Meets with INFO-I 400 and INFO-I 590

In social systems, there is competition for prestige, recognition, awards, social status, popularity, leadership, wealth, fame, etc. What makes the difference in the achievement of these objectives? Is there any pattern behind success? For example, why an hashtag on twitter becomes popular, a song enters the hit parade, or a scientific paper becomes highly cited? This course will review quantitative studies aimed at measuring, predicting and understanding performance in social competitive arenas, ranging from social media to financial markets, from professional sports to scientific and technological innovation.

Students will learn:
- how to retrieve and extract performance data from the web or other electronic resources;
- how to measure and characterize performance from data with statistics and complex network theory;
- how to generate models for performance prediction.

Main topics covered in the course:
- Performance in professional sports
- Scientific impact
- Technological innovation
- Popularity in social media
- Measures of performance in financial markets

Prerequisites:
- basic knowledge of programming (e.g., python, perl)
- basic knowledge of statistics