational Genetic Tagging with Large-Scale Parentage Inference Informs Conservation and Management of Salmonids
Ewann A. Berntson	Selection Gradients Associated with Reproductive Success of Hatchery- and Natural-Origin Chinook Salmon In the Grande Ronde Basin (Northeast Oregon)
Fred W. Allendorf	Genomics and the Future of Conservation Genetics
Gary R. Carvalho	Detecting Genetic Change and Adaptive Variation In Marine Fish: From Empirical Tests to Patterns In the Wild
Gordon Luikart	Genomics and the Future of Fisheries Management

AFS-Genetics Symposium "Conservation Genetics and Genomics In Fisheries" (cont'd)

Presenter	Tentative Title
Hitoshi Araki	Detecting Fitness Difference In the Wild: Power Analysis and a Case Study of Salmonid Species
Ian R. Bradbury	Contrasting Adaptive and Neutral Influences on Spatial Population Structure Using a Genome Wide Scan of Single Nucleotide Polymorphisms In Atlantic Cod
Jon E. Hess	Heritability of Run-Timing In Hood River Chinook Salmon
Joshua M. Shallom	Sequencing
Jun Kitano	Genomics of Adaptive Evolution and Phenotypic Plasticity In Sticklebacks Under Human Disturbance
Kathleen G. O'Malley	Employing Comparative Genomics and Phenomics to Better Understand Migratory Behavior In a Non-Model Organism
Kenneth I. Warheit	Adaptation and the Covariance Among SNPs and Population Differentiation In Puget Sound Chinook
Kerry A. Naish	Genome Wide Association Study of Quantitative Genetic Variation In a Pedigreed Wild Population of Coho Salmon
Kim Scribner	Demographic Factors and Male Behavioral Plasticity Affect Temporal Variation In Effective Breeding Number In Lake Sturgeon
Krista M. Nichols	Association Genetics of Migration and Residency In Rainbow and Steelhead Trout
Kristi Miller-Saunders	Genomic Analysis of Smolt Condition In the First Three Months In the Ocean
Lisa W. Seeb	Comparison of Pink Salmon Genomes Across Even- and Odd-Year Broodlines
Lorenz Hauser	Between a Rock and a Hard Place: Effects of Fishery-Induced Sex Bias On Selection In a Wild Alaskan Sockeye Salmon Population
Luca Bargelloni	Population Genomics of European Hake
Marine Brieuc	Identification of Regions Involved In Run Timing In Chinook Salmon (*Oncorhynchus tschawytscha*) Using RAD Sequencing
Meredith Everett	Gene Mapping In Salmonids Using Sequenced RAD Tags
Michael Blouin	Gene Expression Variation In Hatchery and Wild Steelhead
Michael M. Hansen	Genetic Population Structure of European Eel: Panmixia and Its Consequences
Michael R. Miller	Sequencing Salmonid Genomes Using Next Generation Technologies
Michael Russello	Detection of Outlier Loci and Their Utility for Fisheries Management
Paul A. Hohenlohe	RAD Sequencing for Conservation Genomics: Lessons From Threespine Stickleback
Peter Grewe	Analysis of Close Kin Relationships As a Fishery Independent Approach to Estimate Spawning Stock Biomass In Southern Bluefin Tuna
Ruth B. Phillips	Using Genomic Methods to Assess the Importance of Sexually Biased and Sexually Antagonistic Genes for Conservation of Salmonid Fishes
Sarah Helyar	Of Fish and SNPs: The Potential of Genetics for Traceability In European Fisheries Management
Sharon Villagecenter	Factors Influencing the Relative Fitness of Hatchery and Wild Spring Chinook Salmon In the Wenatchee River
Shawn R. Narum	Genomics of Thermal Adaptation In Redband Trout
Sten Karlsson	A Diagnostic Panel of SNPs Distinguishing Between Farmed and Wild Atlantic Salmon
Tim L. King	Population Genomics of Brook Trout (*Salvelinus fontinalis*): A Quest for Adaptive Variation Among Populations Exhibiting Prodigious Genetic Differentiation at Neutral Loci
Tom F. Cross	454 Sequencing of Part of the Atlantic Cod Gadus morhua Genome: a Source of Large Numbers of Microsatellite and SNP Loci
Vincent Bourret	Conservation Genomics and Adaptive Divergence of Atlantic Salmon In High Definition
Daniel Gomez-Uchida	Illuminating SNP Discovery and Population Genomics of Puget Sound Chinook Salmon Through the Transcriptome

Symposium Announcement

"Incorporating Genetic Data into Population Introduction Programs"

Overview: Population introductions have become a common method for conserving threatened and endangered fish species. Introductions include range expansions, for the purpose of creating artificial refugia, and also reintroductions into portions of the historical range from which local populations have been extirpated. Although early introduction efforts were often carried out opportunistically with minimal planning, biologists now recognize the importance of careful planning and developing long-term monitoring and evaluation programs for population introductions. Genetic data are increasingly represented among the factors considered in the introduction planning process, and are also being increasingly used to evaluate the success of various introduction strategies. Genetic data can be used to inform decisions regarding selection of source populations, for example, to maximize genetic diversity or to identify lineages or populations similar to one which was previously extirpated. Once populations have been introduced, genetic data are useful for evaluating the level of variation in the introduced population relative to the source population, determining which source populations were most successful, and determining which founding individuals successfully spawned.

