

CURRICULUM VITAE

PART I: GENERAL INFORMATION

Name: Xiaoduo Fan, M.D., M.P.H., M.S.

Office Address: Biotech One, Suite 100
365 Plantation Street
Worcester, MA 01605, United States

Work Email: xiaoduo.fan@umassmed.edu

Work Phone: 508-856-3881

Work Fax: 508-856-8376

Place of Birth: Hunan Province, China

Education:

1986 - 1991	M.D., Peking University Medical School, Beijing, China
1995 - 1997	M.S., Clinical Psychology, Chicago Medical School, IL
2009 – 2011	M.P.H., Harvard School of Public Health, MA

Postdoctoral Training:

2001 – 2005	Psychiatry Residency, Department of Psychiatry, State University of New York at Buffalo, NY
2005 – 2007	Fellowship, Department of Psychiatry, Massachusetts General Hospital, MA

Licensure and Certification:

2005	Massachusetts Medical License Registration (# 225438)
2007	American Board of Psychiatry and Neurology certificate

Academic Appointments:

1991 – 1994	Instructor in Psychiatry, Department of Neurology and Psychiatry, Peking University Medical School, Beijing, China
-------------	--

2001 – 2005	Clinical Instructor in Psychiatry, Department of Psychiatry, State University of New York at Buffalo, NY
2005 – 2009	Instructor in Psychiatry, Department of Psychiatry, Harvard Medical School, MA
2009 – 2012	Assistant Professor of Psychiatry, Harvard Medical School, MA
2012 – present	Associate Professor of Psychiatry, University of Massachusetts Medical School, MA
2014 – present	Distinguished Professor, Zhengzhou University Medical School, Henan Province, China
2014 – present	Distinguished Professor, Xinxiang Medical University, Henan Province, China
2015 – present	Visiting Professor, Shanghai Mental Health Center/Shanghai Jiaotong University, China
2015 – present	Visiting Professor, Guizhou Medical University, Guizhou Province, China

Hospital and Institution Appointments:

2005 – 2012	Member, Massachusetts General Physician Organization, MA
2012 – present	Member, UMass Memorial Medical Group, MA

Other Professional Positions:

2005 – 2012	Visiting Scientist, Massachusetts Institute of Technology, MA
-------------	---

Hospital and Health Care Organization Clinical Service Responsibilities:

1991 – 1994	Attending Psychiatrist, Department of Neurology and Psychiatry, Peking University Hospitals, Beijing, China
2005 – 2007	Attending Psychiatrist, Freedom Trail Clinic/Erich Lindemann Mental Health Center, MA
2007 – 2008	Attending Psychiatrist, Boston Emergency Service Team (BEST) Urgent Psychopharmacology Clinic, MA
2008 – 2012	Attending Psychiatrist, Bridgewell Counseling Centers, MA
2005 – 2012	Attending Psychiatrist, Outpatient Services, Department of Psychiatry, Massachusetts General Hospital, MA
2012 – present	Attending Psychiatrist, University of Massachusetts Memorial Medical Center, MA

Major Administrative Responsibilities:

2005 – 2012	Associate Director, Schizophrenia, Diabetes and Weight Reduction Research Program, Massachusetts General Hospital, MA
-------------	---

2007 – 2008	Director, Boston Emergency Service Team (BEST) Urgent Psychopharmacology Clinic, MA
2008 – 2012	Medical Director, Bridgewell Counseling Services, MA
2009 – 2012	Director, Asian Mental Health Clinic, Massachusetts General Hospital
2009 – present	Chair, Mental Health Section, American Chinese Medical Association, MA
2013 – present	Executive Vice President, American Chinese Medical Association, MA
2012 – present	Director, Psychotic Disorders Clinical and Research Program, University of Massachusetts Medical School, MA
2015 – present	Director, China Mental Health Program, University of Massachusetts Medical School, MA

Major Committee Assignments:

2002 – 2005	Psychiatry Residency Training Program Curriculum Committee, Department of Psychiatry, State University of New York at Buffalo, NY
2007 – present	Cardiometabolic Health Congress Advisor Board, MA
2008 – 2012	Utilization Review and Quality Assurance Committee, Bridgewell Counseling Centers, MA
2010 – 2012	Patient Care Assessment Committee, Bridgewell Inc.
2011 – 2012	Massachusetts General Hospital Institutional Review Board (IRB), MA
2012 - present	Member, Massachusetts Department of Mental Health Psychopharmacology Experts Workgroup

Membership in Professional Societies:

1991 – 1994	Chinese Psychological Association, Member
1991 – 1994	Chinese Neurology & Psychiatry Association, Member
1995 – 2001	American Psychological Association, Associate Member
2001 – 2005	American Psychiatric Association, Associate Member
2005 – 2014	American Psychiatric Association, Member
2015 – present	American Psychiatric Association, Fellow
2015 – present	American Chinese Medical Association, Board Member

Community Service Related to Professional Work:

1995 – present	Lectures to community groups on mental health: senior centers, Asian culture centers, Asian churches, Asian professional organizations
2009 – 2012	Member, Advisory Board for Community Program Innovations, Inc., MA

Awards and Honors:

