# Midterm Presentation

**IPRO 315, Spring 2008**

**Design of Large Scale Structure**

**(Automated Parking Garage)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Major</th>
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<tr>
<td>Brady*, Brian</td>
<td>AE</td>
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<td>Butkovitch, Paul</td>
<td>ME</td>
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<td>Chung, Chun</td>
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<td>Dominikowski*, Marek</td>
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<td>Herbert, Greg</td>
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<td>Hussaini, Nuddasir</td>
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<td>Magdel**, Irina</td>
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<td>Mallinger, Nicolle</td>
<td>ARCE</td>
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<td>Omeralovic, Enis</td>
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* Group Leader

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<td>Palma, Jennifer</td>
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<td>Rathakrishnan*, Malar</td>
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<td>Ratnani*, Shoaib</td>
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<td>Russeva, Diyana</td>
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<td>Russo*, Ben</td>
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<td>Shim, Mary</td>
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<td>Sisay, Mary</td>
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<td>Varhegyi, Aron</td>
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<td>Velichekov*, Veselin</td>
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* * Group Leader

** Project Record Keeping/Liaison with IPRO Office
Architectural Group

Construction Plans

FLOOR PLAN
SCALE: 1/32" = 1'-0"
Architectural Group

Physical 3D Model
Architectural Group

Physical 3D Model

Currently sizing the support girders for hollow-core planks floor system.

Procedure for beam selection was typed up in MathCAD to ease updates.

Meet in the second half of the semester with CAE professor for advice on connections design.
Structural Group – Wind Load

- Braced Frame - Loads
Structural Group – Wind Load

Moment Frame – Bending Moments
Structural Group - Foundation

Progress:

- Obtained soil report for site
- Preliminary design for foundation layout

Attended ethics workshop, wrote and submitted the code of ethics for this IPRO
Plan For the Rest of the Semester:

- Obtain new column loads

- Meet with soil mechanics professor for advice on soil conditions

- Plan foundation layout and finish foundation design

- Prepare structural detailing and create detailed rendering of foundation
Mechanical Group

Started with:

- Motor recommendations
- Design of elevator platform
- Design of comb system
Current Work

- Research on automated garages
- Analysis of previous semesters calculations and structure
- Motor Selection / Safety Consideration
- Vibrations Analysis Research
Future Goals

- Vibrations Analysis
  - SAP 2000
- Possibly design different elevator structure
- Alternative power
- Green Roof
- Human Interface / Sensors
Construction Management Group

Current Status

- Completed AIA A201 General Conditions Contract
- Completed parametric estimate

Goals for Spring 2008

- Provide contract documents needed to complete a project manual
- Provide a project cost estimate
Civil Group

Current Status

Performed site visit to verify dimensions from previous semester’s site plan.
Civil Group

Previously Completed in Fall 2007
- Preliminary traffic flow
- Preliminary site plan

Goals for Spring ‘08
- Design horizontal curves or intersections for traffic flow conditions
- Correct/update site plan
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Question and Comments