This symposium will focus on case studies which illustrate how genetic data are presently being incorporated into planning and evaluation processes for fish introduction efforts. Topics will include use of genetic data to help select among potential donor populations for introduction efforts, designing introduction strategies that maximize genetic diversity and effective size in the introduced population, and analysis of genetic data to infer dynamics of introduced populations. Presentations will cover a variety of different taxa, genetic markers and analyses, and will provide the audience with an opportunity to compare the different ways in which genetic data are currently being incorporated into introduction programs.

Organizers: Patrick DeHaan and Christian Smith, U.S. Fish and Wildlife Service Abernathy Fish Technology Center, 1440 Abernathy Creek Road, Longview, WA 98632. E-mails: patrick_dehaan@fws.gov, christian_smith@fws.gov

Presenter	Tentative Title
Chris Wilson	Genetic tracking through space and time: single- and multi-generational assessment of source contributions and comparative fitness for introduction and rehabilitation efforts in Ontario
J. Carlos Garza	Reintroduction of spring run Chinook salmon to the San Joaquin River; genetic evaluation of donor stocks and breeding strategies
Pat DeHaan	Genetic evaluation of population introduction strategies for threatened Oregon chub
Libby Gilbert-Horvath	Genetic data inform reintroduction and experimental hybridization of coho salmon in Central California
Mary Peacock	Translocated populations and their role in Lahontan cutthroat trout recovery strategies: a tale of two watersheds
Tim King	Evaluation of a captive breeding management program for brook trout
Andrew Kinzinger	Small founding number and low genetic diversity in an unsuccessful invasive species

	(speckled dace, *Rhinichthys osculus*)
Helen Neville	Landscape patterns of neutral and adaptive variation among populations of non-native brook trout in Idaho: the ghost of introductions past
Joe Anderson	Demographic and genetic consequences of permitting captively bred Chinook salmon to colonize following modification of an impassable dam
Lorissa Fujishin	Reproductive success of founders in a slimy sculpin reintroduction program
Meredith Bartron	Genetic analysis of Atlantic salmon natural reproduction
David Huff	A simulated reciprocal transplant experiment: local adaptation in reintroduced populations of a native North American fish
Mandi Finger	Multiple translocations and founder events cause bottlenecks and genetic drift in endangered Owens pupfish populations
Brian Sloss	The genetic legacy of reintroduced Green Bay Muskellunge

Symposium Announcement

"Larval Dispersal, Population Connectivity and the Management of Marine Species"

Overview: The identification of stock structure in marine exploited species, in particular as determined by larval dispersal, has been a central theme in fisheries science for almost a century. More recently, the need to estimate population connectivity for the design of marine protected area networks and a desire to better understand larval ecology and recruitment processes in commercially important species has further increased the interest in larval biology including dispersal patterns. With this interest, our understanding of larval connectivity and its relationship with physical, biological and genetic factors has greatly improved in recent years, even though much is still to be done. Advances in oceanography, modeling, microchemistry, genetics and ecology have moved the field rapidly forward, though limitations in each of these approaches have highlighted the need for interdisciplinary collaboration.

In this full-day symposium, we aim to bring together experts from a variety of fields working on larval dispersal and connectivity in the widest sense, as well as end users of the research, such as resource managers and policy makers. The focus will be on marine species of commercial or conservation significance, though contributions on ecological or genetic model species are also welcome. Our symposium is not only central to the meeting's motto by highlighting the new frontiers in larval dispersal both conceptually and methodologically, but it is also timely because of need to integrate different disciplines investigating marine dispersal.