1988 – 1991	University Scholarship for Medical Studies, Peking University Medical School, Beijing, China
1991	First-place Award for Medical Student Research Project, Peking University Medical School, Beijing, China
1994 – 1995	University Fellowship for Graduate Studies, full tuition waiver and stipend, University of Delaware, DE
1995 – 1997	University Fellowship for Graduate Studies, full tuition waiver and stipend, Rosalind Franklin University of Medicine and Science, IL
2002	Evidence Based Medicine/Quality Improvement Award, School of Medicine and Biological Sciences, State University of New York at Buffalo, NY
2002	Program for Minority Research Training in Psychiatry (PMRTP) Fellowship, National Institute of Mental Health, MD
2003	American Psychiatric Institute for Research and Education/Janssen Research Scholars on Severe Mental Illness Fellowship, American Psychiatric Institute for Research and Education, VA
2003	NIMH Outstanding Resident Award, National Institute of Mental Health, MD
2004	Research Colloquium for Junior Investigators Fellowship, American Psychiatric Institute for Research and Education, VA
2006	New Clinical Drug Evaluation Unit (NCDEU) New Investigator Award, National Institute of Mental Health, MD
2008	Future Leaders in Psychiatry, Emory University Medical School, GA
2009	American College of Neuropsychopharmacology (ACNP) Young Investigator Award, ACNP, TN
2013	Resident research Mentorship Award, UMass Department of Psychiatry, MA
2015	APA/Janssen Resident Scholar Mentor Award, American Psychiatry Association

PART II: RESEARCH, TEACHING, AND CLINICAL CONTRIBUTIONS

II.A. Narrative Report:

II.A.1. Research:

During my stay at MGH from 2005 to 2012, I had been involved in more than 20 clinical studies as PI or co-investigator. My research interests focused on treatment strategies to treat psychopathology, cognitive deficits and cardiometabolic comorbidity in patients with schizophrenia. The goal of this line of research was to develop innovative intervention to address both psychiatric symptoms and medical comorbidity in this patient population.

By utilizing data from several completed studies, I had the opportunity to explore several new intervention approaches and possible underlying pathophysiological processes related to metabolism and psychopathology in schizophrenia patients. Specifically I had examined the role of insulin and insulin resistance in relation to energy balance, glucose metabolism, and schizophrenia symptomatology. The findings based on this part of work were published in leading psychiatry journals, and served as the basis for my 5-year Career Development Award (K23) from NIH.

As part of my K23 career development plan, I had completed a MPH degree at the Harvard School of Public Health. The MPH training has refined my research skills and enabled me to integrate a new dimension (public/global health) into my research.

In June 2012, I was recruited by the University of Massachusetts Medical School (UMMS) and the UMass Memorial Health Care System to lead the Psychotic Disorders Clinical and Research Program at UMass. The research program aims to elucidate the etiology of each facet of the triple jeopardy (devastating mental illness, medical co-morbidity, and substance use), and possibly shared pathophysiological pathways and mechanisms among these three conditions. The goal of our research is to develop innovative intervention strategies combining pharmacological and psychosocial approaches to treat schizophrenia symptoms, medical co-morbidity and substance use, and ultimately to improve the quality of life in this patient population.

II.A.2. Teaching:

For the past several years, I have been a lecturer for various courses within or outside Massachusetts General Hospital, and more recently at UMass. Audience makeup of the courses ranges from medical students, research staff, psychiatry residents, practicing psychologists and psychiatrists. In addition, I have been providing clinical supervision for psychiatry residents as well as research supervision for research staff at the high school, graduate, and post-graduate levels.

II.A.3. Clinical Work:

Between June 2005 and June 2007, I spent 8-10 hours/week providing clinical care for chronically mentally ill patients at the Freedom Trail Clinic/Erich Lindemann Mental Health Center, which is where the MGH Schizophrenia Program is located. More than 50% of my patients were considered treatment resistant. Working closely with a group of world-class psychiatrists provided me a great opportunity to develop my clinical expertise in treating schizophrenia and its medical comorbidity. As an expert consultant, I had helped develop clinical surveillance programs for Massachusetts Mental Health Center and other mental health organizations in the greater Boston area.

Between July 2007 and May 2008, I was in charge of the Boston Emergency Service Team (BEST) Urgent Psychopharmacology Clinic (8 hours/week). This clinic provides crisis evaluation and immediate psychiatric intervention for a variety of patient populations with different ethnic/racial/cultural backgrounds and social economical statuses from around the world.

Between June 2008 and October 2012, I worked as Medical Director of the Bridgeway Counseling Services (8 hours/week) in Lowell, MA. My responsibilities included overseeing clinical care for over 1,000 psychiatric outpatients, providing direct patient care and consultation for treatment challenging patients, coordinating and integrating patient care with various outside agencies and medical specialists, supervising 4 nurse practitioners and clinical staff, reviewing and approving treatment plans, discharge/termination summaries and orders for home health services, reviewing medical policies and protocols for the clinics, and participating in monthly utilization review, and semi-annual quality of patient care review.

Between October 2009 and June 2012, I served as Director of the MGH Asian Mental Health Clinic. Asian Americans are the fastest growing minority group in the US. However, Asian Americans have the lowest rates of utilization of mental health services among all ethnic populations. To better serve the mental health care need in Asian populations, I funded the Asian Mental Health clinic within the MGH Department of Psychiatry Outpatient Service in late 2009. With the support of the Outpatient Service leadership, this clinic had been running in its full capacity at the time I left MGH. Most patients in this clinic would not have received mental health care if without the existence of this clinic.

In recent years, I have seen an increasing number of international Asian patients who came to MGH seeking expert care and second-opinion consultation. Their geographic distribution includes China, various other Asian countries, Canada, and Latin America.

In June 2012, I was recruited by the University of Massachusetts Medical School (UMMS) and the UMass Memorial Health Care System to lead the Psychotic Disorders Clinical and Research Program at UMass. The specialties of the clinical program include but are not limited to psychotic symptoms, metabolic side effects of antipsychotic medications, and co-occurring substance use problems. Driven by the most recent advances in clinical research, the Psychotic Disorders Clinical Program strives to help patients achieve their full potential and live rewarding lives.

