Roma rights on the world wide web

The role of internet technologies in shaping minority and human rights discourses in post-socialist Central and Eastern Europe

Neda Atanasoski

University of California at Santa Cruz

Abstract This article addresses contemporary Roma rights issues in Central and Eastern Europe by exploring the relationship between internet technologies and the discourses surrounding human rights and the post-socialist transition. Because the Roma are a transnational European minority ethnic group, they have been used as a ‘test case’ by western human rights groups to evaluate minority rights in post-socialist nations. The article highlights the role of new media technologies in redirecting concerns about the lack of human rights in Europe as a whole to the former Eastern bloc countries. It draws attention to the limits of western liberal discourses and new media technologies to redress racial and material discrimination against the Roma.

Keywords Central and Eastern Europe, European Roma Rights Centre, human rights, internet technologies, Kosovar Roma Oral Histories Project, post-socialist transition

On 2 February 2005, the prime ministers of nine formerly socialist central and southeastern European nations signed the Declaration of the Decade of Roma Inclusion in Sofia, Bulgaria. The Declaration, which was endorsed 13 years after the fall of communism in Central and Eastern Europe, followed years of efforts on the part of non-governmental organizations (NGOs) and Roma groups to raise public awareness about discrimination. A transnational European minority without a nation state, the Roma have faced violence, expulsion and legal disenfranchisement since their migration to Europe around the 12th century, the best known of which was the Nazi program of mass killings of the Roma and Sinti during the Holocaust (Hancock, 1987). Since the end of the Cold War, global attention...
to prejudice against the Roma in Europe has turned largely to instances of violence and discrimination in Central and Eastern Europe.

The Decade of Roma Inclusion (www.romadecade.org) aims ‘to improve the socio-economic status and social inclusion of Roma within a regional framework’ in Bulgaria, Croatia, the Czech Republic, Hungary, Macedonia, Montenegro, Romania, Serbia and Slovakia. According to the project’s website, ‘all of these countries have significant Roma minorities and the Roma minority has been rather disadvantaged, both economically and socially’. That the Decade uses a regional focus to frame the struggle for Roma inclusion raises important questions about how discrimination against ethnic minorities is made unevenly legible in an enlarged Europe. Funded by financial institutions such as the World Bank and the Council of Europe Development Bank, as well as by socially oriented foundations such as the Open Society Institute (www.soros.org/about) and the European Roma Rights Centre (www.errc.org), this project of Roma inclusion suggests a need to explore the connections between Central and Eastern European economic liberalization, ethnic identity formations and human rights discourses after communism. This article responds to this need by focusing on how internet technologies have been central to making Roma rights struggles visible as a human rights issue during the Central and Eastern European post-socialist transition.

After the collapse of socialism, the West regarded the possibility of ethnic conflict to be one of the greatest challenges to Central and Eastern European transition. For example, western media and politicians explained the violent disintegration of Yugoslavia as an instance of ‘ancient’ ethnic hatreds resurfacing after decades of communist repression (Kaplan, 1994). Rather than considering how the difficulties of economic and social upheaval after communism produced new and, at times, violent manifestations of ethnic and nationalist identity, such discourses supposed that ethnic conflict was inherent to the region itself (Woodward, 1995). Against the backdrop of ethnic and nationalist wars, the West became concerned with the general status of minority civil rights in Central and Eastern Europe. Indeed, granting and promoting juridical and political rights became one of the major conditions, along with economic reform, for the admittance of post-socialist nations into the European Union (EU).

Because the Roma are a transnational minority ethnic group which lives in every European nation, western human rights groups and NGOs have used them as a ‘test case’ to evaluate minority rights in post-socialist nations. Using the figure of the ‘Gypsy’ as a metaphor for democratic transition, Václav Havel famously stated that the Roma have become a ‘litmus test for civil society’ in Central and Eastern Europe (in O’Nions, 2007: 1). Ironically, as western governments focused attention on Central and Eastern European prejudice against the Roma and used this as evidence for how much work the ‘democratizing’ nations must undergo to become liberal democracies, discrimination against them persisted in
western Europe. For example, since 1990, Roma groups in Germany and Austria have experienced a tenfold increase in violent attacks (O’Nions, 2007), and immigrants have been subject to ongoing neo-Nazi violence (Rose, 2007). In 2002, France and Switzerland attempted to expel Roma migrants and to block the migration of Romanian Roma, and as recently as 2008, pogroms against Roma migrants took place in Italy (Wilkinson, 2008).