Organizers: Lorenz Hauser, School of Aquatic and Fishery Sciences University of Washington, Seattle, WA 98112, lhauser@uw.edu; Gary R. Carvalho, University of Bangor, Bangor, Wales, g.r.carvalho@bangor.ac.uk; William Templin, Alaska Department of Fish and Game, Gene Conservation Laboratory, Anchorage, AK 99518, bill.templin@alaska.gov

AFS-Genetics Section Symposium "Larval Dispersal, Population Connectivity and the Management of Marine Species" List of presentations:

Presenter	Tentative Title
Gary R. Carvalho	Ecological Determinants of Larval Connectivity: Linking Genetic Data to Ecological Processes
Steve Morgan	Larval Advection and Control Regulating Recruitment In An Upwelling System: Implications for Population Connectivity
John Lamkin	Connectivity and Larval Transport Pathways Between the MesoAmerican Barrier Reef and the Florida Keys Reef Tract
Claire Paris	Effect of Hurricanes on the Larval Transport Pathways From Cuban Snapper Spawning Aggregations
Dan Holstein	Modeling Reef Slope Coral Connectivity
Andrew Kough	The Role of Local Retention Versus Subsidies In the Connectivity of Caribbean Spiny Lobster Populations
Erica Staaterman	How Do Reef Soundscapes Influence Recruitment Patterns of Caribbean Reef Fish?
Dan Cooper	Modeled Connectivity Between Northern Rock Sole (*Lepidopsetta polyxystra*) Spawning and Settlement Areas In the Eastern Bering Sea
Dennis Hedgecock	Escaping the Seascape: Use of Non-Equilibrium Approaches to Untangle Gene Flow From Variance In Reproductive Success In Highly Fecund Marine Species with Type-III Survival
Steven Palumbi	Genes Under Selection In High Dispersal Species: Does This Ruin Dispersal Estimates?
Mark Christie	Direct and Indirect Genetic Methods Reveal Patterns of Larval Connectivity In Space and Time
Lorenz Hauser	Dispersal Processes From Parentage and Oceanography
Emma Young	Gene Flow In Antarctic Fishes: The Role of Oceanography and Life History
Robert Toonen	A Multispecies Survey of Connectivity Across the Hawaiian Archipelago As a Means to Define Boundaries for Ecosystem-Based Management
MIchelle Gaither	Population Connectivity In Deep Water Snappers Across the Hawaiian Archipelago
Paul Shaw	Dispersal In Crab Larvae
Mike Canino	Pacific Cod In the Salish Sea: Population Connectivity and Implications for Conservation
Jessica Miller	Natal Source Contributions of Pacific Cod (*Gadus macrocephalus*) Recruits In the Southeastern Bering Sea
Raymond Buckley	Efficacy of Inducing Sr Marks In Otoliths of Larval Viviparous Fishes: Comments on the Utility of Larval Otolith Marking In Determining Dispersal of US Fishery Resources
Louis Botsford	The Implications of Uncertainty In Larval Dispersal Patterns for Management of Marine Resources Through MPAs
Larry Leclair	The Physical Basis of Larval Dispersal In An Enclosed System: Matching Empirical Drifter Tracks and Oceanographic Models In Puget Sound

AFS Genetics Section 2010 Business Meeting Minutes

13 September 2010, Pittsburgh, PA

1. **Call to order** – Quorum

2. **Approval of 2009 meeting minutes** (approved)

3. **President's report**
   a. At Governing Board Retreat, presentations were given about education needs to produce fisheries professionals. Started discussion to assess if current training is consistent with expectations of agencies, industry, or other entities hiring fisheries professionals.
   b. Membership dues and subscription rates increased. Discussed moving to online journals, along with outsourcing journals. Society decided to outsource manuscript printing and submission to Taylor and Francis to increase audience. However they will continue to be printed by Allen Press.
   c. Discussion based on proposal to allow greater access to journals for section and affiliate members. Genetic section bylaws allow affiliate membership, so this issue affects this section. Issue tabled for future discussion.

4. **Secretary Treasurer's report**
   a. See report. Expenditures exceed income, requested discussion about number of travel awards versus generating revenue.

5. **Announcements**
   a. The section will be co-sponsoring symposiums at the 2010 World Aquaculture Society meeting, and at the annual meeting with the Fish Habitat and Fisheries Management sections.

6. **Committee Reports**
   a. Nominating Committee: Kim for Ed Heist
      i. Bill Templin elected President
      ii. Meredith Bartron elected President-Elect
      iii. Loren Miller elected Secretary-Treasurer
   b. Program Committee: Bill Templin
      i. Symposium attendance ranged from 45-65
      ii. Call for volunteers to help organize symposium for Seattle annual meeting. Please contact Meredith Bartron.
   c. Newsletter: Joel Carlin
      i. Please send any news items or announcements to Joel. The newsletter is distributed quarterly.
   d. Membership: Kim for Ed Heist:
      i. Reminder about Eric's effort/plan to encourage former section members to join. And to encourage people who should be members to join.
   e. Awards: Jeff Olsen/Ken Currens (Kim for Ken)
      i. Wright award recipient: Matthew Krampe (Ohio State University) and Michael Sovic (Southern Illinois University Carbondale)

ii. Phelps award recipient: Kenneth P. Currens, Carl B. Schreck, and Hiram W. Li for their paper titled "Evolutionary Ecology of Redband Trout" in Transactions of the American Fisheries Society 138 (4): 797-817

f. Website: Willy Eldrige
   i. Discussion about providing links to the labs via the membership list. If information is available this could be added. Please contact Willy if you'd like a link made.