II.A.4. Community service:

In the past several years, I have been involved in public education on mental health issues in Asian/Chinese communities. As Executive Vice President of American Chinese Medical Association, and the section Chair for mental health, I have successfully organized several large scale mental health educational

events in both US and China. In addition, I have provided mental educational talks to various Asian/Chinese organizations and groups (Asian cultural centers, senior centers, church groups, student groups etc.) in the greater Boston area. I have been interviewed and reported more than ten times by the World Journal, the Wall Street Journal and other major media outlets in both US and China to address cultural stigma and mental health care barriers in Asian and Chinese populations. The World Journal is the largest daily Chinese newspaper distributed across North America.

II.A.5. China Initiatives

In the past ten years, I have been actively involved in academic collaboration between China and Harvard (more recently University of Massachusetts). I am currently in charge of the UMass Psychiatry China Program “*China Connection*” (<http://www.umassmed.edu/psychiatry/globalinitiatives/chinaconnectionwelcome.aspx>).

The program includes several key components: 1) Bilateral exchange training program, which is a model global mental health initiative linking UMass and China. The program targets trainees including medical students, graduate students, psychiatry residents, and junior faculty members from UMass and China; 2) Faculty observership program, which provides senior psychiatrist-researchers from select institutions in China a wide range of clinical and research exposure at UMass Medical School and UMass Memorial Health Care System; 3) Collaborative research program; 4) Joint medical education program. So far I have ongoing research collaboration with at least five major mental health institutions in China; the collaboration has led to more than fifteen joint original research papers published in major English academic journals.

For more than 15 years, American Chinese Medical Association (ACMA, www.acma.org) has been a forum for American Chinese physicians and biomedical scientists; it has been a great source of scientific research and education, career support and practice enhancement. In my role as the Executive Vice President of ACMA, I have been actively involved in promoting medical exchange and collaboration between US and China. In response to the invitation from the State Council of China, I led an ACMA delegation and visited China in 12/2013. That visit created a series of collaborative initiatives including the 4th Bridge Medical Summit to be held in Beijing in late 2014. Bridge Medical Summit is ACMA’s annual academic medicine meeting.

II.B. Report of research activities:

II.B.1. Current Research:

2012 – 2017	Title: Clozapine for Cannabis Use Disorder in Schizophrenia Funding source: NIH Role: site PI
2014 – 2017	Title: Exenatide weekly injection treatment in patients with Schizophrenia Funding source: the Stanley Foundation

2014 – 2017	<p>Role: PI</p> <p>A phase 2, randomized, double-blind study to evaluate efficacy, safety, and tolerability of ALKS 3831 in subjects with schizophrenia with alcohol use disorder</p> <p>Funding source: Alkermes, Inc.</p>
2014 – 2017	<p>Role: site PI</p> <p>A phase 3, randomized, double-blind, placebo-controlled, parallel, dose-titration study to assess the efficacy, safety, and tolerability of NBI-98854 for the treatment of tardive dyskinesia</p> <p>Funding source: Neurocrine Biosciences Inc.</p>
2015 - 2017	<p>Role: site PI</p> <p>Adherence to medication in early psychosis: long-acting injectable antipsychotics or community medication practice</p> <p>Funding source: the Vanguard Research Foundation</p>
2015 – 2018	<p>Role: site PI</p> <p>A randomized, double-blind placebo-controlled, proof of concept study of intravenous sodium nitroprusside in adults with symptomatic schizophrenia</p> <p>Funding source: the Stanley Foundation</p>
2015 – 2018	<p>Role: site PI</p> <p>A phase 3, open label study to assess the efficacy, safety, and tolerability of NBI-98854 for the treatment of tardive dyskinesia</p> <p>Funding source: Neurocrine Biosciences Inc.</p>
2016-2018	<p>Role: site PI</p> <p>A Prospective, Matched-Control, Randomized, Open-Label, Flexible-Dose, Study in Subjects with Recent-Onset Schizophrenia or Schizophreniform Disorder to Compare Disease Progression and Disease Modification Following Treatment with Paliperidone Palmitate Long-Acting Injection or Oral Antipsychotics</p> <p>Funding source: Janssen Pharmaceutical</p>
2016-2018	<p>Role: site PI</p> <p>A phase 2, multicenter, randomized, double blind, placebo-controlled study to assess the efficacy, safety and tolerability of CP-786 for the treatment of negative symptoms of schizophrenia</p> <p>Funding source: Avanir Pharmaceuticals</p>
	<p>Role: Site PI</p>

II.B.2. Completed Research:

1990 – 1991	<p>Neural mechanisms of mirror-writing phenomenon</p> <p>Role: PI</p> <p>Institution: Beijing Medical University Hospital, Beijing</p>
-------------	--

1991 – 1994	Neuropsychological function assessment and intervention in patients with hypertension Role: PI Institution: Beijing Medical University Hospital, Beijing
1994 – 1995	Circadian rhythm and aging, Institute of Neuroscience Role: Co-PI Institution: University of Delaware, DE
1995 – 1997	Glycemic control and cognitive function in type 2 diabetic patients Role: Co-PI Institution: North Chicago VA Medical Center, IL
1997 – 2001	Mild hypernatremia, hypertension and cognitive function in type 2 diabetic patients Role: PI Institution: North Chicago VA Medical Center, IL
2002 – 2005	Newer vascular risk factors and cognitive function in patients with type 2 diabetes Role: PI Institution: State University of New York at Buffalo, NY
2008 – 2009	Community based wellness initiatives in patients with severe mental illness Role: PI Institution: Massachusetts General Hospital
2005 – 2012	Biomarkers predicting treatment response and metabolic disturbances in patients with schizophrenia Role: PI Institution: Massachusetts General Hospital
2008 – 2012	Intranasal insulin as an adjunctive treatment in patients with schizophrenia Role: PI Institution: Massachusetts General Hospital
2002 – 2005	Title: Cognitive function in patients with type 2 diabetes Funding source: State University of New York at Buffalo Role: PI
2003 – 2005	Title: Inflammation: in relation to psychopathology and metabolic disturbances in patients with schizophrenia Funding source: American Psychiatric Institute for Research and Education Role: PI
2007 – 2009	Title: Intranasal insulin treatment for cognitive deficits in patients with schizophrenia Funding source: NARSAD Role: PI
2007 - 2011	Title: Intranasal insulin treatment as an adjunct therapy to improve metabolic disturbances in olanzapine treated

