

PROMOTION RECOMMENDATION
UNIVERSITY OF MICHIGAN MEDICAL SCHOOL
DEPARTMENT OF INTERNAL MEDICINE

Jorge A. Marrero, M.D., Assistant Professor of Internal Medicine, Department of Internal Medicine, Medical School, is recommended for promotion to Associate Professor of Internal Medicine, with tenure, Department of Internal Medicine, Medical School.

Academic Degrees:

M.D.	1993	Ponce School of Medicine, Ponce, Puerto Rico
B.S.	1989	University of Puerto Rico, Mayaguez, Puerto Rico

Professional Record:

2000-Present	Assistant Professor of Medicine, University of Michigan,
1999-2000	Instructor in Medicine, University of Illinois at Chicago

Summary of Evaluation:

Teaching: Dr. Marrero's teaching activities consist of classroom instruction (1% effort), endoscopy instruction (2% effort), preceptor in gastroenterology and hepatology clinics (5% effort), attending physician on inpatient hepatology service (5% effort), and mentoring of fellows (2% effort). Dr. Marrero directs the Division of Gastroenterology liver case discussions once a month. He has developed and currently directs a multidisciplinary liver tumor board which meets bi-monthly. Due to the success of this conference, it will be added to the core teaching conference for gastroenterology fellows. To date, Dr. Marrero has mentored three gastroenterology fellows, three medical residents, and one medical student. He was a thesis advisor for a Master's in Public Health student. Dr. Marrero is highly regarded for his teaching abilities by students, residents, and fellows. He has consistently received superlative evaluations from his students and was given a highly regarded teaching award from the GI fellows several years ago.

Research: Dr. Marrero has earned an international reputation for his work in hepatocellular carcinoma (HCC) and is considered a leader in the field by his peers. In a short period of time, he has made important contributions to the field with regards to identification of risk factors for HCC and development of novel biomarkers for the early detection of this deadly disease. He is the principal investigator of a multicenter study funded by the National Cancer Institute for the validation using des-gamma carboxyprothrombin as a novel marker for HCC. In addition, this large clinical study will form the basis to test his preliminary findings of risk stratification and screening for HCC. The results of this study may change clinical practice. He is also a co-investigator in a RO1 in the development of novel biomarkers for HCC. His work in the comparison of the staging systems for HCC is of great clinical importance and may result in a change of guidelines in the treatment of liver cancer. In addition, he has helped in developing novel biomarkers such as Golgi protein 73 screening of HCC through proteomic technologies.

He is a founding member and sits on the board of the International Liver Cancer Association. This is an unusual achievement for an investigator at his stage of career development.

He is funded by a K23 Career Development Award (principal investigator), a UO1 Award (principal investigator) which supports a multicenter study on the validation of markers for HCC, and an RO1 Award (co-investigator) to screen novel biomarkers by the proteomic approach. He has submitted an RO3 to continue one of the studies of his K23 award, a prospective follow of patients with cirrhosis to determine the risk factors for the development of HCC. He is also part of a program project entitled "Glycoproteomics in Cancer", whereby he will assist in developing glycoproteins as potential markers for HCC. His research on the identification of risk factors and biomarkers for HCC is widely respected.

Dr. Marrero is on the editorial board for *Disease Markers* and has chaired or participated in numerous committees including International Education Committee of the American Association for Study of Liver Disease (AASLD), and Gastroenterology Slide Teaching Project (hepatocellular carcinoma) of the American Gastroenterological Association. Dr. Marrero has been invited to speak at many symposiums including the Shanghai International Liver Congress, and AASLD, European Association for the Study of the Liver, and JSH Consensus Hepatocellular Carcinoma Monothematic Conference in Barcelona, Spain. Dr. Marrero has been invited as a visiting professor to prestigious institutions including MD Anderson Cancer Center, Houston, Texas and Mt Sinai Hospital in New York.

Recent and Significant Publications:

Marrero JA, Fontana RJ, Barrat A, et al: Prognosis of hepatocellular carcinoma: Comparison of 7 staging systems in an American cohort of 244 patients. *Hepatology* 41(4):707-715, 2005.

Marrero JA, Hussain HK, Nghiem HV, et al: Improving the prediction of hepatocellular carcinoma in cirrhotics with an arterially enhancing liver mass. *Liver Transplantation* 11:281-289, 2005.