g. Education: Eric Hallerman (Kim for Eric)
   i. Education initiative of parent society
   ii. Get feedback from the students about what they would like the section can provide

7. Old Business-Kim Scribner

a. Included an "area of expertise" on sign-up sheet so that a sampling of expertise categories could be developed
b. AFS Governing Board (includes the Genetics Section President) has the opportunity to nominate mentors to the society, who if approved, are provided funds to attend the board meetings at the annual meeting. If you have a potential mentor to nominate, please contact Bill Templin.
c. Listserv: The Genetics section has a listserv, which will be active soon.
d. Business meeting: These meetings have been moved to Monday to increase attendance during the annual meeting. Additional options include having the meeting during a lunch, or to hold offsite.

8. New Business-Bill Templin

a. Advertising materials discussion
   i. Genetic section members often participate in other meetings and the section contributes funds for student travel to other meetings; developing advertising would be useful to reach out to new members. Information developed could include a brochure, which could be put on the website for download, and a conference kit, including a sign, poster, or banner. Joel Carlin, Bill Templin, Matthew Krampe, and Michael Sovic will work to identify costs and develop text.
   ii. As part of the advertising materials, it would be useful to develop list of benefits available from joining the section. Current benefits include: newsletter, the section-organized symposium often include special publications, networking, list serve, student travel awards and recognition,
   iii. Additional benefits which would need to be developed include: links to member labs directly on website (if only available to members), a certification program for conservation geneticists, including a social/mixer as part of the section meeting, holding a technical panel as part of meeting, making the website a central clearing house for genetic resources, developing genetic section mentor opportunities at the annual meeting. It was suggested that a subcommittee be formed to fully develop this list with recommendations on which actions to implement.

b. Additional meeting opportunities. Could meetings similar to the Coastwide meeting (west-coast centric) be developed for the east coast or Midwest to encourage section members to get together and share research? Send Bill ideas about meeting opportunities.
c. Fundraising opportunities discussion
    i. Hall of Excellence: Develop a hall of excellence, and hold an induction ceremony and dinner for fundraiser at upcoming Seattle meeting, mixer as part of section meeting, workshops, or book.
    ii. Add to the section website a link directly to the Hallerman book.
    iii. Contact student subunits

9. Meeting adjourned.

a. Next meeting September 4-8, 2011 in Seattle, Washington.

"So You Want to Be A Great Reviewer"

From the American Society of Naturalists Blog

Entry 07/30/2010 - 11:10 by McPeek

In my current position as Editor-in-Chief of the *American Naturalist*, I read all kinds of reviews of scientific papers from all kinds of people. I routinely get asked, particularly by graduate students, what makes a good review. Here are a few thoughts on the subject.

The first task of the reviewer is to prove to the author and the editor that you have actually read the manuscript and that your critique is based on that reading. The most common reaction by authors to negative reviews of their papers is that "this reviewer didn't even read the paper." The reviewer can accomplish this by following a few simple style characteristics in structuring the review. First, start out the review with a very brief summary of what the paper is about and what the paper is trying to accomplish, based on your reading. This only needs to be 2-3 sentences usually, but summarizes for the author what the reviewer took away as the main thesis of the manuscript. Second, for each main critique point, note where in the manuscript the relevant text is. For example, start a section of the review with something like "On page 6, you write that … ". Finally, quoting small relevant passages from the manuscript also helps focus the author on the specific areas you are discussing.

The most important features that should characterize your writing for the review should thoroughness and constructive tone. Your number one task is to do a thorough job in evaluating the manuscript. Summarize what you see as the major strengths and weaknesses of the paper. Explain your opinions about the main thesis of the paper, and how the authors have framed the work. Is the paper appropriate for the journal to which it has been submitted? If it is an empirical paper describing a set of observational and experimental studies, (1) are significant hypotheses being tested, (2) do the studies adequately test the stated hypotheses, (3) are the results significant and compelling, (4) does the discussion fairly characterize the results of the study and tie these results to the broader literature on the subject? If it is a theoretical/modeling paper, (1) is the subject of the model compelling, (2) is the

modeling approach appropriate to the question, (3) have the authors done the model correctly [i.e., is the math or computer code right], (4) do the results of the model make a significant advance in our insights into the problem, and again (5) does the discussion fairly characterize the results and conclusions of the model and tie these results to the broader literature? You should organize your discussion of these points into a structure that expresses what you see as larger problems with the manuscript first in your review, and then work your way to minor points.