	patients with schizophrenia: A double-blind, placebo-controlled, 12-week trial Funding source: Eli Lilly & Company Role: PI
2007 – 2009	Title: A 12-week placebo-controlled randomized trial of ramelteon added to patients with schizophrenia for the reduction of weight and lipids Funding source: Takeda Pharmaceuticals Inc. Role: Co-PI
2009 – 2012	Title: Telmisartan as an adjunctive treatment for cognitive deficits and glucose metabolism in patients with schizophrenia Funding source: NARSAD Role: PI
2008 – 2014	Title: Innovative intervention strategies for metabolic problems in schizophrenia Funding source: NIH Role: PI
2012 – 2015	Title: Alcoholism and Schizophrenia: A Translational Approach to Treatment Funding source: NIH Role: site PI

II.C. Report of Teaching Activities:

II.C.1. Medical Student Education:

2006, 2011	Lecture “Race, Culture and Mental Health Care”, University of Massachusetts medical students (2 nd year), 120 students, 3 hours/year
2006 - 2012	Patient interview and case discussion for Harvard medical students (2 nd year) during Course PSY700, 40 students, 4 hours/year
2007 - 2012	Didactic teaching for Harvard medical students (3 rd year) during Core Psychiatry clerkship, 50 students, 15 hours/year
2008 – 2012	Examiner, Harvard medical student Objective Structured Clinical Exam (OSCE), 10 students, 15 hours/year
2014	UMass medical student Senior Scholars program mentor, 15 hour/year

II.C.2. Graduate Medical Education:

2005 – 2012	Group supervision for MGH/McLean psychiatry residents (PGY-1, 2, 3), 3-5 residents, 1 hour/week
2007 – 2012	Didactic teaching and case conference for MGH/McLean psychiatry residents (PGY-1), 15 residents, 15 hours/year
2012 – present	Didactic teaching and case conference for UMass psychiatry residents (PGY-1,2,3,4), 5-10 residents, 1 hour/month

II.C.3. Presentations within the US:

1998	Sodium-dependent glucose transporter at the blood-brain barrier (BBB) moderates the relationship between cognitive function and glycemic control in type 2 diabetes. Oral presentation at the 56 th Scientific Session of American Diabetes Association, June, 1998, Chicago, IL
1999	Family history of diabetes and depression in patients with type 2 diabetes. Oral presentation at the 57 th Scientific Session of American Diabetes Association, Boston, June, 1999, Boston, MA
2001	Alcohol drinking and neuropsychiatric symptoms in patients with type 2 diabetes. Invited oral presentation as a late-breaking abstract at the 59 th Scientific Session of American Diabetes Association, June, 2001, Philadelphia, PA
2004	C-reactive protein and the psychopathology profile in patients with schizophrenia: a pilot study. Oral presentation at the 157 th American Psychiatric Association annual meeting, May, 2004, New York City, NY
2004	Antipsychotic Medication Induced Metabolic Disturbances: Exploring the Mechanisms. Grand Rounds presentation, State University of New York at Buffalo, NY
2006	Cultural aspect of schizophrenia. MGH Psychiatry Academy Live Symposium, Miami, FL
2008	Medical morbidity in patients with psychosis. MGH Psychiatry Academy Live Symposium, Atlanta, GA
2008	Cognitive Deficits and Metabolic Disturbances in Patients with Schizophrenia: Is There a Connection? Grand Rounds presentation, Massachusetts Mental Health Center, MA
2009	Intranasal insulin treatment for schizophrenia. Invited special presentation, Eli Lilly and Company, IN
2010	With body in mind: dealing with cardiometabolic problems in patients with schizophrenia. Grand Rounds presentation, Boston Medical Center/Boston University Medical School, MA
2010	Wellness initiatives in patients with severe mental illness. Oral presentation at the Massachusetts Department of Mental Health annual research meeting, MA
2010	Lifestyle intervention in patients with schizophrenia. Invited Speaker on the Schizophrenia Education Day, MGH Psychiatry Academy, Boston, MA
2011	Intervention for medical comorbidity in patients with mental illness, Bridging Medical Summit, MA
2012	Culture and mental illness, Bridging Medical Summit, MA
2013	Weight reduction in patients with severe mental illness. Invited oral presentation at the Annual Public Sector

- 2013 Psychiatry Meeting, Massachusetts Department of Mental Health, MA.
Pathophysiology and Treatment of Obesity and Glucose Dysregulation in Schizophrenia. Invited panel session, the 52nd Annual Meeting of American College of Neuropsychopharmacology, Hollywood, FL.

