### University of Florida

**Course GMS 5905/DEN 8290**

**RNA interference and microRNAs: from advances in cell biology to therapeutic applications in the treatment of human diseases**

Schedule: all meetings in D5-10 [Tuesday meetings noon-1pm and Friday meetings 2:30-3:30pm; exceptions are shown in red]

<table>
<thead>
<tr>
<th>Date, time</th>
<th>Session/Topic</th>
<th>Paper presenters</th>
</tr>
</thead>
<tbody>
<tr>
<td>First meeting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sept 9 Friday</td>
<td>#1 Intro – RNAi basics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>siRNA and miRNA basics (30-40 minutes – Bing Yao)</td>
<td></td>
</tr>
<tr>
<td>2nd meeting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sept 13 Tuesday</td>
<td>Methods in miRNA detection (30 minutes – Paul Dominguez)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>miRNA-target mRNA prediction (15 minutes – EKLC)</td>
<td></td>
</tr>
<tr>
<td>3rd meeting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sept 16 Friday</td>
<td>miRNA and virus (40 minutes - Professor Rolf Renne, MGM)</td>
<td></td>
</tr>
<tr>
<td>4th meeting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oct 7 Friday</td>
<td>Paper #1 20 minutes</td>
<td></td>
</tr>
<tr>
<td>Paper #1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oct 7 Friday</td>
<td>Paper #2 20 minutes</td>
<td></td>
</tr>
<tr>
<td>Paper #2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Secondary: Daniel Felsing  
Secondary: Emily Feldman  
Reader: Lauren Gay |
*Learning objectives*: miRNA biogenesis, miRNA processing pathway | Primary: Maksim Radzvilovits  
Secondary: David Lopez  
Secondary: Emily Feldman  
Reader: Yuanjing Liu |
| 5th meeting         |                                                                               |                                                                                 |
| Oct 11 Tuesday      | Paper #3 20 minutes                                                          |                                                                                 |
| Paper #3            |                                                                               |                                                                                 |
| Oct 11 Tuesday      | Paper #4 20 minutes                                                          |                                                                                 |
| Paper #4            |                                                                               |                                                                                 |
Secondary: Fatma Ayhan  
Secondary: Daniel Felsing  
Reader: David Lopez  
Primary: Tatiana Salazar  
Secondary: Lauren Gay  
Secondary: Daniel Shabashvili  
Reader: Maksim Radzvilovits |
*Learning objectives*: RNA editing of miRNA, miRNA processing pathway |                                                                                 |
<table>
<thead>
<tr>
<th>Meeting</th>
<th>Date</th>
<th>Time</th>
<th>Paper</th>
<th>Duration</th>
<th>Title</th>
<th>Authors</th>
<th>Reading Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meeting</td>
<td>Date</td>
<td>Time</td>
<td>Topic</td>
<td>Presenter(s)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>---------------</td>
<td>-----------------------</td>
<td>----------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10th</td>
<td>Nov 1</td>
<td>Tuesday, 12:30-1:30pm</td>
<td>Introduction to RNAi therapy (40 minutes - EKLC)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11th</td>
<td>Nov 18</td>
<td>Friday</td>
<td>Gene therapy using ribozyme and shRNA (40 minutes - Professor Alfred Lewin, MGM)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Secondary: Kyungah Maeng  
Secondary: Tatiana Salazar  
Reader: Fatma Ayhan |
Secondary: Maksim Radzvilovits  
Secondary: Daniel Shabashvili  
Reader: Kamil Nowicki |
Secondary: Janine Gilkes  
Secondary: Kamil Nowicki  
Reader: Fatma Ayhan |
Secondary: Adrienne Gauna  
Secondary: Yuanjing Liu  
Secondary: Kyungah Maeng  
Reader: Daniel Felsing |
Secondary: Yuanjing Liu  
Secondary: Maksim Radzvilovits  
Reader: Tatiana Salazar |
Discussion format:

NIH study section style review-based discussion will be used. Each paper will be considered for its 1) overall scientific significance, 2) approach – methods and results, and 3) novel aspects etc. relative to our current concepts.

In brief, each paper will be assigned to three (or more) students/reviewers as “primary”, “secondary”, and “reader”. Individuals assigned as primary will take charge of the presentation and discussion and will spend no more than 25 minutes discussing critical issues in the selected paper using the guideline below. In order to be effective, some selection will have to be made… for example, not discussing every figure in equal details. **[Everyone is expected to read the paper ahead of time and participate in discussion.]** Individuals assigned as secondary will then spend 5 minutes to add points/comments not already discussed or take viewpoints different from the primary. Individuals assigned as reader will take brief notes/minutes/summary specifically related to strong positive/negative points/issues discussed during the meeting and submit a Summary within **72 hours**. Two examples for Summary are provided in the following pages.

Evaluation 2011

This is an outstanding presentation on how to present. Highly recommend to review multiple times.

30% - Written summary of discussions. See above.

Remaining 20% of the final grade will constitute active participation in Discussion. Attendance to all is required.

References:

General reviews:


miRNA biogenesis and function


*GW182 review:*

**miRNA methods**
USB (Northern)
http://www.usbweb.com/mirsect-it/mirsectit-animation.html
Applied Biosystems Web Seminar
http://appliedbiosystems.cnpg.com/lsca/webinar/russell/20070621/
Ambion microarray
http://www.ambion.com/catalog/ProdGrp.html?fkProdGrp=372
Exiqon
http://www.exiqon.com/SEEEMS/10040.asp

**General Information**
Course Director: Dr. Edward K.L. Chan
Office Location  D5-22
E-mail address: echan@ufl.edu – preferred communication
Office Phone number: 273-8849
Office Hours: by appointment only - via email