



Standing: Rossanna Contreras-Godfrey (*Assistant Director*), Christine Crawford, Grant Balkema, Veronica Joseph, Andrew Grillo, Meg Larsen, Curt Dudley-Marling,. **Kneeling:** Gaelle Gourgues (*Counselor*), Vienna Mbagaya, Jonathan Rose, Tanesha Barnes, Martsyl Joseph, Helina Teklehaimanot

Abstracts

Tanesha Barnes

Major: English and Theology, Black Studies Minor

Mentor: Karen K. Miller, Adjunct Associate Professor of History

Is Black Still Beautiful: The Notion of Blackness of the Post Nationalist Era?

During the 1960s and 1970s there was a strong emphasis on such beliefs as black is beautiful. However by looking at the period after the 1970s to the end of the twentieth century there is a questioning of the acceptance of blackness. Three important observations that William Edward Burghardt DuBois makes in his collection of essays and short story, Souls of Black Fold is the color line, the way that black people tend to look at themselves through the eyes of others, and the moments of racial consciousness that a black people experience. This project is investigating the consideration of blackness in the post nationalist period. Through looking at the lives of a few famous African Americans, I will investigate if the notion of blackness has become more acceptable in the post nationalism era or if blackness is something that one has to overcome and transcend in order to be successful.

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Christine Crawford

Major: Biology

Mentor: Balkema, Associate Professor of Biology

Elevated Calcium Levels in Albino Mice Retinas.

In this experiment, calcium levels in the subretinal space of C2J (albino mice) and B6 (black mice) were examined in order to determine which strain of mice would have elevated calcium levels within the retina. Calcium levels within the retina are significant in the role of activating the rods of the photoreceptor which allows the eyes to completely adjust from light to dark ambient conditions. It already has been determined that elevated calcium levels in the subretinal space leads to an increase in the time it takes for the eyes to completely adapt to dark conditions. A spectrophotometer was used to obtain absorbencies of the BSA (bovine serum albumin) standards. In order to ensure that the same amount of protein was present in the retina samples that were used, a standard curve of the BSA standards were created to determine the protein concentration in the C2J and B6 retina samples. Calcium standards were also used to create a standard curve in order to determine the concentration of calcium that were in the retina sample. Four retinas were used in the samples for both C2J and B6. elevated calcium levels were found in the C2J strain of mice which was extrapolated from a data plot that was created by the spectrophotometer.

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Andrew Grillo

Major: Political Science

Mentor: Paul Christensen, Adjunct Associate Professor of Political Science

The Effects of Globalization on Russia and its Reintegration in the World System

The process of globalization is a powerful force that has interconnected the world in the last thirty years to the extent that “developments in one region of the world have profound consequences for the life chances of individuals or communities on the other side of the globe.”¹ Part of this process has been the globalization of democracy as well. According to David Held, globalization transforms the “*organization of social relations and transactions*”² in different ways in different countries and in specific ways within segments of a society. The purpose of our study is to understand the effect globalization has had on post-soviet Russia, specifically on civil society development, which Robert Putman contends, is an important factor contributing to the consolidation of democracy. To do this, we must assess the situation from two different perspectives: that of the Western nations who are aiding Russia so that it can join the capitalist world system made up of democratic states; and that of Russians. Because of globalization, non-government organizations (NGOs) and intergovernmental organizations are

¹ David Held, et al., *Global Transformations* (Stanford, CA: Stanford University Press, 1999), p.1.

² Held, p.16

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now major players in world politics and can directly and indirectly alter state behavior and effect societies in general. Western scholarship agrees that Russia is not a consolidated democracy and that because of the Soviet legacy, social capital is limited and civil society development has been extremely difficult. Additionally, NGOs have failed to connect activists, women’s organizations, environmental organizations and other groups with the rest of society. Therefore, these groups have failed to develop civil society in Russia. When professor Christensen returns from Moscow we will collaborate and begin to have an in depth understanding of civil society development and the prospects for full democratization in Russia, which will determine the success with which Russia can reintegrate into the capitalist world system.

Martsyl Joseph

Major: Communications

Mentor: Guerda Nicolas, Assistant Professor of Counseling Psychology

Quality of Life and Social Support among Haitians: Social Support and the Effect of Family on the Mental Health of Haitians

The purpose of this study is to examine how family affects the mental health of Haitians and also how Haitians utilize their families as a form of social support. Using a sample of 150 Haitian people of both sexes, ages 22 and up, participants were asked questions about their immediate and extended families, how they feel about their families and themselves, and what kinds of things cause them stress. The four scales that were

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used are the Neighborhood and Family Questionnaire ((NFQ), Belle, 1981, 1982), the Center for Epidemiologic Studies Depression Scale (CES-D) (Radloff, 1977), the Self-Esteem Rating Scale (SERS), the Social Attitudinal Familial Environmental Scale (SAFE). Previous research has shown that social support decreases depression among a number of ethnic groups such as Asian-Americans, Dominicans, and Mexicans (Aranda et al., 2001; Yeung, 2004; La Roche, 1999). Therefore, it is anticipated that there will be similar results for Hatians.