In writing your review you should always maintain a constructive tone to your writing. This does not mean that you should not forcefully express your critique, or that you should hold back from clearly stating problems you find with the manuscript. It means that you should forcefully describe the issues and problems you identify in the manuscript, but along with describing the problems you should also lay out remedies to these problems. For example, if the experimental design of the study is not appropriate for the hypotheses being tested, describe what design should be used. If you find the structure of the paper confusing, describe how you would change the structure to make the paper flow better. If you think more experiments or more analyses are needed, explain what they are and why they will improve the manuscript.

You also need to stay focused on the manuscript and not stray into other areas. Critiques of the entire field in which the paper is embedded are not useful. And above all, ad hominum attacks of the author are completely inappropriate and the best way to get your review completely ignored by the editorial staff of a journal. Your job is to critique the manuscript before you.

Also, do your review in a timely fashion! Always follow the Golden Rule of Reviewing.

What if you loved the paper and you have no substantive criticisms? The worst thing you can write is a very terse review that says basically “I loved this paper, and it should be published.” In this case, you must become the advocate. You need to explain why the paper is a significant work and why it makes a strong contribution to the literature. Imagine if the other review that comes in for the paper is negative. Your review will become the counterpoint, and so you need to provide the rationale and arguments to the editor why this is a significant work that they should publish.

Job Announcement:

NOAA Research Molecular Geneticist

The NWFSC’s Genetics & Evolution Program is seeking a broadly trained molecular geneticist to assist with analysis of genetic and genomic data. The position will involve development of a research program that integrates molecular genetic and genomic approaches to characterize the amount, distribution, and functional significance of genetic variation within and among natural populations of aquatic organisms. This program will involve analytical methods from population genetics, molecular and gene expression techniques, dissection and mapping of genome regions, and identification of candidate genes. Candidates are expected to be familiar

with statistical approaches to analyze genomic variability. The incumbent will work in a broadly interdisciplinary environment with geneticists, fishery biologists, ecologists and other scientists. A strong theoretical background is required, as is the demonstrated ability to collaborate with experimentalists and resource managers on practical management and conservation issues. Expertise in analysis of DNA sequence data, comparative genomic analysis, and population genetics is essential. Experience with the development and dissemination of genomic analysis is also required. Training and work experience in population genetics and genomic identification of functionally important genes is highly desirable. Examples of relevant experience include, but are not limited to, working with marker-based genotyping, including a diversity of array-based SNP genotyping platforms; reduced-representation sequencing using next-generation sequencing technology; and whole-genome sequencing. Familiarity with DNA microsatellite variation in marine and anadromous fishes is valuable, as is an understanding of current methods in use in bioinformatics.

Scientists in the Genetics and Evolution Program conduct research to support NOAA's mission of conservation and management of marine and anadromous organisms. Research activities include: assessing genetic and phenotypic variation to support conservation and recovery of listed species; analyzing composition of mixed fishery stocks (Genetic Stock Identification, or GSI); estimating reproductive success in wild or naturally spawning populations; characterizing components of adaptive evolution; determining the evolutionary consequences of inbreeding within and interbreeding among distinct populations; exploring how life histories respond to selection such as size-selective exploitation; and evaluating consequences of hatchery domestication and climate change. Current research projects include study sites from California to Alaska involving diverse marine organisms such as salmon and steelhead, killer whales, Pacific herring, hake, rockfish, eulachon, tunicates, abalone, corals and sponges. Primary activities involve population genetics, genomics, and quantitative genetics, as well as providing genetic analysis of forensic evidence in support of NMFS Office of Law Enforcement activities.

The position will open in late February 2011, and interviews will be conducted in mid- to late-March. The position will be offered at the ZP-IV level, with annual salary $87,306 and up, depending upon experience. Applicants must apply online through USAJOBS (http://www.usajobs.opm.gov/); the announcement number has not been set but will be in the format NMFS-XX-2011-00XX. Please contact Jeff Hard (jeff.hard@noaa.gov, 206.860.3275) or Linda Park (linda.park@noaa.gov, 206.860.3241) for more information.

Job Announcement:

Junior Research Associate: Cavefish Evolutionary Genetics/Genomics

A full-time technician is available starting this Winter Quarter, 2011, in the laboratory of Dr. Josh Gross, in the Department of Biological Sciences, at the University of Cincinnati. Dr. Gross's lab studies the evolution of regressive and constructive changes in blind Mexican cavefish. Duties will include working at UC's Uptown Campus

in Cincinnati, OH. For benefits eligibility, a one-year commitment is required. Preference will be given to a candidate who can commit to a second year. The technician will be responsible for basic lab maintenance, monitoring and maintenance of a fish husbandry room, and performing molecular genetic, phenotypic, and statistical analyses. While experience with quantitative trait locus (QTL) analysis and linkage mapping is not required, a willingness to learn such techniques and train others is necessary. Experience with basic molecular techniques, such as DNA/RNA isolation, PCR, cloning, as well as basic microscopy, are required.

