MAS.S64 Spring 2023
City Sci-fi:
Speculative Movie Making Towards the Design of Future Cities

A City Science Workshop

**Instructors:** Kent Larson, Gabriela Bilá, Luis Alonso (City Science)
Kaiho Yu (Visiting lecturer, Die Angewandte - Direct Tomorrow Lab)
+ City Science researchers and industry guest

**Time:** Wednesdays 9am-12pm
**First class:** February 8th (WED)
**Location:** E15-359 (MIT Media Lab)

**Contact:** gba@mit.edu (Gabriela), kll@mit.edu (Kent)

**Summary:** This class is a hands-on workshop on fiction narrative and movie making. Students will imagine how new technologies will impact urban life in 50 years and will produce a 2-5 minute movie to immerse larger audiences in their world concept.

**#1st half of term - Building the world and the story**
Students will learn about the state of the art of urban technologies, and informed by this, develop a future world scenario. Students will then create a character-based story that inhabits this world.

**#2nd half of term - Movie production and exhibition**
Students will build technical skills such as shooting, editing, virtual composing (Unreal Engine), and other aspects of moviemaking. They will be guided by the mentors and guest lecturers through the process of bringing their idea into completion of a short length movie piece, displayed at a public screening at the Media Lab Bartos Theater followed by Q&A.
**Motivation:** Urban planning traditionally focuses on the form and image of a city, but less on the urban experience. As time passes, the disconnect between urban design and human life begins to become more and more apparent. The future of the city depends on close attention to the human experience, and narrative can reinforce and investigate this intimacy.

In this workshop, designers, engineers, scientists and students from multiple backgrounds will make teams to imagine urban experiences in the future using movie making as a tool. We will take a look at fundamentals of sci-fi world building with a special focus on the role of city sets in the narrative, and learn techniques to plot stories into immersive narratives. Students will draw from research and ongoing projects at the City Science Group at the Media Lab. They will build an urban landscape that shapes this future, a character story to inhabit the world, and a short length movie that tells this story. Narratives will be experienced on many different levels through cinematography, prototyping, or sound design.

**Prerequisites:** Permission of Instructor, Units (3-2-7), Spring 2023.

**Learning objectives:**

- Ability to build a story to forecast “what if?” scenarios;
- Analyze future evolution and impact of current and future technologies;
- Experiment with directing and storytelling techniques;
- Explore the science fiction genre as a scientific research tool;
- Gain technical, aesthetic and conceptual skills on movie making;
- Build studio culture;
- Learn how to bring an idea to its completion: from a concept until it’s materialized into an exhibition to external audiences.

**Experience:** No previous technical or design experience is required. This class seeks highly motivated students from diverse backgrounds. Since the projects will be developed in teams with a mix of skill sets.

**Enrollment:** Maximum of 20 students will be accepted.

**Structure:** Typically, each 3-hour session will begin with a 45 to 60-minute lecture plus Q&A. Students will then be given a 2-hour in-class workshop time for assignments, tutorials and presentations of project progress.

Every week there will be homework that incrementally builds towards the final project. Therefore, having consistency on the assignments is crucial for the quality of the final work. Every class the students will present their project's latest development, in a way to build studio
culture and cross-pollination of ideas and skills among peers. In the second half of the term, students will meet weekly with course instructors during each class session, and during additional office hours on request.

**Optional activities:** During the term, optional activities will be held in order to collectively create skill sets and references. Attendance is not mandatory but is highly recommended.

- Movie nights followed by discussion
- Unreal Engine workshop
- Video editing workshop

**Class materials, guests and resources:** We will assign readings and movies to watch throughout the term. These materials will be based on student projects and class discussions.

Guest researchers and industry professionals will be joining us throughout the semester to present on their topics of expertise.

**Software:** We will use Adobe CC and free software for the in-class tutorials. Adobe CC is provided to MIT students via IST. Students are free to use other software for their final projects as they see fit.

