Dear University of Florida Faculty, Residents and Fellows:

We are pleased to announce the Spring 2011 Research/Biostatistics Course offered by the Center for Health Equity and Quality Research (CHEQR). The lecture series outline is detailed below. Please note that each lecture is independent of the others.

In addition to the Research/Biostatistics Course, there will be SPSS learner’s group “follow-up” session immediately after the topic covered by the Research/Biostatistical Course.

Please register for each lecture by calling Mark Farfard at 244-9270 or email at mark.farfard@jax.ufl.edu. The lectures will run from 12 Noon to 1:00 PM and are scheduled as follows:

Friday, April 1, 2011- Dogwood Room
Friday, April 8, 2011-Dogwood Room
Friday, April 15, 2011-Dogwood Room
Friday, April 22, 2011- Ash Room
Friday, April 29, 2011-Dogwood Room
Friday, May 6, 2011-Dogwood Room
Friday, May 13, 2011-Ash Room
Friday, May 20, 2011-Dogwood Room
Friday, May 27, 2011-Deal Boardroom
Friday, June 3, 2011-Dogwood Room
Friday, June 10, 2011-Dogwood Room
Friday, June 17, 2011-Dogwood Room
Friday, June 24, 2011-Dogwood Room

You are reminded that the ACGME requirements for all accredited programs in Graduate Medical Education include:

ACGME Common Program Requirements [effective July 2007]

Residents’ Scholarly Activities

1. The curriculum must advance residents’ knowledge of the basic principles of research, including how research is conducted, evaluated, explained to patients, and applied to patient care.

2. Residents should participate in scholarly activity. [As further specified by the Review Committee]

3. The sponsoring institution and program should allocate adequate educational resources to facilitate resident involvement in scholarly activities. [As further specified by the Review Committee]

Go to http://www.acgme.org/ for the complete text.
The Center for Health Equity and Quality Research (CHEQR) offers biostatistical consulting and research support services to faculty, residents, fellows and other researchers. CHEQR particular area of interest is health disparities/health equity, but CHEQR does offer consultative services for research that is not specifically focused on health disparities/health equity. For more information, please refer to the CHEQR website at [http://www.hscj.ufl.edu/cheqr/](http://www.hscj.ufl.edu/cheqr/). It is strongly encouraged for all of our researchers to attend the lecture series and to take full advantage of the consulting services.

### CHEQR Research/Biostatistics Course
#### SPRING 2011

<table>
<thead>
<tr>
<th>Date</th>
<th>Week</th>
<th>Location</th>
<th>Research/Biostatistical Course Topic(s)</th>
<th>SPSS Learners Group topic(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/1/11</td>
<td>Lecture 1</td>
<td>Dogwood</td>
<td>Evidence-based medicine</td>
<td></td>
</tr>
<tr>
<td>4/8/11</td>
<td>Lecture 2</td>
<td>Dogwood</td>
<td>Study Design 1 (Observational Studies)</td>
<td></td>
</tr>
<tr>
<td>4/15/11</td>
<td>Lecture 3</td>
<td>Dogwood</td>
<td>Study Design 2 (Clinical Trials)</td>
<td></td>
</tr>
<tr>
<td>4/22/11</td>
<td>Lecture 4</td>
<td>Ash</td>
<td>Data Exploration</td>
<td>Getting Started Using SPSS Software &amp; Modifying Data Values</td>
</tr>
<tr>
<td>4/29/11</td>
<td>Lecture 5</td>
<td>Dogwood</td>
<td>Sampling, Estimation and Hypothesis Testing</td>
<td>Summary Measures for Individual Data</td>
</tr>
<tr>
<td>5/6/11</td>
<td>Lecture 6</td>
<td>Dogwood</td>
<td>Analysis of Numerical Data</td>
<td>Correlation, t-test, Wilcoxon Signed Ranks Test</td>
</tr>
<tr>
<td>5/13/11</td>
<td>Lecture 7</td>
<td>Ash</td>
<td>Analysis of Categorical Data</td>
<td>Chi-Square, Cochran’s Q, Cramer’s V or Phi Friedman’s Test, Kruskal-Wallis, Spearman’s Correlation</td>
</tr>
<tr>
<td>5/20/11</td>
<td>Lecture 8</td>
<td>Dogwood</td>
<td>Correlation and Association (Bi-variable Analysis)</td>
<td>Two Independent Samples T-Test, Wilcoxon Rank Sum Test, ANOVA, Kruskal–Wallis test, Two-Way ANOVA, Repeated Measures ANOVA</td>
</tr>
<tr>
<td>5/27/11</td>
<td>Lecture 9</td>
<td>Deal Boardroom</td>
<td>Linear Regression Family (Anova)</td>
<td>Linear Regression</td>
</tr>
<tr>
<td>6/3/11</td>
<td>Lecture 10</td>
<td>Dogwood</td>
<td>Logistic Regression Family (Poisson)</td>
<td>Logistic Regression</td>
</tr>
<tr>
<td>6/10/11</td>
<td>Lecture 11</td>
<td>Dogwood</td>
<td>Bayesian Methods</td>
<td></td>
</tr>
<tr>
<td>6/17/11</td>
<td>Lecture 12</td>
<td>Dogwood</td>
<td>Meta-Analysis</td>
<td></td>
</tr>
<tr>
<td>6/24/11</td>
<td>Lecture 13</td>
<td>Dogwood</td>
<td>Diagnostic Tools and Assessing Agreement</td>
<td></td>
</tr>
</tbody>
</table>