The candidate should have a BA or BS in biology, genetics, molecular biology, or a related degree, have previous experience performing independent research, the ability to work well in a group environment, and a willingness to supervise undergraduates. The position is ideal for a highly motivated person interested in gaining field and laboratory skills prior to starting graduate school or other work in the life sciences. Salary is commensurate with experience. If you should have any questions about this position, please feel free to email Dr. Josh Gross at joshua.gross@uc.edu . In order to apply, go to: https://www.jobsatuc.com/applicants/jsp/shared/frameset/Frameset.jsp?time=1297278562351. The position number is 210UC2195.

Job Announcement:
Multiple Tenure-track Faculty Positions in Genetics at the University of Wisconsin-Madison

The College of Agricultural and Life Sciences at the University of Wisconsin (UW) - Madison has long been a world leader in experimental and theoretical population and quantitative genetics. To continue to build strength in these areas, we seek to hire two tenure-track assistant professors in the areas of population, quantitative, computational, and/or evolutionary genetics.

Candidates for these positions will be considered in three broad research areas:

- Integration of population genetics and genome-scale approaches to elucidate evolutionary mechanisms within and between populations
- Quantitative genetics of economically important animals or crops
- Integration of experimental, computational, and/or theoretical approaches to population and quantitative genetics

In addition, the successful candidates will help to promote a deeper and more profound understanding of population, quantitative and evolutionary genetics in UW undergraduate and graduate students. Faculty members hired through the initiative will be expected to spend part of their teaching efforts in courses that serve departmental needs and part of their efforts in courses that serve a broader college-wide and campus-wide community.

Areas of interest include experimental and theoretical research that draw fundamental insights into the connections between molecular function and genetic variation, experimental evolution, ecological genetics, and research that addresses emerging issues in human health, ecology, natural resources or food security; and quantitative

and computational approaches that foster genetic improvement of agriculturally important animals or crops. Four departments have worked collaboratively to outline the vision and needs for the initiative: Agronomy, Animal Sciences, Entomology, and Genetics. Each faculty position will be located in one of these four departments.

The successful candidates will be capable of developing a strong, independent, extramurally-funded research program; developing an innovative undergraduate and graduate teaching program; building collaborative relationships in research and instructional programs; and contributing to service and outreach functions of the Department, College, University and professional societies. Earned doctorate with expertise in population, quantitative, computational, and/or evolutionary genetics is required. Postdoctoral experience is highly desirable. Interested individuals are welcome and encouraged to contact Professor Irwin Goldman directly by phone at (608) 262-7781 or by email at ilgoldma@wisc.edu to discuss this position opportunity. HOW TO APPLY: Send CV, a 1-2 page statement of research interests and plans, a statement of teaching philosophy, and arrange to have three letters of reference sent to Dr. Irwin Goldman, pvl66521, by mail to CALS/UW-Madison, 240 Agricultural Hall, 1450 Linden Drive, Madison, WI 53706 OR electronically to pvl66521@cals.wisc.edu .

Applicants can find further information on the Evolution Institute web site at www.evolution.wisc.edu or each of the four departmental websites: Agronomy: http://agronomy.wisc.edu Animal Sciences: www.ansci.wisc.edu / Entomology: www.entomology.wisc.edu / Genetics: www.genetics.wisc.edu. Applicants furnishing all materials by March 31, 2011 will receive priority in consideration.

Job Announcement:

Research Manager for Species at Risk and Habitat Studies

The Institute for Species at Risk and Habitat Studies (SARAHS) opened as a Centre in March 2006 at the University of British Columbia Okanagan. The institute¹s goal is to enable interdisciplinary research on the structure and function of habitats and populations of species at risk at local, national and international levels. The SARAHS Institute manages a fee-for-service facility called Fragment Analysis and DNA Sequencing Service (FADSS). We are looking for a manager that will be responsible for the planning, management, coordination, and communication within the SARAHS Institute. The manager will be involved with the facilitation of research review processes and the development of collaborative agreements involving researchers, granting agencies and departments within the institute. The manager will work with the director to set priorities and goals, prepare budgets, and develop strategic research activities within the SARAHS institute mandate. They will participate in writing grants for SARAHS and working with the Development Office to secure external funding for SARAHS. In addition, they will be responsible for managing the fee for service facility, including the supervision of up to three FADSS employees.

A University Degree with a minimum of 4 years of related experience is required. A M.Sc. degree would be an asset. Experience supervising and training staff is required.