Marrero JA, Fontana RJ, Fu S, et al: Alcohol, tobacco and obesity are synergistic risk factors for hepatocellular carcinoma. *J Hepatology* 42:218-224, 2005.

Marrero JA, Lok AS: New markers of hepatocellular Carcinoma. *Gastroenterology* 127:S113-S119, Nov 2004.

Marrero JA, Fontana RJ, Su GL, et al: Non-alcoholic fatty liver disease is a common etiology in patients with hepatocellular carcinoma. *Hepatology* 36:1349-1354, 2002.

Service: Dr. Marrero recently developed a multidisciplinary liver tumor board with colleagues in surgery, diagnostic radiology, interventional radiology, radiation oncology, medical oncology, and gastroenterology. Its weekly meeting is well attended and is already recognized as one of the best meetings for patient management and education for house staff. Within the first three months of the program's inception, Dr. Marrero and his colleagues have attracted a large volume of referrals and started to customize treatment options based on the staging of the cancer. This liver tumor board has already achieved great success in patient management and sparked discussions for research projects. Dr. Marrero has authored a proposal to the University of

Michigan Comprehensive Cancer Center to develop a multidisciplinary liver tumor clinic which would provide expeditious care for the management of patients with liver cancer. This proposal is currently under consideration. Notably, Dr. Marrero has been selected to the Digestive Diseases Commission Working Group (Liver and Biliary), which is an effort by the NIH and American Gastroenterological Association to map a blueprint for digestive diseases research over the next decade, and he was an invited speaker for the University of Hong Kong's Cancer Center. Dr. Marrero is also the founding member of the International Liver Cancer Association.

Professional Work: Dr. Marrero is an expert in the management of acute and chronic liver disease as well as evaluating patients for liver transplantation. In addition to one day per week of hepatology clinic, one day per week of transplant clinic (both in the Taubman Center), Dr. Marrero also has three half days of endoscopy per month which include the performance of EGD, flexible sigmoidoscopy, colonoscopy, liver biopsy, and paracentesis. Dr. Marrero also rounds on the Liver Consult and Inpatient Services 2-3 months per year. He has outstanding clinical judgment and strong compassion for his patients. Dr. Marrero is arguably one of our best clinicians in the Hepatology program.

External Review:

Reviewer A: "He is now recognized as an expert in clinical research in HCC with big potential to become one of the major opinion leaders."

Reviewer B: "Dr. Marrero has developed an international reputation as an expert in hepatocellular cancer on foot of a series of important papers published in strong clinical subspecialty journals....I am most impressed by the 'trajectory' of his productivity which has increased throughout the years he has been an assistant professor."

Reviewer C: "Dr. Marrero clearly has a scholarly professional niche in the area of hepatocellular carcinoma. I would rank him in the top 5 individuals of his generation in this field of study....he has significant National and International stature, is frequently asked to give talks at National and International meetings, and to write Editorials for prominent journals in this field. He is without question, a rising star!"

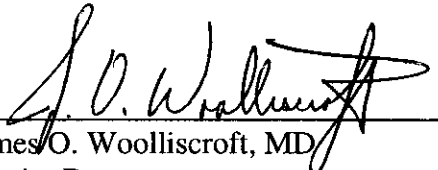
Reviewer D: "His work is rigorous, important and novel, spanning the clinical spectrum from biomarkers to clinical outcomes and is among the most informative over the past five years in the field."

Reviewer E: "Although there are a number of big names in HCC in the US, when I think of the most prominent gastroenterologists in the field in the US, only two names spring to mind, Dr. Marrero is one of them."

Summary of Recommendation:

Dr. Marrero is a highly talented and productive investigator who has achieved international recognition for his contributions to the field of hepatocellular carcinoma. In the

past six years, Dr. Marrero's work and accomplishments have made a significant impact on the field of hepatology. He is without doubt a rising star. Dr. Marrero is also an outstanding teacher as evidenced by the teaching award he received and the number of residents and fellows he has mentored. I am very pleased to recommend Dr. Marrero for promotion to the rank of Associate Professor, with tenure, in the Department of Internal Medicine.


James O. Woolliscroft, MD
Interim Dean
Lyle C. Roll Professor of Medicine

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