In light of ongoing western discrimination against the Roma, it is not surprising that western European concerns about Central and Eastern European Roma stemmed from a desire to prevent Eastern European Roma migrants and asylum-seekers from entering the West (Dediu, 2007; Sobotka, 2007; Tamas, 2007). During the 1990s, western governments re-articulated what had been regarded initially as a security threat posed by unwanted Roma migrants as a human rights concern and as a matter of EU policy toward accession countries (Sobotka, 2007). According to Marcel Dediu (2007), in the process of recognizing discrimination against the Roma, the EU developed a ‘double language’. While post-socialist nations were ‘asked to respect minority rights’ as a ‘conditionality’ mechanism for inclusion in the EU, the EU itself had ‘no specific policy promoting the rights of minorities’, let alone of the Roma (Dediu, 2007: 114). Human and minority rights conditions were framed in such a way as to apply only to accession countries (Dediu, 2007). In other words, only after the fall of communism did the EU form a policy about the Roma as a vulnerable minority ethnic group and even then, the legal and political status of the Roma only came under scrutiny in Central and Eastern Europe.

Beginning in the mid-1990s, the spread of internet technologies facilitated the discursive production of the Roma as the foremost figure around which to formulate, debate and evaluate the status of minority and human rights in Central and Eastern Europe. My contention is that the rhetoric about democratization after socialism and the utopian hopes for the internet as a democratizing medium enabling the free flow of information and networking across national boundaries — two distinct discourses that coalesced in the 1990s — have been co-constitutive of human rights discourses about the Roma of Central and Eastern Europe. Although an ethnographic study of how Roma groups themselves view and utilize internet technologies to effect policy changes in an enlarged Europe would be important for understanding the nuances of post-socialist media practices, it is beyond the scope of this article. Instead, my focus is on how the twin discourses about technological progress and post-socialist transition not only have masked the fact that economic liberalization often has exacerbated ethnic tensions, discrimination and poverty for minority ethnic groups in the region, but also have redirected concerns about minority and human rights in the West to the former Eastern bloc countries.

The first section of the article explores how the language of human rights has been deployed to conceptualize Roma rights in Central and
Eastern Europe as a crucial issue for the post-socialist transition. These discourses conceive of discrimination against the Roma as a problem for democratizing nations while foreclosing discussions about western racism and discrimination. The second section critiques the hopeful discourses about the internet as a tool for promoting human rights by addressing the digital divide that persists in Central and Eastern Europe, and which prevents many Roma from accessing the internet. I argue that sites about Roma rights risk producing the Roma as a ‘virtual’ subject of rights that metaphorizes Central and Eastern Europe’s liberalization. The final section analyses the Kosovar Roma Oral Histories Project website, which reframes dominant discourses about internet technologies and human rights by using an online forum to give voice to displaced Roma. I conclude that there is a need for a broader understanding of human rights in the EU that connects the forms of discrimination in the West to those in the East and makes both legible.

**Roma rights as human rights in the post-socialist context**

Throughout the Cold War, state socialist ideologies were understood to be incompatible with human rights ideals of protecting individual civil and political rights (Thomas, 2005). According to Jacques Rancière, after the fall of the USSR, the West thought that the human rights movement would usher in a ‘new landscape of humanity freed from totalitarianism’ (2004: 297). However, instead it

became the stage of new outbursts of ethnic conflicts and slaughters, religious fundamentalisms or racial and xenophobic movements. The territory of ‘post-historical’ and peaceful humanity proved to be the territory of the new figures of the Inhuman. (2004: 297)

This troubling figuration of Central and Eastern Europe as a landscape of inhumanity implicitly positions the West, which evaluates the post-socialist nations’ progress towards the standards of European liberal democracy, as the landscape of humanity (which in turn it defines). Although, as I have noted, violence, prejudice and discrimination against the Roma occur in both Western and Eastern Europe, for the most part EU policy debates have suggested that Roma rights violations are a problem of the post-socialist transition. The result is that in Central and Eastern Europe, the issue of human rights has been linked with capitalist development. For example, in a 2002 enlargement briefing about the status of the Roma in Central and Eastern Europe, minority rights are understood as complementary to the development of ‘functioning market economies’ (European Union Enlargement Information Unit, 2002: 4).