II.C.4. Presentations outside the US:

- 1991 Mirror-writing phenomenon and multi-factor triggering theory. Invited oral presentation at the 2nd National Conference of Neuropsychology, Beijing
- 1992 Behavioral pattern analysis in patients with type 2 diabetes. Invited oral presentation at the 2nd Afro-Asian Psychological Congress, Beijing
- 1992 Emotional reactions and coping in patients with type 2 diabetes. Invited oral presentation at the 2nd Afro-Asian Psychological Congress, Beijing
- 2010 Medical comorbidity in patients with mentally illness. Grand Round presentation, Shanghai Mental Health Center, Shanghai
- 2010 Novel treatment approaches in schizophrenia. Invited special presentation, Xiangya Hospital, Changsha, Hunan Province
- 2010 Psychiatry training in the US. Grand Round presentation, The Brain Diseases Hospital of Hunan Province
- 2012 Intranasal drug delivery therapeutics. Invited special presentation, Eli Lilly and Company, London
- 2012 Treatment update in schizophrenia. Invited special presentation, Tianjin Mental Health Center, Tianjin
- 2013 Healthcare globalization in China, challenges and opportunities. Invited special presentation, Beijing International Medical Center, Beijing
- 2014 Medical education reform in China. Invited special presentation, Zhengzhou University Medical School, Zhengzhou
- 2014 Emergency mental health care system in the US. Invited special presentation, Beijing Chaoyang International Medical Summit, Beijing
- 2015 Translational psychiatric research: in the context of RDoC. Invited special presentation, Shanghai Mental Health Center, Shanghai

II.D. Report of Clinical Activities:

2005 – 2007	Attending psychiatrist, Freedom Trail Clinic/Erich Lindemann Mental Health Center, MA
2007 – 2008	Director, Boston Emergency Service Team (BEST) Urgent Psychopharmacology Clinic, MA
2008 – 2012	Medical Director, Bridgewell Counseling Centers, MA
2009 – 2012	Director, Asian Mental Health Clinic, Massachusetts General Hospital
2012 – present	Director, Psychotic Disorders Consultation Clinic, UMass Memorial Medical Center
2012 – present	Director, Screening and Treatment of Early Psychosis (S.T.E.P.), Community Health Link, UMass Memorial Healthcare System
2012 – present	Director, Psychotic Disorders Consultation Service, Worcester Recovery Center and Hospital

PART III: BIBLIOGRAPHY

III.A. Original Articles:

1. **Fan X***, Xu Z, Li X. Neuropsychological mechanism of mirror-writing. *Acta Psychologica Sinica*, 1991; 25(2): 173-179. 中国《心理学报》1993 年第 25 卷, 第 2 期.
2. Xu Z, **Fan X**, Hu P, Li X, Feng J. Behavioral characterization in patients with type 2 diabetes. *Acta Psychologica Sinica*, 1996; 29(3): 315-319. 中国《心理学报》1996 年第 29 卷第 3 期
3. Perlmutter PC, Anderson K, **Fan X**, Tabanico F. Does cognitive function decrease in type 2 diabetes? *Diabetes Spectrum*, 1997; 10, 57-62.
4. **Fan X***, Liu EY, Pristach C, Goff DC, Henderson DC. Higher fasting serum insulin is associated with a better psychopathology profile in acutely ill non-diabetic inpatients with schizophrenia. *Schizophrenia Research*, 2006; 86, 30-35. PMID: 16750348.
5. **Fan X***, Anderson EJ, Copeland PM, Borba CP, Nguyen DD, Freudenreich O, Goff DC, Henderson DC. Higher fasting serum insulin is associated with increased resting energy expenditure in nondiabetic schizophrenia patients. *Biological Psychiatry*, 2006; 60, 1372-1377. PMID: 16920075.
6. Henderson DC, **Fan X**, Copeland PM, Borba CP, Daley TB, Nguyen DD, Zhang H, Hayden D, Freudenreich O, Cather C, Evins AE, Goff DC. A double-blind, placebo-controlled trial of sibutramine for clozapine-associated weight gain. *Acta Psychiatrica Scandinavica*, 2007; 115, 101-105. PMID: 17244173.
7. ***Fan X**, Pristach C, Liu EY, Freudenreich O, Henderson DC, Goff DC. Elevated serum levels of C-reactive protein are associated with more severe psychopathology in a subgroup of patients with schizophrenia. *Psychiatry Research*, 2007; 149, 267-271. PMID: 17112596.

8. ***Fan X**, Henderson DC, Chiang E, Cather C, Freudenreich O, Evins AE, Goff DC. Sexual functioning, psychopathology and quality of life in patients with schizophrenia. *Schizophrenia Research*, 2007; 94, 119-127. PMID: 17590315.
9. ***Fan X**, Henderson DC, Goff DC. Inflammation and schizophrenia. *Expert Review of Neurotherapeutics*, 2007; 7, 789-796. PMID: 17610386.
10. Henderson DC, Cagliero E, Copeland P, Louie P, Borba C, **Fan X**, Freudenreich O, Goff DC. Elevated hemoglobin A1c as a possible indicator of diabetes mellitus and diabetic ketoacidosis in schizophrenia patients receiving atypical antipsychotics. *Journal of Clinical Psychiatry*, 2007; 68, 533-541. PMID: 17474808.
11. ***Fan X**, O'Donnell A, Singh SP, Pungan R, Perlmutter LC. Light to moderate alcohol drinking is associated with higher cognitive function in males with Type 2 diabetes. *Experimental Aging Research*, 2008; 34, 126-137. PMID: 18351499.
12. Obidi CS, Pugeda JP, **Fan X**, Dimaculangan CM, Singh SP, Perlmutter LC. Race moderates age-related cognitive decline in type 2 diabetes. *Experimental Aging Research*, 2008; 34, 114-125. PMID: 18351498.
13. ***Fan X**, Henderson DC, Nguyen DD, Cather C, Evins AE, Freudenreich O, Goff DC. Post traumatic stress disorder, cognitive function and quality of life in patients with schizophrenia. *Psychiatry Research*, 2008; 159, 140-146. PMID: 18423611.
14. Freudenreich O, Henderson DC, Macklin EA, Evins AE, **Fan X**, Cather C, Walsh JP, Goff DC. Modafinil for clozapine-treated schizophrenia patients: a double-blind, placebo-controlled pilot trial. *Journal of Clinical Psychiatry*, 2009; 70, 1674-1680. PMID: 19689921.
15. Freudenreich O, Brockman M, Henderson DC, Evins AE, **Fan X**, Walsh JP, Goff DC. Analysis of peripheral immune activation in schizophrenia using quantitative reverse-transcription polymerase chain reaction (RT-PCR). *Psychiatry Research*, 2010; 176, 99-102. PMID: 20132993.
16. Henderson DC, **Fan X**, Copeland PM, Sharma B, Borba CP, Forstbauer SI, Miley K, Boxill R, Freudenreich O, Cather C, Evins AE, Goff DC. Ziprasidone as an adjuvant for clozapine- or olanzapine- associated medical morbidity in chronic schizophrenia. *Human Psychopharmacology*, 2009; 24, 225-232. PMID: 19283774.
17. Henderson DC, **Fan X**, Sharma B, Copeland PM, Borba CP, Freudenreich O, Cather C, Evins AE, Goff DC. Waist circumference is the best anthropometric predictor for insulin resistance in nondiabetic patients with schizophrenia treated with clozapine but not olanzapine. *Journal of Psychiatric Practice*, 2009; 15, 251-261. PMID: 19625881.
18. Henderson DC, **Fan X**, Copeland PM, Borba CP, Freudenreich O, Cather C, Evins AE, Goff DC. Dietary saturated fat intake and glucose metabolism impairments in nondiabetic nonobese patients with schizophrenia on clozapine or risperidone. *Annals of Clinical Psychiatry*, 2010; 22, 33-42. PMID: 20196981.