Veronica D. Joseph

Major: Biology and Spanish

Faculty mentor: Marc Muskavitch, Chairperson and Deluca Professor of Biology

Delta-Notch Signal Transduction Pathway

Delta and Notch are cell surface proteins that function in cell specification during oogenesis, metamorphosis and embryogenesis. The Delta-Notch signal transduction pathway in *Drosophila* is being studied in order to determine the role of different genes in Notch signaling as well as which genes are pertinent to Delta functioning. Furthermore, the role of endocytosis in Delta-Notch signaling is being investigated. *Drosophila* with transposons, segments of DNA that is capable of replicating itself and inserting a copy into a new position within the same or another chromosome or plasmid, will be crossed with *Drosophila* that contains glass multiple repeats and is over expressing delta, GMR-gal 4 uas dl (rough eye

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phenotype). Genetic modifier screen tests will then be used to examine the children that are the produced by the cross to see whether there is loss-of-function or gain-of-function of the eye phenotype. Once the modifier screen tests have been performed, they will be repeated again in order to validate the results obtained. Following the genetic modifier screen tests, negative tests will be performed in order to ensure that the transposons indeed affected Delta and not another protein. Finally, the genes that are affecting the Delta-Notch signal transduction pathway will be identified. Moreover, the wing discs and eye discs of mutant *Drosophila* will be removed and stained with antibodies that are specific for Delta and Notch in order to study the sub-cellular movement of Delta and Notch.

Margaret Larsen

Major: Human Development/Sociology

Mentor: Curt Dudley-Marlin, Professor of Education

Parenting Styles and How They Relate to the Social, Emotional, and Academic Adjustment of Students to College

Diana Baumrind wrote the seminal work on parenting styles, her definitions of authoritative, authoritarian, neglecting/rejecting, and permissive parenting are being used as a guideline for categorizing parental styles in this study. Adolescents from authoritative homes, homes in which the parents were firm yet understanding, attentive but not intrusive, and supportive, but not controlling, have been found to be the best socially, emotionally, and academically adjusted the college; where as adolescents from neglecting/rejecting homes,

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homes in which the parents had little to no contact or attachment to their adolescent and in some cases actively rejected the adolescent, have been found to be the most poorly adjusted in all the reviewed areas.

Vienna Mbagaya

Major: Biology/Pre-med

Mentor: John Boylan, Director, NMR Center, Chemistry Department

HIV/AIDS in Dorchester in a “Socio-Cultural” Context

Dorchester, a predominantly immigrant and first generation American neighborhood, has one of the highest number of HIV positive individuals in Boston. This outstanding statistic begs the question: is there a correlation between the community’s demographic and the prevalent epidemic? My research explores AIDS, and epidemic that permeates Dorchester in a “Socio-cultural” context. The concepts covered include sex education in schools, HIV/AIDS Awareness efforts in the community, and open discussions about sex in immigrant households. An overview of the procedure followed entails a detailed survey that explores the adolescents’ knowledge of HIV/AIDS, their attitude towards awareness, and their practice in response to safer sex education.

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Jonathan Rose

Major: Chemistry and Business Management

Mentor: Lawrence T. Schott, Professor of Chemistry

Synthesis of Dibenzo[*a, g*] corannulene

An attempt is underway to synthesize a [6,6] single walled carbon annulate with 6-fold symmetry. The proposed pathway includes regioselective functionalization of the polycyclic aromatic hydrocarbon dibenzo[*a, g*] corannulene, dimerization of the C₂₈H₁₂ bowl, and precedented pyrolysis of an anhydride precursor to the target end cap. Dibenzo [*a, g*] corannulene was successfully synthesized by two independent routes employing the same precursors: 1) flash vacuum pyrolysis and 2) a double intramolecular Heck reaction. The precursors were synthesized in three steps from commercially available starting materials.

Helina Teklehaimanot

Major: Political Science

Mentor: David Deese, Associate Professor of Political Science

A Fight to be Seen and Heard:

The Negotiating Tactics of African Countries in the World Trade Organization

The purpose of this research is to study the role of African states in the decision making process of the World Trade Organization, with special attention to the period following the

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ministerial meeting in Seattle of 1999. specifically, this research is to focus on their efforts in increasing market access in the domain of Agriculture. Thus, this study will give particular attention to the agreements of the Uruguay Round and the extent to which they have been executed in order to form the basic understanding to the discontent of many African countries. Furthermore, this paper will study the Like-Minded Group (LMG) of countries and their successor, the G-20 as particular examples of coalition types. Therefore, the empirical data that will be used will be placed within a larger conceptual framework, in order to ascertain the best strategy through which African countries could enhance their weight to gain further market access.

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