Enshrined in the Universal Declaration of Human Rights, signed by the UN General Assembly in 1948, contemporary conceptions of human rights
have their origins in the global community’s responses to fascism and the Holocaust. The Declaration internationalized the concept of rights by uncoupling individual human rights from the institution of citizenship that is subject to the jurisdiction of individual nations (Savic 1999: 4). Nevertheless, since the second half of the 20th century, respect for human rights has ‘become a standard criteria [sic] for the legitimation of modern nations’ (Savic, 1999: 5). As with the Jews, who were a stateless minority until the end of the Second World War, the statelessness of the Roma has made them vulnerable to prejudice in every European nation (Stauber and Vago, 2007). While international human rights law continues to be firmly grounded in Enlightenment ideals about the individual subject of rights (Balfour and Cadava, 2004), discrimination against the Roma demonstrates that the individualist emphasis ‘cannot meet the demands of this universally marginalized group’ (O’Nions, 2007: 25). For this reason, recent European debates about human rights have conceded the need to address the group rights of the Roma as a European racial minority (O’Nions, 2007). Thus recognizing the group rights of the Roma and legislating against racism have been important aspects of the way in which post-socialist regimes have attempted to legitimize themselves as liberal democracies prepared to join the EU.

In spite of the fact that liberal democracies and non-liberal regimes differ in their interpretation of human rights, almost all states agree that racial discrimination is one of the gravest human rights breaches (Cassese, 1999). However, definitions of racism are complex and varied. As Barnor Hesse has shown, contemporary Euro-American conceptions of racism privilege ‘the anti-fascist critiques of the Jewish Holocaust while foreclosing … critiques centered on western Imperialism’ (2004: 14), so that the racism manifest in nationalist movements is made visible, while the racism inherent in western liberalism is rendered invisible.

Because historically European Roma and Jews have faced similar kinds of prejudices, discrimination against the Roma as a minority group fits this privileged conception of racism. Furthermore, because nationalist sentiment has accompanied the processes of liberalization in Central and Eastern Europe, racism against the Roma in the post-socialist region has been made visible in human rights discourses in a way that discrimination and prejudice against the Roma and other minorities, immigrants and migrants in the West has not. This has reproduced a structure of power in an enlarged Europe that privileges the West as space of minority rights, liberalism and democracy. For example, the Organization for Security and Cooperation in Europe appointed a High Commissioner on National Minorities, whose power is limited to monitoring only those conflicts that could lead to outbreak of war. Implicitly, this limits the commissioner’s supervision to the nationalist ethnic conflicts in Central and Eastern Europe, and disregards ethnic and racial tensions in the western liberal democracies (Aukerman, 2000).
The Roma minority as a ‘virtual’ subject of rights in post-socialist Central and Eastern Europe

At the same time as post-socialist human rights discourses imagine the Roma as a ‘litmus test’ of the juridical and economic status of minority and human rights in the post-socialist nations, beginning with the spread of email and the world wide web in the early to mid-1990s, the internet seemed to provide a uniquely suited forum for Romani ethnic mobilization. Valery Novoselsky has argued that the internet fosters ‘virtual communities’ and transnational ethnic identification among the Roma (2007: 143; see also Vermeersch, 2006). Novoselsky (2007) suggests that the internet can transform the way in which the Roma interact, share information, develop civil society and construct social alliances and political movements. In this way, they can develop a ‘virtual nation’, using the internet as a forum (2007: 148). However, as Novoselsky acknowledges, due to high levels of poverty among the Roma, the task of developing this kind of virtual society will be up to their elites. Indeed, illiteracy, unemployment and homelessness rates are significantly higher for the Roma than for any other minority group in Europe (Ringold et al., 2005).

Novoselsky’s view of the internet as an ‘emancipatory tool’ for the Roma is limited by its top-down vision of the ‘elites’ role in the internet-based Romani ‘imagined community’. Envisioning the internet as a transnational and democratic public sphere depends upon a distinction between the virtual and the physical that excludes the material realities of the impoverished or uneducated (Slane, 2007). For example, this is why Novoselsky’s (2007) hopeful argument that the internet can facilitate the formation of a virtual Romani nation homogenizes different Romani groups’ experiences with discrimination across Europe in order to be able to imagine a coherent virtual nation. While the sites he looks to for evidence of the nascent virtual community are chiefly informational websites and Roma discussion forums, the top-down limitation of the internet as a medium for Romani mobilization also applies to human rights websites.