19. Henderson DC, **Fan X**, Sharma B, Copeland PM, Borba CP, Boxill R, Freudenreich O, Cather C, Evins AE, Goff DC. A double-blind, placebo-controlled trial of rosiglitazone for clozapine -nduced glucose metabolism impairment in patients with schizophrenia. *Acta Psychiatrica Scandinavica*, 2009; 119, 457-465. PMID: 19183127.
20. Henderson DC, **Fan X**, Sharma B, Copeland PM, Borba CP, Boxill R, Freudenreich O, Cather C, Evins AE, Goff DC. Aripiprazole added to overweight and obese olanzapine-treated schizophrenia patients. *Journal of Clinical Psychopharmacology*, 2009; 29, 165-169. PMID: 19512978.
21. Rumala BB, **Fan X**, Sharma B, Nguyen D, Borba CP, Briggs L, Forstbauer S, Miley K, Henderson DC. Waist circumference does not predict insulin resistance in African American schizophrenia patients. *International Journal of Culture and Mental Health*, 2008; 1:2, 93-94.
22. ***Fan X**, Liu E, Freudenreich O, Park JH, Liu D, Wang J, Yi Z, Goff DC, Henderson DC. Higher white blood cell counts are associated with an increased risk for metabolic syndrome and more severe psychopathology in non-diabetic patients with schizophrenia. *Schizophrenia Research*, 2010; 118, 211-217. PMID: 20189773.
23. Liu D, **Fan X**, Wang Y, Yang Z, Zhuo K, Song Z, Wu Y, Li C, Wang J, Xu Y. Deficient inhibition of return in chronic but not first-episode patients with schizophrenia. *Progress in Neuro-Psychopharmacology & Biological Psychiatry*, 2010; 34, 961-967. PMID: 20460142.
24. Wang J, Liu E, Freudenreich O, Goff DC, Henderson DC, **Fan X***. Phenotypic characteristics in metabolically obese but normal weight non-diabetic patients with schizophrenia. *Schizophrenia Research*, 2010; 124, 49-53. PMID: 20947306.
25. ***Fan X**, Copeland PM, Liu E, Chiang E, Freudenreich O, Goff DC, Henderson DC. No effect of single-dose intranasal insulin treatment on verbal memory and sustained attention in patients with schizophrenia. *Journal of Clinical Psychopharmacology*, 2011; 31, 231-234. PMID: 21346605.
26. ***Fan X**, Liu E, Hoffman VP, Potts AJ, Sharma B, Henderson DC. Triglyceride/high-density lipoprotein cholesterol ratio: a surrogate to predict insulin resistance and low-density lipoprotein cholesterol particle size in nondiabetic patients with schizophrenia. *Journal of Clinical Psychiatry*, 2011; 72, 806-812. PMID: 21208572.
27. Henderson DC, Freudenreich O, Borba CP, Wang X, Copeland PM, Macklin E, **Fan X**, Cather C, Goff DC. Effects of modafinil on weight, glucose and lipid metabolism in clozapine-treated patients with schizophrenia. *Schizophrenia Research*, 2011; 130, 53-56. PMID: 21565464.
28. Borba CP, **Fan X**, Copeland PM, Paiva A, Freudenreich O, Henderson DC. Placebo-controlled pilot study of ramelteon for adiposity and lipids in patients with schizophrenia. *Journal of Clinical Psychopharmacology*, 2011; 31, 653-658. PMID: 21869685.
29. Yi Z, **Fan X***, Wang J, Liu D, Freudenreich O, Goff DC, Henderson DC.

