

**FULBRIGHT SCHOLARSHIP APPLICATION FOR  
ROBERT A. SIMONS, Ph.D.**

**HOUSING: LEVELING THE PLAYING FIELD  
IN SOUTH AFRICA**

**Developing Low-To-Moderate Priced Housing In Johannesburg by  
Preparing Town Planners To Deal With Market Forces**

**Summary**

**The focus of my Fulbright Scholarship would be developing low-to-moderate priced housing in Johannesburg by preparing town planners to deal with market forces. The public sector suffers from an inequality of knowledge compared with the private sector. The plan is to address this deficiency (thus leveling the playing field) by teaching a real estate development and finance class to graduate students in Town Planning. The curriculum development includes parts of three classes, aimed primarily at Black African students with mathematics and analytical deficiencies attributable to inequitable educational investment under the apartheid regime. A tailored teaching program intermingled with practice and research is expected to be most effective.**

The preferred locale for this program is in South Africa, at the University of the Witwatersrand, in Johannesburg. The program can be accomplished over a 6-month stay. Teaching would be unequally split between the faculty of Town planning (primary) and the faculty of Construction and Architecture. I would teach parts of three classes: 1) a class teaching town planners about the fundamentals of housing development process including a primer in the development process, market analysis and finance for low-to-moderate income housing; 2) co-teaching with a Town planning faculty member in a research methods; and 3) co-teaching a class in housing investment and finance with a Construction and Architecture faculty member. Collaborative research would include analysis of housing trends in the Johannesburg area using the recent South African census data. The research team would focus on racial trends and property appreciation. Another item would be assisting developers in preparing contaminated sites for redevelopment (Brownfields).

**Where and when to build low-to-moderately priced housing, and how to finance it?**

The focal issue is in implementing housing development after the end of apartheid. I have been fascinated by the problems and challenges faced by South African society in providing sufficient quantities of low-to-moderate priced housing. There is a dire need for several million additional housing units in the country, especially for those units that are located near existing employment. Ironically, the pressure to create site and service units quickly also acts to solidify the existing apartheid-induced land use patterns. South Africa is in some ways in an enviable position: they have a multilingual heterogeneous society, astounding natural beauty, mineral resources including diamonds and gold, a

substantially intact capitalistic class that remains in the country despite the upheavals of a decade ago, and excellent infrastructure throughout much of the country.

Given that apartheid was a system designed by whites to segregate Blacks, it is important that I make a contribution to working with black students, who represent the current generation of African planners. They are the ones guiding the hard choices about location and subsidy decisions for housing projects. Because location and timing of housing has major ramifications toward homeownership and economic development potential of the housing residents, it is an excellent way to leverage my knowledge and expertise to assist development of Johannesburg Black residents.

What is missing for the planners is the investment in human capital. At the university level, due to the apartheid approach to education, Black students have been left with a legacy of deferred educational investment. Hence, they are generally deficient in math and other key skills needed to analyze housing opportunities. As protectors of the public interest, it is essential that these town planners, (that need to interact with local developers which typically have a superior education and skills regarding market analysis and finance) have adequate skills to properly evaluate the economics underlying housing location and development decisions. The objective of my Fulbright experience would be to help level the playing field by designing a course for these students to help them be more effective at these essential tasks. The consequences are profound: if the housing is at the wrong price point or location, poverty can be institutionalized instead of alleviated.

My letter of invitation (enclosed) describes this program. My main contact is Dr. Aly Karam, a senior lecturer in the Town Planning Faculty and director of the masters degree program there. Dr. Karam and I were students in the same Ph.D. program (University of North Carolina at Chapel Hill), and have known each other for 18 years. While visiting Dr. Karam at the University for two weeks in early 2004, he introduced me to Lecturer Francois Viruly, who is an adjunct in the Construction and Architecture Faculty, located in the same campus building at University of the Witswatersrand. We toured the Johannesburg housing markets, and communicated easily about real estate matters.

### **Lecturing plan**

My teaching would be split between the faculty of Town planning and the faculty of Construction and Architecture. My primary teaching responsibility would be a class of my own on teaching town planners about the fundamentals of housing development process, a primer in the development process, market analysis and finance for low-to-moderate income housing. Dr. Karam would guide my participation as a guest lecture or co-teacher with a Town planning faculty member in research methods or in development of contaminated land. Co-teaching a class in real estate finance with a Construction and Architecture faculty member is also desired. All lectures would be prepared on Power Point, and lecture notes and supporting materials would be available in advance to students.

#### **a) Math skills and research methods class for Town Planning Students.**

The masters level research methods class would be co-taught with Dr. Karam. Based on our discussions on my visit last February, and also in part based upon my conversations with the students (all twelve students enrolled in the town planning masters program were Black Africans), it became apparent that a main problem was that low math ability was impinging on the ability of the students to properly carry our graduate level assignments and research. With the assistance of my collaborator, we would design a test that would evaluate existing student math (algebra-level use of descriptive statistics, reading graphs, analyzing data, internet search and spreadsheet skills). We would design lectures and assignments to bring the students to adequacy in these key areas. Decision memos and evaluation of market and census data from published sources, accessed over the internet and University intranet would be featured in this course. Primary grading responsibility would fall to the other faculty member, but approximately one third of the lectures and would grade assignments would be my contribution.

