

## Project Description

### Causes and Treatment of Adolescent Antisocial and Drug-Dependent Behavior

The Psychiatry Department's Division of Substance Dependence operates one of nation's premier programs of clinical care and research on adolescent drug dependence. At any given time about 100 adolescents, ages 14 to 18, are enrolled in outpatient, day-treatment, or long-term residential treatment for severe problems of substance dependence, usually coupled with conduct disorder (a juvenile antisocial disorder). Strong genetic contributions to the patients' problems cause the disorders to run in the patients' families. Thus, many of these youths come from very dysfunctional families, and many have experienced abuse and neglect. The youths often are violent, and many are gang-involved. They have serious drug problems, with dependence on alcohol and marijuana being most common, although many other drugs are used as well. These adolescents, much more than others, habitually make decisions to engage in uninhibited, dangerous, and life-threatening behaviors: fights, gang violence, substance intoxications, robberies and thefts, unprotected sex, dangerous driving, etc. The Division aims to reduce the youths' risks of mortality and morbidity by identifying the causes, and providing effective treatments against, these dangerous behaviors, using scientifically-based treatments, clinical treatment trials, genetic studies, and brain-imaging studies.

Examples of questions for Student Medical Scholar Projects include the following (details to be negotiated between the Mentor and the Scholar:

1. Examples of treatment-related projects (student utilizes literature reviews, visits to clinics, attending case conferences, clinical care activities, etc.)
  - a) What is the prognosis and course of adolescent conduct disorder and substance dependence? (Drs. Hopfer, Crowley)
  - b) What treatments have been shown to be effective for these disorders? (Drs. Riggs, Whitmore, Sakai,)
  - c) What prevention efforts may reduce the incidence of these disorders? (Drs. Whitmore, Sakai, Riggs)
  - d) How should pediatricians deal with these disorders? (Drs. Whitmore, Sakai, Riggs)
2. Examples of research-related projects (student participates in ongoing research activities of Division faculty)
  - a) What simple behavioral tests may capture the essence of patients' risk-taking and lack of concern for others, and how can those tests be incorporated into genetic and brain-imaging studies of patients' psychopathology? (Drs. Sakai, Crowley)
  - b) Where and which are the genes that contribute to the patients' disorders? (Drs. Hopfer, Crowley, Sakai)
  - c) What is the role of environment (such as abuse and neglect) in the development of patients' disorders? (Drs. Crowley, Hopfer, Sakai).
  - d) How can the severity of patients' disorders be measured for quantitative gene searches? (Drs. Hopfer, Sakai, Crowley)
  - e) How can the diagnostic criteria for these disorders be improved for future diagnostic manuals? (Dr. Crowley)
  - f) How are assessments and clinical treatment trials conducted with these complicated patients? (Dr. Riggs)
  - g) What abnormalities of brain structure and function may contribute to the patients' uninhibited and dangerous behavior? (Dr. Crowley). What important differences between adolescent vs adult brain development might influence risky behaviors?
3. Examples of social-ethical-policy projects (student utilizes literature reviews, visits to clinics, attending case conferences, clinical care activities, etc.)

- a) If genetically-influenced brain abnormalities contribute to the patients' disorders, can patients be held responsible for their behaviors, and what are the appropriate legal sanctions for their criminal behavior? (Drs. Sakai, Coors, Crowley)
- b) If these disorders have a life-long course, is short-term treatment appropriate and ethical? (Drs. Coors, Crowley, Sakai)
- c) Are these risk-prone adolescents able to protect themselves properly when giving consent or assent to participate in research projects? (Drs. Coors, Crowley, Sakai,)

### **Preceptor Information**

Name: Thomas J. Crowley, MD  
Department: Psychiatry  
Location: Rm 1G04, CPH Building (9<sup>th</sup> Ave. Campus)  
Contact: Thomas. [Crowley@uchsc.edu](mailto:Crowley@uchsc.edu) 303-315-7573  
Website: [ibgwww.Colorado.edu/cadd](http://ibgwww.Colorado.edu/cadd)

Name: Christian Hopfer, MD  
Department: Psychiatry  
Location: Rm 1J31, CPH Building (9<sup>th</sup> Ave. Campus)  
Contact: [Christian.hopfer@uchsc.edu](mailto:Christian.hopfer@uchsc.edu) 303-315-0718  
Website: [ibgwww.Colorado.edu/cadd](http://ibgwww.Colorado.edu/cadd)

Name: Paula Riggs, MD  
Department: Psychiatry  
Location: Rm 1G03, CPH Building (9<sup>th</sup> Ave. Campus)  
Contact: [Paula.Riggs@uchsc.edu](mailto:Paula.Riggs@uchsc.edu) 303-315-7652

Name: Joseph Sakai, MD  
Department: Psychiatry  
Location: Rm 1G06, CPH Building (9<sup>th</sup> Ave. Campus)  
Contact: [joseph.sakai@uchsc.edu](mailto:joseph.sakai@uchsc.edu)

Name: Elizabeth Whitmore, PhD  
Department: Psychiatry  
Location: Adolescent Clinic, 1212 So. Broadway, Denver, CO  
Contact: [Elizabeth.Whitmore@uchsc.edu](mailto:Elizabeth.Whitmore@uchsc.edu)

### **Position Information**

Time Period Allowed: Negotiable  
Openings: Up to 5

### **Project Information**

Domain: Medical Scholar  
Title: Causes and Treatment of Adolescent Antisocial and Drug-Dependent Behavior  
Funding: Various federal grants and state programs