- Rosiglitazone and cognitive function in clozapine treated patients with schizophrenia: a pilot study. *Psychiatry Research*, 2012; 200, 79-82. PMID: 22727707.
30. Wang J, **Fan X***, Liu D, Yi Z, Freudenreich O, Goff DC, Henderson DC. Both physical activity and food intake are associated with metabolic risks in patients with schizophrenia. *Schizophrenia Research*, 2012; 140, 260-261. PMID: 22682987.
 31. ***Fan X**, Borba CP, Copeland P, Hayden D, Freudenreich O, Goff DC, Henderson DC. Metabolic effects of adjunctive aripiprazole in clozapine-treated patients with schizophrenia. *Acta Psychiatrica Scandinavica*, 2013; 127, 217-226. PMID: 22943577.
 32. ***Fan X**, Liu E, Freudenreich O, Copeland P, Hayden D, Ghebremichael, M, Cohen B, Ongur D, Goff DC, Henderson DC. No effect of adjunctive, repeated dose intranasal insulin treatment on psychopathology and cognition in patients with schizophrenia. *Journal of Clinical Psychopharmacology*, 2013; 33, 226-230. PMID: 23422397.
 33. Ou JJ, Xu Y, Chen HH, **Fan X**, Gao K, Wang J, Guo XF, Wu RR, Zhao JP. Comparison of metabolic effects of ziprasidone versus olanzapine treatment in patients with first-episode schizophrenia. *Psychopharmacology (Berl)*, 2013; 225, 627-635. PMID: 22926006.
 34. ***Fan X**, Song X. Non-steroidal anti-inflammatory drugs may reduce schizophrenia symptom severity in the short term when added to antipsychotics. *Evidence based Mental Health*, 2013; 16, 10. PMID: 23093694.
 35. Zhuo K, Lu Y, Yang Z, **Fan X**, Song Z, Liao L, Ji C, Zhu D, Yu S, Yan C, Chan RCK, Goff DC, Xu Y, Liu D. Prospective memory performance in patients with drug-naïve, first-episode psychosis. *Schizophrenia Research*, 2013; 143, 285-290. PMID: 23267733.
 36. Li J, Li X, Liu E, Song X, Copeland P, Freudenreich O, Goff DC, Henderson DC, **Fan X***. No effect of adjunctive, repeated dose intranasal insulin treatment on body metabolism in patients with schizophrenia. *Schizophrenia Research*, 2013; 146, 40-45. PMID: 23434504.
 37. Vincenzi B, Borba C, Gray D, Copeland P, Wang X, **Fan X**, Aragam G, Henderson DC. An exploratory study examining lipid-lowering medications in reducing fasting serum lipids in schizophrenia patients treated with atypical antipsychotics. *Annals of Clinical Psychiatry*, 2013; 25, 141-148. PMID: 23638445.
 38. Song X, **Fan X***, Zhang J, Zhang W, Li X, Gao J, Harrington A, Ziedonis D, Lv L. Elevated levels of adiponectin and other cytokines in drug naïve, first episode schizophrenia patients with normal weight. *Schizophrenia Research*, 2013; 150, 269-73. PMID: 23968860.
 39. Guo X, Li J, Wei Q, **Fan X**, Kennedy DN, Shen Y, Chen H, Zhao J. Duration of untreated psychosis is associated with temporal and occipitotemporal gray matter volume decrease in treatment naïve schizophrenia. *PLoS One*, 2013; 8, e83679. PMID: 24391807.
 40. Song X, Li X, Gao J, Ding M, Zhao J, Li Y, **Fan X***, Lv L. APOA-I: a possible

- novel biomarker for metabolic side effects in first episode schizophrenia. *PLoS One*, 2014; 9, e93902. PMID: 24710015.
41. Ding M, Song X, Zhao J, Gao J, Li X, Yang G, Wang X, Harrington A, Ziedonis D, **Fan X***, Lv L. Activation of Th17 cells in drug naïve, first episode schizophrenia. *Prog Neuropsychopharmacol Biol Psychiatry*, 2014; 51, 78-82. PMID: 24447943.
 42. Guo X, Li J, Wang J, **Fan X**, Hu M, Shen Y, Chen H, Zhao J. Hippocampal and orbital inferior frontal gray matter volume abnormalities and cognitive deficit in treatment-naïve, first-episode patients with schizophrenia. *Schizophrenia Research*, 2014; 152, 339-343. PMID: 24439000.
 43. Song X, **Fan X***, Li X, Zhang W, Gao J, Zhao J, Harrington A, Ziedonis D, Lv L. Changes in pro-inflammatory cytokines and body weight during 6-month risperidone treatment in drug naïve, first episode schizophrenia. *Psychopharmacology* (Berlin), 2014; 231, 319-325. PMID: 24337064.
 44. Song X, **Fan X***, Zhang J, Zheng H, Li X, Pang L, Chen X, Zhang W, Ziedonis D, Lv L. Prolactin serum levels correlate with inflammatory status in drug naïve first episode schizophrenia. *The World Journal of Biological Psychiatry*, 2014; 15, 546-552. PMID: 24959913.
 45. Sheng J, Chiang C, Li C, Wang J, Harrington A, Yi Z, Liu D, **Fan X***. Phenotypic characteristics in metabolically healthy but obese patients with schizophrenia. *Psychiatry Research*, 2014; 220, 71-75. PMID: 25086765.
 46. Guo W, Hu M, **Fan X***, Liu F, W R, Chen J, Guo X, Xiao C, Quan M, Chen H, Zhai J, Zhao J. Decreased gray matter volume in the left middle temporal gyrus as a candidate biomarker for schizophrenia: a study of drug naïve, first-episode schizophrenia patients and unaffected siblings. *Schizophrenia Research*, 2014; 159, 43-50. PMID: 25156295.
 47. Song X, **Fan X***, Li X, Kennedy D, Hao Y, Quan M, Chen X, Gao J, Zhang W, Zhang J, Lv L. Serum levels of BDNF, folate and homocysteine: in relation to hippocampal volume and psychopathology in drug naïve, first episode schizophrenia. *Schizophrenia Research*, 2014; 159, 51-55. PMID: 25128453.
 48. Song X, Pang L, Feng Y, **Fan X**, Li X, Zhang W, Gao J, Zhang J, Nemani K, Zhang H, Lv L. Fat-mass and obesity-associated gene polymorphisms and weight gain after risperidone treatment in first episode schizophrenia. *Behavior and Brain Function*, 2014; 10, 35. doi: 10.1186/1744-9081-10-35. PMID: 25278160.
 49. Nemani K, Hosseini R, McCormick B, **Fan X***. Schizophrenia and the gut-brain axis. *Prog Neuropsychopharmacol Biol Psychiatry*, 2015; 56, 155-160. PMID: 25240858.
 50. Song X, Quan M, Lv L, Li X, Pang L, Kennedy D, Hodge S, Harrington A, Ziedonis D, **Fan X***. Decreased cortical thickness in drug naïve first episode schizophrenia: in relation to serum levels of BDNF. *Journal of Psychiatric Research*, 2015; 60, 22-28. PMID: 25282282.
 51. Tang Y, Li Y, Zhuo K, Wang Y, Liao L, Song Z, Li H, **Fan X**, Goff DC,