In its early years of broad usage in the mid-1990s, the internet was heralded uncritically as a medium that facilitates democratic development and rights. According to the Center for Democracy and Technology (2008), the internet is a unique medium of communication:

Like no other medium before, it allows individuals to express their ideas and opinions directly to a world audience and easily to each other, while allowing access to many more ideas, opinions and information than previous media have allowed. Consequently, there is a vital connection between the internet and human rights. (Center for Democracy and Technology, 2008)

As the social and economic situation of the Roma makes clear, this overly optimistic view of the internet’s unique relationship to human rights activism must be critiqued. First, it assumes that as an inexpensive tool for communication, the internet allows groups to seamlessly ‘coordinate
actions and make contacts’, ‘expose human rights violations’ through the spread of information, and have ready access to online documents and human rights research available through sites such as the one maintained by the United Nations High Commissioner on Human Rights (Center for Democracy and Technology, 2008; Metzl, 1996). However, the fact that a digital divide persists in many regions of the world problematizes these hopes for a ‘world audience’ with unrestricted access to information. In fact, western telecommunications companies carving markets in non-western nations make access to the internet prohibitively expensive. This continues to be the case, for example, for many people living in Bosnia, Serbia and Macedonia.

Ironically, many discussions about the relationship between internet technologies and human rights a priori align ‘democracy’ with the West, whose modernity is signalled by technology, while non-democratic regimes are imagined as exclusively non-western because they do not possess the communications technologies essential for promoting liberal forms of civil society. Michael Hegener’s argument is one example of this kind of thinking:

There is compelling evidence suggesting that dictatorial regimes can survive only in countries with fewer than 20 telephone lines per 100 inhabitants and most western countries now have well above 40 lines per 100 inhabitants. Of course, the internet – e-mail in particular – must have a similar if not a stronger beneficial influence on the most basic human rights. (Hegener, 1999)

Hegener’s statements point to the disparity in the extent to which the internet and email are available in western and non-western nations, while leaving unproblematized the geopolitical and structural causes for that technological disparity. When the internet is imagined uncritically to be a tool for human rights, the very same informational technologies to which many poor and disadvantaged peoples lack access are equated with humanitarian action. Thus wealthier nations in which access to internet and communications technologies is commonplace come to symbolize and define the scope of human rights activism.

The uneven production and circulation of human rights discourses within and about Central, Western and Eastern Europe, which is brought on in part by the digital divide, affects how discrimination and minority rights in the post-socialist region have been publicized on the internet. For example, the European Roma Rights Centre, a public interest organization, has used the internet to create the most prominent website focusing exclusively on the topic of Roma human rights. The Centre’s website downplays instances of human rights violations against the Roma in Western Europe, thus creating the misperception that Roma human rights is an issue emerging out of the problems of post-socialist liberal development. As an organization, the Centre specializes in ‘strategic litigation, international advocacy, research and policy development and
training of Romani activists’ (see www.errc.org). Since 1996, it has focused on matters of Romani education, health, housing and legal enfranchisement. Its most visible campaigns have included:

- school desegregation in Bulgaria, Croatia, the Czech Republic and Hungary;
- implementation of anti-discrimination laws that accord with the standards set by the EU and the Council of Europe in Bulgaria, Hungary, Romania and Slovakia;
- justice for victims of coercive sterilization in the Czech Republic, Hungary and Slovakia; and
- justice for the victims of ethnic cleansing in Kosovo.

Even though the Centre publishes a quarterly journal and individual country reports, produces cassette tapes for broadcast on Roma radio stations and prints Romani language brochures to promote activist training and to inform Roma of their rights, the primary tool for publicizing its actions is the organization’s website. The site archives all of the print materials, news and litigation and is available in English, Romani and Russian.