Experience with managing a research facility would also be an asset. To view job posting 9468 and to apply for the position go to: www.hr.ubc.ca/careers-postings/staff.php (Please select the active link and then select Apply Now).

Sincerely, Daniel M. Durall UBC Okanagan Associate Professor 3333 University Way Kelowna BC V1V 1V7 Tel. 250-807-8759 Fax. 250-807-8005

Don't Forget to Contribute to the AFS-GS Newsletter!

The deadline for the May 2010 newsletter is on or before **April 25**. Contact the editor at jcarlin@gustavus.edu with job announcements, symposium ideas, or pictures of fish that you found on the internet, expanded in size via Photoshop, and then cut into your hands as a prize 'catch.'

Sincerely,
Joel Carlin*, AFS Genetics Section Newsletter Editor*

Calendar of Upcoming Events

February

2/28 — Abstract and early registration deadline for **ESEB 2011**, the 3rd Congress of the European Society for Evolutionary Biology. 20-25 August at the University of Tuebingen, Tuebingen Germany. See www.eseb2011.de/.

2/28 — Abstract deadline for the Annual Meeting of **the Mexican Fisheries Society** and the Mexican Chapter of the AFS. May 16-20 at Hotel el Cid, Mazatlan Sinaloa Mexico. See ola.icmyl.unam.mx/mazatlan2011/.

2/28 — Deadline for application of symposia and workshops for **SMBE 2011**, the Annual Meeting of the Society for Molecular Biology and Evolution. July 23-28 at Kyoto University, Kyoto Japan. Deadline for oral abstracts and early registration is April 30. Deadline for poster abstracts is May 31. See smbe2011.lab.nig.ac.jp/.

March

3/5 — Abstract Submission Deadline for "**Ichs and Herps**," the 2011 Joint Meeting of Ichthyologists and Herpetologists July 6-11, Hilton Minneapolis, Minneapolis MN. Hosted by the University of Minnesota and St. Olaf College, including the annual meetings of the American Elasmobranch Society, American Society of Ichthyologists and Herpetologists, Herpetologists League, Society for the Study of Amphibians and Reptiles. Early Registration Deadline is April 17, hotel deadline is June 8. See www.dce.k-state.edu/conf/jointmeeting/.

3/10 — Application deadline for a workshop on **Next Generation Sequencing** hosted by the Vienna Graduate School of Population Genetics. The participants are provided hands-on training on NGS data analysis and covers mapping NGS reads on a reference genome, SNP and indel discovery, sequence analysis of

pooled data (Pool-Seq), de novo assembly and RNA-Seq. The workshop is designed for PhD-students and post-docs working on projects that involve NGS analysis. May 23-27 at Vetmeduni, Vienna, Austria. See: www.popgen-vienna.at/training/ngs-workshop.html.

3/11 — Abstract deadline for **SEEC 2011**, the Southeastern Ecology and Evolution Conference. 25-27 March at Auburn University, Auburn AL. See: gump.auburn.edu/seec2011/.

3/15 — Application deadline for a workshop on Quantitative Evolutionary and Comparative Genomics: **Linkage and Recombination in Genome Sequences**. May 16 - June 3 at the Okinawa Institute of Science and Technology Seaside House, Onna, Okinawa, Japan. See www.oist.jp/qecg2011/doku.php?id=Start.

3/15 — Spring application deadline for **Sigma Xi Grants in Aid of Research** undergraduate and graduate research grant program. See www.sigmaxi.org/programs/giar/index.shtml.

3/15 — Regular registration deadline for the 2nd Annual **International Marine Conservation Congress.** May 14-18 at the Victoria Conference Center, Victoria BC, Canada. See www.conbio.org/IMCC2011.

3/19-20 — Penn State SMBE Symposium on **Molecular and Genomic Evolution** in honor of Masatoshi Nei's 80th Birthday. University Park, Pennsylvania. Registration is free but space is limited. See https://sites.google.com/site/smbe2011psu/Home .

3/25-27 — **SEEC 2011**, the Southeastern Ecology and Evolution Conference. Auburn University, Auburn AL. Abstract deadline is 11 March. See: gump.auburn.edu/seec2011/.

3/31 — Abstract deadline for ICCB, the **International Congress for Conservation Biology**: "Engaging Society in Conservation." 28 November – 2 December 2011 at University of Canterbury, Whare Wananga o Waitaha, Christchurch, New Zealand. Early registration deadline is 2 September. See www.conbio.org/Activities/Meetings/2011/index_al.cfm?CFID=18615856.

3/31 — Application deadline for EMBO Practical Course on "**Computational biology: Genomes, Cells, Systems**" to be held 6-13 August in Reykjavík, Iceland. Participation is restricted to 20 graduate students and postdocs. For all participants, fellowships will be made available covering housing, subsistence and registration. No funding is available for travel costs. See cwp.embo.org/pc11-07/.

