

# Conflict Urbanism

## The Aleppo Project



2011

Aleppo : Citadel

2015

Studio Critic:  
Laura Kurgan

Research Associate, SIDL:  
Madeeha Merchant

Collaborators:

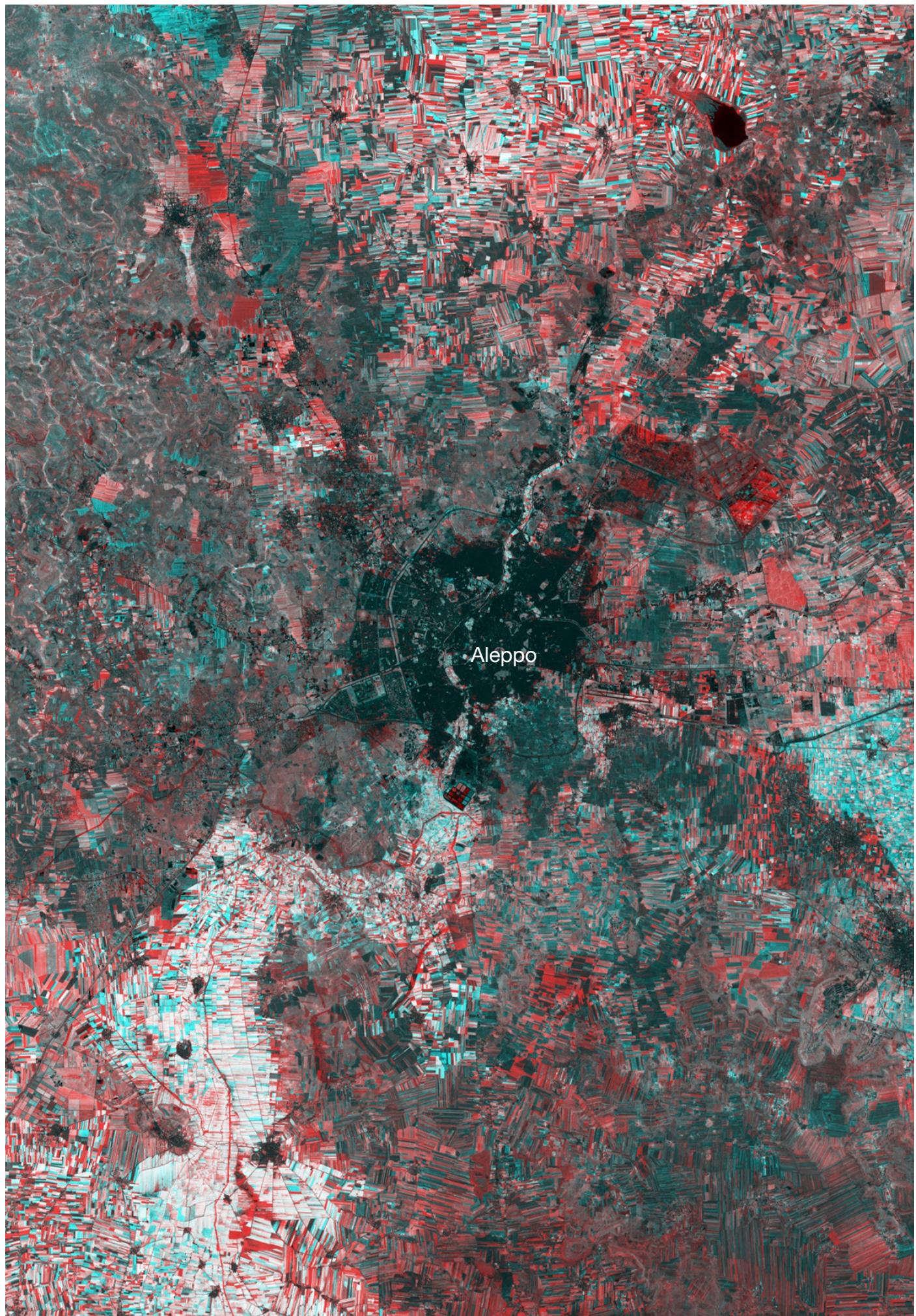
Nora Akawi  
Studio X GSAPP, Amman

Robert Templer  
Central European University, Budapest

Jamon Van Den Hoek,  
Post Doctoral Researcher  
NASA Goddard Space Flight Center



Aleppo: LANDSAT - True Color 2014



Aleppo: LANDSAT - NDVI Change Map (2004, 2014)

## Conflict Urbanism: The Aleppo Project

Today, an architectural approach to cities in conflict usually involves one or two kinds of research and analysis. One would be to consider the city itself as a battleground, to examine its role in the practices of conflict and violence, to explore it as a target and a weapon, and especially to attend to its post-conflict status and its reconstruction. The other would be to think about the alternative habitation that emerge during and in the wake of conflict, namely refugee camps and other shelters, and to approach them as something like cities in their own right, with their own urban infrastructures and force-fields.