While the Centre claims to monitor, report and litigate cases of anti-Roma discrimination throughout the enlarged EU, the Balkans, the former Soviet Union and Turkey, the vast majority of violations against the Roma exposed through the website pertain to their socio-economic, political and legal situation in post-socialist nations. For example, in a summary of cases brought up by the Centre in 2005, 42 were in Bulgaria, 21 in Serbia and Montenegro and Ukraine, 20 in Slovakia and 18 in Hungary. The only western nation cited for more than one violation is Greece, with six cases. The Centre’s choice of which forms of anti-Roma discrimination to publicize and litigate mirrors the asymmetrical human and civil rights standards for nations embedded in the EU. In addition to focusing almost exclusively on the forms of discrimination that occur in Central and Eastern Europe, the major financial sponsors for the work of the Centre are western embassies to post-socialist nations, western foundations and NGOs. The funding and governing structures of the Centre provide further evidence that the organization’s priority is to monitor those states that have joined the EU recently, or that hope to join it.

Just as within the EU Central and Eastern European human rights violations have been monitored through a policy of ‘naming and shaming’ as part of accession criteria (Dediu, 2007: 119), the Centre’s website aims to increase public attention to Roma rights abuses by ‘expos[ing] and condemn[ing]’ such abuses in European nations and influencing and developing policy and rights standards in an enlarged Europe (European Roma Rights Centre, 2008). However, by highlighting predominantly Central and Eastern European violations, the site reproduces the western role of ‘naming’ the abuse and ‘shaming’ the Central and Eastern
European nations for it. Because exposure is at the heart of how human rights activists mobilize shame (Keenan, 2004), the Centre has utilized the internet as a medium for public exposure in the hope that this will facilitate post-socialist transformation. Furthermore, due to discrimination, poverty or lack of education, most Roma cannot be involved centrally in the online formulations and calls for their human rights. They become, in a sense, ‘virtual’ subjects of rights. Physically excluded as refugees from western nations such as France, Italy and Switzerland, in this case the internet functions to redirect Roma disenfranchisement symbolically throughout Europe to the post-socialist nations.

**Framing the displaced: the Kosovar Roma Oral Histories Project**

Replicating the regional focus of the Decade of Roma Inclusion, the European Roma Rights Centre’s online archive chiefly constitutes Roma rights as a Central and East European problem. In 2006, the United Nations Development Programme (UNDP) proposed a different framework for addressing the problems faced by the Roma – a ‘Decade of the Displaced’ (UNDP, 2006: 110). Although the UNDP’s proposal focuses on south-east Europe, a policy approach which accounts for the displaced has the potential to hold Western European nations as accountable for Roma human rights as the Central and Eastern European ones. First, as I pointed out at the beginning of this article, many of the Roma who encounter discrimination and violence in the West are migrants or displaced persons. Foregrounding the rights of the displaced across Europe potentially could account for the targeted exclusion of Romani migrants from western nations as a form of discrimination, and highlight the violence experienced by the Roma displaced to the West. Second, as I will elaborate, upon examining the causes of Romani displacement from post-socialist Central and Eastern European nations, it becomes clear that western (military or economic) intervention can contribute to discrimination against the Roma in the post-socialist region.

A focus on Romani displacement also reframes the relationship between Roma rights and internet and communications technologies. As the UNDP (2006) report notes, the mass displacement of the Roma from and within multiple post-socialist nations makes their access to information about their rights, including that found on the internet, and their political participation extremely sporadic. By way of conclusion, I turn to the Kosovar Roma Oral Histories Project (www.balkanproject.org/roma/index.shtml) as an example of a non-traditional website about anti-Roma discrimination, which redeploys internet technologies to give voice to the Roma who have been displaced from their homes in Kosovo, and who otherwise would not have access to digital media. Framing the mass
displacement of the Roma in Kosovo in a non-nationalist way, the site suggests that the causes of anti-Roma discrimination stem from Serbian and Albanian ethnic nationalism and from misguided western policy in the region. The site’s transnational approach to the causes of anti-Roma discrimination and Roma displacement holds both the West and the East liable for the lack of Roma human rights.