**b) Housing development primer class for Town Planning students**

This class would be taught by me, with full control and grading responsibility. It would have about a dozen graduate students. We would integrate the syllabus of this class with the research skills class above. Next, an overview of the housing development process from the private market perspective would be provided. This includes the back of the envelope financial analysis, project conception and development, quick-and-dirty market analysis, fatal flaws analysis, getting a loan, and implementation. The class would then move onto market analysis for housing, including demand and supply side forces, data gathering and analysis (using local census data, internet information, and newspaper ads, etc). All data sources would be local. Finally, the fundamentals of discounted cash flow analysis, including net operating income for development projects, financing, before tax cash flow and present value analysis would be addressed. Guest lecturers would provide context on actual projects. The students would prepare an analysis of a real-life housing project as a substantial part of their grade in the class.

**c) Housing finance class in Construction and Architecture**

I would also act as a steady guest lecturer co-teach a class in real estate finance with a Construction and Architecture faculty member. This would be at the graduate level, but could also be open to undergraduate students that have had previous exposure to discounted cash flow techniques and investment analysis. The focus would be a series of lectures amounting to about one third of the course materials, and a discussion of research on housing investment and development, examining rental housing, new construction, and land development. Together with my co-instructor, we would prepare a series of case studies to enhance lecture material on theory, integrating it with practice. At the end of the class, students would present their projects to an outside Jury for recognition and prizes.

**Research plan**

The research agenda is to develop an integrated housing sales data base and to perform a rigorous quantitative analysis of the local housing markets in South Africa. The focus will be the positive and negative externalities associated with housing and neighborhood

characteristics, and their impact on property values using hedonic regression analysis. Results from this analysis should help the town planners and other government policymakers get a better handle on the impacts of subsidy investment activity on private housing markets. Once the data set is developed it can be a resource for my collaborators, and facilitate publication of the results into the international peer-reviewed journals.

**A) Analysis of housing trends in Johannesburg**

Our collaborative research would include analysis of housing trends in the Johannesburg area using the recent South African Census data. We would focus on racial trends and property appreciation. Based on a prior visit, the quality and quantity of census data, and GIS (geographic information Systems) display capability appear adequate for the research envisioned. We would build a hedonic regression model of the Johannesburg area, and identify the determinants of value in the housing market. We would also address the role of racial change in housing prices, and map the location of new construction by submarket and price points. I have built hedonic regression models in about ten different market areas in the US. Based on data quality, it appears to be feasible to also do this here. The research would hopefully generate a publication in a peer-reviewed journal. In addition, the data set would remain with Dr. Karam and Mr. Viruly for their research purposes.

The research hypotheses would address housing attributes, neighborhood characteristics, and financial and market factors such as interest rates and currency exchange rates, and their effect on housing prices and rental levels. Of primary interest is the effect of racial change in neighborhoods on housing prices, and the effect of housing subsidy on housing prices. This study would provide a contribution to the real estate and housing policy literature.

**B) Brownfields research and development**

Conducting research on the development of contaminated land, or Brownfields, is also desirable. Because of the mining history of Johannesburg, there are many polluted sites (mostly mine tailings, low-level radioactivity, and chemicals used to treat gold-bearing ore). These represent a potential “gold mine” of undeveloped low-to-moderate housing sites, mostly south and southwest of the city center. My experience in Brownfields is considerable: I have written several articles and a book on the topic, and am aware of substantial land holdings in the Johannesburg area that would make excellent housing sites based on their central location, but that have substantial environmental issues. Research and collaboration with developers and land-owners on these topics could assist in redevelopment of these lands. Dr. Karam introduced me to a team of property owners on our last visit, so the contacts are already in place for this extra opportunity. Conducting surveys of potential buyer attitudes using student interviewers would be one possible benefit from this research item. Safely and efficiently tapping this resource of undeveloped housing sites is very important to the local housing planners.

### **Personal comments**

My background is that of an academic practitioner. I had a six-year career as a consultant before entering a Ph.D. program in my mid 30s, and have an active real estate consulting practice. I have a strong private sector orientation, and a business-like approach to real estate development in the public interest. I have been leveling the playing field for urban planners in Cleveland, Ohio since 1990.

My prior experience in traveling, teaching and doing research abroad is extensive. I have visited over 30 countries in Europe, Asia, North America and Australia, and speak fluent French and a smattering of other languages. I have extended family in Europe, and also have Swiss citizenship in addition to a US passport. I have been abroad on over 45 trips, and have cumulatively been outside the US for several years. In terms of recent work experience, I spent a semester teaching at the Institute of Technology (Technion) in Haifa, Israel in 1999. I also have conducted collaborative published research in the UK, Australia, and New Zealand. Thus, I am a low risk for failing to complete my assignment.

A Fulbright scholarship at this stage of my career would fulfill a long-felt need to continue practicing and teaching abroad. As an international citizen, I need to keep abreast of international trends, and act as an agent in distributing knowledge across boundaries. I desire to conduct more collaborative and comparative research on emerging housing and financial markets, also stressing the environmental contamination aspect that I am most familiar with. My Fulbright would also fit into the stated mission and goals of my College, because our master plan calls for additional emphasis on international linkages. The Levin College of Urban Affairs is highly ranked by US News and World Report (#2 in our field), and this is partly attributable to our growing international focus. We already have formal linkage programs with Croatia, Botswana, and South Korea, and faculty have collaborated in other locales such as Russia, the Czech republic, and Israel. Spending half a year in South Africa would also infuse a international dimension into my courses, providing better examples for my classes and allowing me to submit scholarly work on international comparative studies. It would also allow the College to consider training more African student planners and public administrators (as we already do with Botswana).

I admire the spirit with which the South Africans face the future, despite the constraints caused by disinvestment in human capital, and want to help bridge the knowledge gap, and level the playing field between the town planners and the developers. My robust and warm personal friendship with Dr. Karam makes the chances of success quite high. I hope you give me the opportunity to contribute my skills and make a difference in shaping the implementers of housing in this emerging economy.