This semester our studio will explore the urban dimensions of the Syrian civil war, taking the ancient city of Aleppo and a network of refugee camps in Jordan and Turkey as our sites. We will, however, raise some fundamental challenges to this standard architectural approach.

We will address the architectural issues here very differently, and place the emphasis on what we will call “conflict urbanism,” based on a multi-scalar, multi-temporal approach to the presents and future of cities in conflict. Our work will be informed by an analysis of the problems encountered in the rebuilding of cities as diverse as Beirut, Kabul, and Sarajevo, and by new research that discovers a host of less obvious spatial factors that bear on the experiences of refugees in and after conflicts.

We will begin with Aleppo refugees, but we will refuse to confine them -- conceptually -- to the space of the camp. We will try to understand their mobility, the paths that lead them to and from their temporary shelters, and the links that bind them to the places from which they came and to which they may later travel (which may or may not be their original homes). We will seek to understand their actions and their agency in relation to the conflict, and especially in the roles they might play in rebuilding. Most other actors in conflict routinely treat refugees as the passive victims of other people’s agendas. While this may sometimes be the case, it nevertheless dramatically fails to acknowledge or grant refugees the agency they often have and surely deserve. We will propose mechanisms by which the claims and voices of refugee populations can be heard and taken seriously, especially where urban reconstruction is involved, in a way that is commensurate at least with their role as targets and actors in the conflict.

Second, we will show that the factors that bear heavily on a future post-conflict Aleppo are not to be found simply in either the architectural ruins or the political causes of the conflict (whether they are sectarian, geopolitical, ideological, or otherwise), but also in other spatial factors, most notably climate change and related environmental issues (drought, desertification, energy, water, agriculture).

Thanks to a pair of distinguished collaborators, we have a lot of research and data on Syria, Aleppo, and the camps accessible and available. Robert Templer, of the Central European University in Budapest and a longtime analyst of crisis and conflict, brings to the studio the results of surveys with 400 refugees from the city of Aleppo who are now living in Jordan and Turkey. Jamon Van der Hoek, of NASA’s Goddard Space Flight Center, will help us with a rich archive of satellite imagery of the Aleppo area.

With these resources, as well as other data, during the first half of the semester, we will produce “change maps” of Aleppo in order to create alternate images of the city than the ones we already know. These “change maps” will allow students to navigate the city of Aleppo from a distance, gain an understanding of the past and current city, in order to imagine its future. Students will each create a data model to orient their work, select a scale at which to rebuild, and be guided by refugees and by maps to produce provocative work, which addresses the future of Aleppo. The second half of the semester will be in developing a project based on your change maps and data model at an architectural scale of your choice.

## Conflict Urbanism: The Aleppo Project

Our basic premise in the studio will be that the aftermath and rebuilding of the city of Aleppo must deal with environmental as well as political factors, with people as well as buildings, with data as well as material, and with networks as well as locations.

### Method and Design Process:

Our team of collaborators comes from multiple disciplines from the social sciences, to geography, to architecture. So we will be working with surveys of social scientists and satellite imagery from geographers, to understand and make proposals for the Aleppo within an architectural software environment.

We have already assembled a vast array of surveys, data collections, maps and satellite imagery. Our team is devising ways of collating these multiple datasets into an easy architectural workflow. You need no background in these technologies, but will take away from the studio ways of working with surveys and satellite imagery and open source mapping platforms that can apply to many other architectural projects.

Remote Sensing is mostly used by architects as background images of site, as a zoom mechanism (google earth) or as already analyzed image-data. In our studio, we learn what each pixel on satellite imagery mean, what its limits of visibility are, using the the satellite image as a dataset. We will use existing remote sensing algorithms, LANDSAT Imagery (from 2004 - 2015) to derive NDVI (Normalized Difference Vegetation Index) and NDBI (Normalized Difference Built-up Index) maps. NDVI (Normalized Difference Vegetation Index) has values from -1 to 1 and is an indicator of vegetative health whether that vegetation is rainforest, agriculture, or trees planted in a city park. NDBI (Normalized Difference Built-up Index), is also scaled -1:1, and has relatively high values over concrete, asphalt, and urban regions in general.