From April 22\textsuperscript{nd} through June 3\textsuperscript{rd} participants (or others not in the class) are invited to bring their laptops and stay for an SPSS Learners Group “follow-up session” on the topic covered in the Research/Biostatistical course.

**Research/Biostatistical Course Topic(s)**

**Lecture 1: Evidence Based Medicine (Ch. 40)**
Introduction to the role of statistics in clinical research; the utility of evidence based medicine

**Lecture 2: Study Design 1 (Ch. 12 - 13)**
Details of types of observational studies; outcome measures; interpretation of the results

**Lecture 3: Study Design 2 (Ch.14 - 16)**
Details of types of randomized clinical control trials and studies; outcome measures; interpretation of the results

**Lecture 4: Data Exploration (Ch.1 - 9)**
Collection of data; creation of databases; summary measures; normal vs. non-normal distributions

**Lecture 5: Sampling, Estimation and Hypothesis Testing (Ch.10 - 11 & 17 - 18)**
Statistics for samples and populations; point estimation; general structure of hypothesis testing

**Lecture 6: Analysis of Numerical Data (Ch.19 - 22)**
T, Z and P; multiple group comparisons

**Lecture 7: Analysis of Categorical Data (Ch.23 - 25)**
Proportions of multiple groups; rates; 2x2 tables

**Lecture 8: Correlation and Association (Bi-variable Analysis) (Ch.25 - 26)**
Correlation of continuous data and association of discrete data

**Lecture 9: Linear Regression Family (Anova) (Ch.27 - 29)**
Linear Regression analysis and interpretation; Specific case of regression: ANOVA

**Lecture 10: Logistic Regression Family (Poisson) (Ch.30 – 31, 33)**
Logistic Regression analysis and unique interpretation (odds ratios)

**Lecture 11: Bayesian Methods (Ch.45)**
Uses of; advantages and disadvantages

**Lecture 12: Meta-Analysis (Ch.43)**
Fundamentals of meta-analysis and when it is appropriate to use

**Lecture 13: Diagnostic Tools and Assessing Agreement (Ch.38 – 39)**
Positive and negative predictive values; Coen’s Kappa; Bland and Atman statistics
SPSS Learners Group

**Lecture 1: Getting Started Using SAS Software & Modifying Data Values**
Reading IBM SPSS Statistics Data Files, Reading Data from Spreadsheets, Entering Data in SPSS, Defining Data, Creating a Categorical Variable from a Scale Variable, Creating New Variables, Sorting and Selecting Data

**Lecture 2: Summary Measures for Individual Data**
Summary Measures for Categorical Data, Summary Measures for Scale Variables, Creating and Editing Charts

**Lecture 3: Which Test to Choose?**
Statistical Tests for Nominal Data: Chi-Square Goodness-of-Fit, Chi-Square Independence, Cochran's Q, Cramer's V or Phi (Correlation for Nominal Data)
Statistical Tests for Ordinal Data: Friedman’s Test, Kruskal-Wallis, Spearman's Correlation

**Lecture 4: Which Test to Choose?**
Pearson’s Correlation Coefficient – Numerical Data:
  - One Group – Numerical Data: One Sample T-Test, Wilcoxon Signed Ranks Test
  - Two Related Groups – Numerical Data: Two Paired T-Test, Wilcoxon Signed Ranks Test

**Lecture 5: Which Test to Choose?**
Two Independent Groups – Numerical Data:
  - Two Independent Samples T-Test, Wilcoxon Rank Sum Test
More Than Two Groups – Numerical Data: One-Way Analysis of Variance (ANOVA), Kruskal – Wallis test, Two-Way Analysis of Variance (ANOVA)
Repeated Measures ANOVA – Numerical Data: Univariate Approach, Multivariate Approach

**Lecture 6: Linear Regression**
Simple Linear Regression & Multiple Linear Regression

**Lecture 7: Logistic Regression**
Simple Logistic Regression & Multiple Logistic Regression

Please call Mark Fafard at 244-9270 or e-mail at mark.fafard@jax.ufl.edu to register.