**Final Project:** The final project is executed in groups of approx. 3 students and is composed of two main parts:

1. **The dossier (midterm):** Concept book with worldbuilding and story, containing at least:
   a. the technological premise of your world;
   b. why this theme is important for you;
   c. how different aspects of urban life might be impacted by this technology in fifty years;
   d. a main character or characters;
   e. style frames;
   f. draft storyboard for a 2 to 5 min movie;

   The dossier will be refined during the second half of the term as the projects will continue to evolve.

2. **The short movie (end of term):** A 2 to 5 min movie to immerse an audience in the world you created.
**Final exhibition:** The dossier and the movie will be presented at a public exhibition and festival screening session: the first open edition of the City Science Film Festival. Students will participate in a Q&A with the audience.

Students will be encouraged to exhibit extra materials they may produce throughout the term, such as prototypes, costumes, props, miniature models, posters, soundtracks, and anything that helps to communicate their world vision to the audience.

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**Weekly Schedule**

**Week 1 (08/FEB) - City Sci-fi**

**Room:** E15-359

**Class introduction:** Kent Larson, Gabriela Bilá, Luis Alonso, Kaiho Yu

Class overview:
- Summary of goals and the material that will be explored in the class
- Syllabus
- Class logistics
- Sources and materials

Q&A

Students and lecturers’ introductions.

City Science Fiction kick off: how the future of cities have been depicted throughout the history of cinema, music, and other forms of art. What the visions of the future can teach us about the context where they were created.

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**Week 2 (15/FEB) City Science**

**Room:** E15-359

**Lecture:** City Science researchers
Introduction of state of art technologies and global phenomena related to urbanization. City Science researchers present lightning talks on themes such as DAOs (decentralized autonomous organizations), emergent autonomous fleets, transformable housing, ubiquitous sensing, bio-growth, rapid informal urbanization, miniaturized nuclear batteries, among others.

**Homework:** Research and pick a new technology or phenomena to tackle on your final project. Prepare a short presentation: what’s the theme, why is that interesting to you, how this theme may relate to urban life in the future.

**Movie night (optional):** Movie TBA. Screening and debate.
**Room:** Bartos theater (E15-070)
**Time:** 7pm

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**Week 3 (22/FEB) Building fictional worlds**

**Room:** E15-359

**Lecture:** Natasha Sandmeier (Exec. Director of LA A+D Museum, UCLA faculty)
What’s the role of fiction in helping us design the future we want? Techniques on fictional world building.

**Class assignment:** Present previous week homework. Students divide in groups (this will be the working group until the end of the term).

**Homework:** Groups start building their world narrative.
Prepare a presentation for the following class: what’s the premise of your world, how it will impact cities in 2073, talk about 3 main areas in which the new technology will cause major impact (e.g.: city morphology, mental/physical health, social norm, economy, etc).

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**Week 4 (01/MAR) Character building**

**Room:** E15-359

**Lecture:** Dominga Sotomayor Castillo (Film director and screenwriter, Harvard faculty)
Internationally awarded film director, presents her process of character building and story development for cinema.

**Class assignment:** Groups present world-building from previous week homework. Start drafting a character.

**Homework:** Develop a character that will inhabit the world you created. Define as much as you can: age, gender, motivations, major life events they’ve been to, what’s their relation to the city, for how long they inhabit that place, what brought them there, costume, etc. Prepare a short presentation for the following class, where you could use flow charts, collages, diagrams and portraits to represent the character.

**Movie night (optional):** Movie TBA. Screening and debate.
**Room:** Bartos theater (E15-070)
**Time:** 7pm

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**Week 5 (08/MAR) Spatial narratives**

**Room:** E15-359

**Lecture:** Guest TBA
The role of space in stories. How fictional scenarios interact with character and plot.

**Assignment:** Present character development progress from the previous homework. Start developing the scenes to be shot after spring break.