The Kosovar Roma Oral Histories Project was undertaken in 2003 as an online project responding to the failure of the international media and politicians to publicize the mass displacement of the Roma from Kosovo. After NATO’s 1999 bombing of Serbia and Kosovo, ethnic Albanians who had been driven out of their homes violently by Serbs sought revenge by expelling and killing Serbs, and along with them many Roma from Kosovo. Although the Oral Histories Project does not address Roma rights in juridical and political terms, it documents the discrimination against the Roma from the perspective of the displaced and gives an online voice to Romani non-elites in a way that produces a more multivalent depiction of the Roma as subjects in need of basic human rights. As with the European Roma Rights Centre, the Oral Histories Project is funded mostly by western non-profit organizations. However, the site’s projects are directed by the local Kosovo-based organization, Communication for Social Development (www.balkanproject.org), whose staff includes Albanians, Roma and Serbs. Unlike the Centre, which reproduces the perspective that Roma rights are chiefly a Central and Eastern European problem, the Oral Histories Project connects the Kosovar Roma’s experiences with minorities in the post-socialist region and the rest of Europe, presumably including the West:

Kosovo’s Roma are on the same downward spiral that smaller and poorer national minorities across Europe are in. The Kosovo Roma situation is exacerbated by the 1999 war and the poverty that affects the entire province. (Balkan Project, 2005)

The Oral Histories Project deploys internet technologies to archive Roma community members’ individual memories of the past and the present in Kosovo, including recent experiences with displacement (Figure 1). The site includes 52 individual interviews with Kosovar Roma, all of which are translated and transcribed into English from Albanian, Romani and Serbian, depending on the primary language of the respondent. Although this presumes that the website’s audience will be an English-speaking one, there are video and mp3 clips of the interviews which are not subtitled. For audiences to be able to see the respondents and hear their voices contributes to the archive’s feel that it is an oral history. This format provides a forum for Roma non-elites to be heard, which allows a more varied picture of different Roma communities to emerge. For example, the respondents are from different parts of Kosovo and include members of the established Roma community in Pristina, Kosovo’s capital, as well as the more
persecuted Roma groups in rural areas who have renamed themselves Egyptians to avoid violence (Balkan Project, 2005; Jashari, 2007).

One of the most important topics in the interviews is 1999 NATO bombing of Kosovo. Many of the Roma who were interviewed for the site consider the western military intervention to be the cause of ongoing displacement from their homes. As the project’s creators explain, although at the time of the interviews the NATO bombing was long over, most of the respondents still referred to it in the present tense, since the long-term consequences of the bombing were more significant in their lives than the military action itself (Balkan Project, 2005). Ardita, a 19-year-old internally displaced person who fled the small town of Obilic after someone threw a hand grenade at her family’s home, remembers that the Roma got along with both the Albanians and Serbs in her town until the 1999 bombing. For Ardita, the shift in the meaning and significance of ethnic difference within her local community occurred only after western intervention (Balkan Project, 2005). Her discussion of why she is displaced suggests that international policy shapes local identity formations. As with Ardita, many of the Kosovar Roma who were interviewed saw ethnic tensions not as inherent to their region, but rather as a more complex experience of ethnic discrimination that includes the effects of western intervention as well as those of the post-socialist transformation.
Conclusion

By concluding with a discussion of the Oral Histories Project I do not mean to imply that these Kosovar Roma voices present a more authentic understanding of ethnicity than the more official voices of the Roma elites and NGOs operating within the frame of EU human rights policy. Instead, I put forth this web project as a starting point from which to theorize how internet technologies can be used as an online forum, giving a voice to those who otherwise do not have access to the medium. Furthermore, by foregrounding the way in which the site frames displacement as the result of western intervention as much as local ethnic differences, I suggest that, within an enlarged Europe, the question of minority and ethnic rights should be rearticulated so as to assert that the problem of human rights is as much a problem of western liberalism as it is of the post-socialist transition. In fact, as I have been arguing, the two are connected. Thus the Oral Histories Project represents an opening in the discussion of human rights and the internet, making it possible to begin to theorize alternative forms of inclusion which also account for displacement in transnational human rights discourses and on the web.

References


Biographical note

Neda Atanasoski is an assistant professor in the Department of Feminist Studies at the University of California, Santa Cruz. Her research and publications are in the fields of US and Eastern European film and media during the Cold War and after, US race relations and popular culture, war, violence and nationalism and international legal discourses about racial and religious difference. Currently, she is working on a book that traces the evolution of US racial thinking and imperialism in relation to Eastern Europe since the Cold War by examining 20th century US film and media appropriations of 19th century western European imperial narratives. ADDRESS: Department of Feminist Studies, University of California at Santa Cruz, Santa Cruz 95064, USA. [email: atanasoski@ucsc.edu]