3/31 — Early registration deadline for **Aquaculture 2011**, the meeting of the World Aquaculture Society. June 6-10 at the Natal Convention Center, Natal Brazil. See https://www.was.org/WasMeetings/meetings/Default.aspx? code=WA2011.

April

4/1 — Early registration deadline for the 67th Annual **Northeast Fish and Wildlife Conference.** April 17 – 19. Radisson Hotel, Manchester NH. Hotel reservations must be received by March 27, 2011. See www.neafwa.org/.

4/15 — 'Four-month warning' for the Fall proposal target deadline (August 15) for the **Biological Oceanography Program** of the National Science Foundation. See www.nsf.gov/funding/pgm_summ.jsp?pims_id=11696.

4/17 — Early registration deadline for "**Evolution 2011**," the joint annual meeting of the Society for the Study of Evolution (SSE), the Society of Systematic Biologists (SSB) and the American Society of Naturalists (ASN). Jun 12-21 at John Q. Hammonds Embassy Suites Hotel and Conference Center Norman OK. Abstract deadline is 1 May. See www.evolution2011.ou.edu.

4/17 — Early registration deadline for "**Ichs and Herps**," the 2011 Joint Meeting of Ichthyologists and Herpetologists July 6-11, Hilton Minneapolis, Minneapolis MN. Hosted by the University of Minnesota and St. Olaf College, including the annual meetings of the American Elasmobranch Society, American Society of Ichthyologists and Herpetologists, Herpetologists League, Society for the Study of Amphibians and Reptiles. Abstract Submission Deadline is March 5, hotel deadline is June 8. See www.dce.k-state.edu/conf/jointmeeting/.

4/17-19 — 67th Annual **Northeast Fish and Wildlife Conference.** Radisson Hotel, Manchester NH. Early registration deadline is April 1, hotel reservations must be received by March 27, 2011. See www.neafwa.org/.

4/25 — Submission Deadline for the **AFS Genetics Section Newsletter**. Contact the AFS GS editor at *jcarlin@gustavus.edu*.

May

5/1 — Abstract deadline for "**Evolution 2011**," the joint annual meeting of the Society for the Study of Evolution (SSE), the Society of Systematic Biologists (SSB) and the American Society of Naturalists (ASN). Jun 12-21 at John Q. Hammonds Embassy Suites Hotel and Conference Center Norman OK. Early registration deadline is 17 April. See www.evolution2011.ou.edu.

5/14-18 — 2nd Annual **International Marine Conservation Congress.** Victoria Conference Center, Victoria BC, Canada. Regular registration deadline is 15 March. See www.conbio.org/IMCC2011.

5/16 — Early-bird registration and abstract deadline for the 16th Annual **Summer Institute in Statistical Genetics**. June 13-July 1, 2011, in the South Campus Center of the University of Washington in Seattle WA. See www.biostat.washington.edu/suminst/sisg/general.

5/16-20 — Annual Meeting of **the Mexican Fisheries Society** and the Mexican Chapter of the AFS. Hotel el Cid, Mazatlan Sinaloa Mexico. Deadline for abstracts is Feb 28. See ola.icmyl.unam.mx/mazatlan2011/.

5/16-6/3 — Workshop on Quantitative Evolutionary and Comparative Genomics: **Linkage and Recombination in Genome Sequences**. Okinawa Institute of Science and Technology Seaside House, Onna, Okinawa, Japan. Application deadline March 15. See www.oist.jp/qecg2011/doku.php?id=Start.

5/23-27 — Workshop on **Next Generation Sequencing** hosted by the Vienna Graduate School of Population Genetics. The participants are provided hands-on training on NGS data analysis and covers mapping NGS reads on a reference genome, SNP and indel discovery, sequence analysis of pooled data (Pool-Seq), de novo assembly and RNA-Seq. The workshop is designed for PhD-students and post-docs working on projects that involve NGS analysis. Vetmeduni, Vienna, Austria. Application deadline is 10 March. See: www.popgen-vienna.at/training/ngs-workshop.html.

5/31 — Application deadline for short course on "**Phylogenetics: new applications, pitfalls and challenges**" offered by the Ludwig-Maximilian-University of Munich's Master's programme in Evolution, Ecology and Systematics. 7 - 12 August, Frauenchiemsee, Prien Germany. See www.eeslmu.de/eeswiki/Summer_school_2011.

5/31 — Deadline for poster abstracts at **SMBE 2011**, the Annual Meeting of the Society for Molecular Biology and Evolution. July 23-28 at Kyoto University, Kyoto Japan. Deadline for application of symposia and workshops is February 28. Deadline for oral abstracts and early registration is April 30. See smbe2011.lab.nig.ac.jp/.

The American Fisheries Society

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