- Wang J, Xu Y, Liu D. Neural correlates of the preserved inhibition of return in schizophrenia. *PLoS*, 2015; 10:e0119521. doi: 10.1371/journal.pone.0119521. PMID: 25875486.
52. Du J, Quan M, Zhuang W, Zhong N, Jiang H, Kennedy D, Harrington A, Ziedonis D, **Fan X***, Zhao M. Hippocampal volume reduction in female but not male recent abstinent methamphetamine users. *Behavioral Brain Research*, 2015; 289, 78-83. PMID: 25920682.
 53. Zhang Y, Zheng J, **Fan X**, Guo X, Guo W, Yang G, Chen H, Zhao J, Lv L. Dysfunctional resting-state connectivities of brain regions with structural deficits in drug-naïve first-episode schizophrenia adolescents. *Schizophr Res*. 2015. 168(1-2):353-9. PMID: 26281967
 54. Rajan S, Zalpuri I, Harrington A, Cimpanu C, Song X, **Fan X***. Relationship between serum uric acid level and cardiometabolic risks in nondiabetic patients with schizophrenia. *Int Clin Psychopharmacol*, 2016; 31, 51-56. PMID: 26550697.
 55. Chiang M, Natarajan R, **Fan X***. Vitamin D in schizophrenia: a clinical review. *Evidence Based Mental Health*, 2016; 19, 6-9. PMID: 26767392.
 56. Liu D, Ji C, Zhuo K, Song Z, Wang Y, Mei L, Zhu D, Xiang Q, Chen T, Yang Z, Zhu G, Wang Y, Cheung EF, Xiang YT, **Fan X**, Chan RC, Xu Y, Jiang K. Impaired cue identification and intention retrieval underlie prospective memory deficits in patients with first-episode schizophrenia. *Aust N Z J Psychiatry*, 2016. pii: 0004867416640097. PMID: 27004487.
 57. Luo Y, Yan C, Huang T, Fan M, Liu L, Zhao Z, Ni K, Jiang H, Huang X, Lu Z, Wu W, Zhang M, **Fan X***. Altered Neural Correlates of Emotion Associated Pain Processing in Persistent Somatoform Pain Disorder: An fMRI Study. *Pain Pract*, 2016. doi: 10.1111/papr.12358. PMID: 27641732.
 58. Zeng B, Ardekani BA, Tang Y, Zhang T, Zhao S, Cui H, **Fan X**, Zhuo K, Li C, Xu Y, Goff DC, Wang J. Abnormal white matter microstructure in drug-naïve first episode schizophrenia patients before and after eight weeks of antipsychotic treatment. *Schizophr Res*, 2016. 172(1-3):1-8. PMID: 26852402.
 59. Pang L, Kennedy D, Wei Q, Lv L, Gao J, Li H, Quan M, Li X, Yang Y, **Fan X**, Song X. Decreased functional connectivity of insular cortex in drug naïve first episode schizophrenia: in relation to symptom severity. *PLoS One*, 2017; 12(1):e0167242. doi: 10.1371/journal.pone.0167242. PMID: 28107346.
 60. Wang Y, Tang W, **Fan X**, Zhang J, Geng D, Jiang K, Zhu D, Song Z, Xiao Z, Liu D. Resting-state functional connectivity changes within the default mode network and the salience antipsychotic treatment in early-phase schizophrenia. *Neuropsychiatric Disease and Treatment*, in press.

*first, co-first, and/or corresponding author, and/or senior author

III.B. Proceedings of Meetings:

1. Xu Z, **Fan X**, Li X. Behavioral pattern analysis in patients with type 2 diabetes. *Proceedings of the 2nd Afro-Asian Psychological Congress*, 1993; p752-758, Peking University Press.
2. **Fan X**, Xu X, Li X. Emotional reactions and coping in patients with type 2 diabetes. *Proceedings of the 2nd Afro-Asian Psychological Congress*, 1993; p726-731, Peking University Press.

III.C. Book Chapters:

1. Henderson DC, Young A, **Fan X**. Chapter: Culture and psychiatry. In: *Massachusetts General Hospital Comprehensive Clinical Psychiatry*. Edited by Stern TA, Rosenbaum JF, Fava M, Biederman J, Rauch SL. Elsevier Health Sciences, 2008.
2. Gottlieb J, **Fan X**, Goff DC. Chapter: Rating scales in schizophrenia. In: *Handbook of Psychiatric Rating Scales*. Edited by Baer L, Rosenbaum JF. The Humana Press Inc., 2009.
3. Ziedonis DM, **Fan X**, Bizamcer AN, Wyatt SA, Tonelli ME, Smelson D. Chapter: Co-occurring addiction and psychotic Disorders. In: *Principles of Addiction Medicine* (5th ed). Edited by Ries R, Fiellin D, Miller S, Saitz R. American Society of Addiction Medicine, 2013.