**Homework:** Prepare midterm presentation: the dossier. It should contain: 1. the technological premise of your world, 2. why this theme is important for you, 3. how it will impact different areas of urban life, 4. which character will embody your story, 5. A draft storyboard or vignettes of how you will materialize your idea in a 2 to 5 min video format.

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**Week 6 (15/MAR) MIDTERM**

**Room:** E15-359
Midterm presentations: Groups present their world dossiers and the shooting plans for the next half of the term.

Week 7 (22/MAR) Production plan

Room: E15-359

Class assignment: Groups get feedback from instructors about the best ways to plan for the shootings and production. Continue working on projects.

Week 8 (29/MAR) MIT Spring break

Office hours by request.

Week 9 (05/APR) Virtual spaces composition

Room: E15-359

Lecture: Diogo Costa Pinto (Virtual Production Director - Quanta Studios BR)
Learn from industry examples of how cinema and advertisement productions build various special effects using state of art technologies.
Discuss high level concepts of narrative for virtual spaces such as 3D multi-layer compositions, camera movement, virtual lenses, character positioning, texturing, lighting, among others.

Class tutorial: Intro the Unreal Engine. Draft a 3D composition with camera movement.

Homework: Start developing your movie. Focus on your scenarios building and experiment with different tools (3D, illustrations, locations scouting, physical miniature etc).

Week 9.1 (08/APR) Morphing Boston Landscape - Unreal Engine workshop

Room: Media Lab MPR and outdoors.
Time: 9am - 5pm
Mentor: Diogo Costa Pinto (Virtual Production Director - Quanta Studios BR)
Hands on workshop using Unreal Engine to transform Boston landscape using real time rendering tool Unreal.

Week 10 (12/APR) Cinematography
Room: E15-359

Lecture: Sean Webley (Director of photography - La Restauración)
How to materialize concepts into images? Learn the process of a director of photography to craft images out of the story scripts. Many different ways a camera can observe and relate to character, objects and spaces in the scene. Watch exemples together and debate.

Class Tutorial: How to assemble a basic movie set. Cameras, lights, backgrounds, sound recording.

Homework: Continue working on your movie production. Start shooting and assembling a rough cut.

Week 10.1 - Video editing workshop

Date, time and location TBD.

Mentor: Gabriela Bila

Hands on workshop on Adobe tools (Premiere and After Effects) for video editing.

Week 11 (19/APR) Motion Design and Animation
Room: E15-359

Lecture: Guest TBA
Using motion design as a form of expression. How multiple techniques can be overlayed to tell a story. Watch examples of how artists have been experimenting with new languages for motion images.

**Class Tutorial:** Use Adobe After Effects for motion design and effects.

**Homework:** Continue working on the project. Focus on motion design and special effects, if any.

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**Week 12 (26/APR) Sound**

**Room:** E15-359

**Lecture:** *Guest TBA*

The role of sound in creating narratives and depicting the future. What is soundscape, what are sound effects, how to research sound, how sound and images are intrinsically connected.

**Class Tutorial:** Use software to edit sound and make corrections on field recordings.

**Homework:** Continue working on the project, focus on sound. Finalize rough cut to present at the following class.

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**Week 13 (03/MAY) Editing**

**Room:** E15-359

**Lecture:** *Inferstudio*

What’s the role of editing in crafting a narrative? What are different editing styles? Overall techniques for pacing a story and creating emotional responses on the audience through editing.

**Class assignment:** Watch rough cuts together and get feedback from guests and instructors.

**Homework:** Finalize the short movie, the dossier and any extra materials the group wants to exhibit.
Week 14 (10/MAY) Final Class

**Room:** E15-359

Students bring all the printed and physical objects they want to display at the exhibition. Final moment to get feedback from instructors on the short movie.

Submit the final movie file until 11:59pm EDT.

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(12/MAY - Friday) - Public Exhibit at the Media Lab

**Room and time:** Bartos Theater (TBC)

*Short Movies screening festival + the dossier exhibition*

Open to all Media Lab community. Q&A with students.

Final exhibit might be combined with other MAS classes' final presentations.