Next we will use change-mapping algorithms that subtract raster values of a satellite image collected at "Time 1" from an image collected at "Time 2." This method measures the difference in pixel values between two image dates and indicates "change" in the land cover conditions as they were observable at Time 1 and 2. We will use these maps to navigate through the city of Aleppo, to find specific locations or areas of interest, for further investigation. Using change detection and image analysis algorithms on High Resolution Satellite Imagery (2011-2014), through the Orfeo and Monteverdi Toolbox, we aim to perform an in-depth spatial and temporal analysis of our chosen geographical location.

Next, we will combine image analysis of our chosen location, with data derived from field surveys and social media, to verify and test our case arguments. We will use both, data scraping algorithms to access relevant data published in the New York Times and Guardian and social media data, like tweets, to verify our context. Using Grasshopper, we will work through easy workflows between ArcGIS, Open Street Maps and Rhinoceros, to facilitate our complex, data models. Lastly, present a select part of our final work in a Mapbox environment so that our work is accessible and open for public debate.

# Conflict Urbanism: The Aleppo Project

## Schedule:

Jan 21	Advance VI: Studio Lottery
Jan 23	Studio Introductions & Portfolio Review
Week2	ArcGIS + Open Street Maps + Grasshopper
Jan 26	Workshop: Mapping Aleppo and Camp Zaatari
Jan 29	Pin-up: Mapping Aleppo & Refugee Dwellings
Week3	Rebuilding Efforts and Refugees (w/ Robert Templer)
Feb 2	Discussion: Case Studies (Beirut, Kabul, Sarajevo)
	Workshop: Analyzing & Visualizing Survey Data
Feb 5	Pin-up: Data Visualization
.	.
Week4	LANDSAT Imagery (w/ Jamon Van Den Hoek)
Feb 9	Workshop: LANDSAT Analysis: NDVI, NDBI & Change Maps
Feb 12	Pin-up: Aleppo Classification and Change Maps
Week5	High Resolution Satellite Imagery
Feb 16	Workshop: High Resolution - Image Analysis Tools
Feb 19	Discussion: Echoing Borders Presentation w/ Nora
Week6	Constructing a Case   Data Model
Feb 23	Workshop: Social Media Analysis Tools for Case Verification
Feb 26	Pin-up: Case and Data Model
Mar 2/5	Mid Review Week
Mar 9-13	Travel: Jordan
Mar 16-20	Spring Break
Week10	Feedback: Learning from Field Visits
Mar 23	Discussion: Case field testing and verification
Mar 26	Pin-up: Case Development
Week11	Case Development
Mar 30	Desk Crits
Apr 2	Desk Crits
Apr 6/9	Three Quarter Review
Week13	Reaching an Audience
Apr 13	Workshop: Mapbox + Publishing Tools
Apr 16	Pin-Up: Presentation strategy
Week14	Final Preparation
Apr 20	Desk Crits
Apr 23	Pin-Up: Mock Up Review
Apr 27/30	Final Review Week

## Conflict Urbanism: The Aleppo Project

### Travel & Conference:

Our Studio will travel to Amman, Jordan from March 9th - 13th.

We have organized a very full schedule which includes:

- Engaging in valuable discussion with experts and researchers, working on sites of water and conflict
- Visiting Zaatari and Azraq Refugee Camps with field experts from Humanitarian Aid Agencies
- Visiting Informal tent settlements of Syrian Refugees in border regions of Tur'a and Ramtha
- Participating in a two day conference with students from other studios at GSAPP Bartlett and the AA.

\*The conference will include presentations from our project, Conflict Urbanism: The Aleppo Project, Collecting Territory, the CCCP Program, Campus in Camps, Forensic Architecture, and The Mediterranean Project. It will be a very productive and closed conference which includes students and teachers participating in collective research involving politics, architecture and climate change as the unifying themes of their work and pedagogy.

### Recommended Introductory Readings:

Michel Agier, On the Margins of the World: The Refugee Experience Today, Polity Press, 2008

William Polk: Understanding Syria: From Pre-Civil War to Post-Assad, The Atlantic Magazine, 12/29/2014  
<http://www.theatlantic.com/international/archive/2013/12/understanding-syria-from-pre-civil-war-to-post-assad/281989/>

Michael Kimmelman, Refugee Camp in Jordan Evolves as Do-It-Yourself City, New York Times, July 4, 2014  
[http://www.nytimes.com/2014/07/05/world/middleeast/zaatari-refugee-camp-in-jordan-evolves-as-a-do-it-yourself-city.html?\\_r=0](http://www.nytimes.com/2014/07/05/world/middleeast/zaatari-refugee-camp-in-jordan-evolves-as-a-do-it-yourself-city.html?_r=0)

Eyal Weizman, in Forensis: The Architecture of Public Truth, Sternberg Press, 2013.  
Introduction, pg 9-32, pg Introduction Part 2, 361-381