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Postdoctoral Fellowships at MD Anderson Cancer Center

The Department of Health Services Research at The University of Texas MD Anderson Cancer Center has several fully funded postdoctoral fellowships available. Under the mentorship of Dr. Iakovos Toumazis, these postdoctoral fellowships will provide highly motivated individuals with the opportunity to contribute to the design, implementation, analysis, and publication of high-impact studies focusing on public health policy, decision analytics, mathematical modeling, and microsimulation modeling. The first set of positions focus on the development and application of decision analytical models to optimize sequential decision-making under uncertainty for various cancers (OR-focused positions). The second set of available positions focus on the development and application of computer simulation-based modeling to simulate the disease progression and assess the impact of alternative interventions on cancer incidence and mortality (microsimulation-focused positions).

JOB RESPONSIBILITIES:

OR-focused position(s):

- Develop optimization models to optimize sequential medical decision making under uncertainty.
- Assess the effectiveness and cost-effectiveness of optimal policies to inform public health policy.

Microsimulation-focused position(s):

- Develop microsimulation models for decision analysis and cost-effectiveness analysis.
- Calibrate and validate microsimulation models to observed outcomes from clinical trials and/or cancer registries.

All positions:

- In coordination with the principal investigator, lead the research team in writing manuscripts, disseminating findings at scientific meetings, and preparing grant applications.

QUALIFICATIONS:

OR-focused position(s):

- Expertise in Markov decision process (MDP)/partially observable MDP (POMDP) is required.
- Prior experience in data analytics, applications of operations research to public health and medical decision making is highly desired, but not required.

Microsimulation-focused position(s):

- Expertise in stochastic simulation modeling and Monte Carlo methods is required.
- Prior experience with model validation and calibration is highly desired but not required.
- Experience in survival analysis, parameter estimation, and data analytics will be considered a plus.

All positions:

- Good understanding of mathematical modeling and hands-on experience of general-purpose programming languages such as Julia, R, Python, or MATLAB is required.
- Strong writing and verbal communication skills are required.

EDUCATION:

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Qualified candidates should have or be close to completion of a Doctorate Degree in industrial engineering, operations research, computer science, health services research, epidemiology, health-outcomes research, biostatistics, data science or a related quantitative field.

TERMS:

Fellowships are for one-year, full-time commitment, renewable upon mutual consent with competitive salary and benefits. Opportunities for the fellows to write and submit their individual career development grants (e.g. NIH career development award) would be provided and strongly supported by the PI and the institution.

INSTITUTION:

MD Anderson consistently tops U.S. News & World Report's list for cancer care ("America's Best Hospitals") and is located in the Texas Medical Center (TMC), the world's largest. The proximity of the TMC to Rice University and the Museum District, light rail connections to world-class performing arts and professional sporting venues, a short drive from Galveston and the Texas coast, and a diverse population of Houston are a few features of this uniquely cosmopolitan and affordable city.

CONTACT INFORMATION:

To apply, interested candidates should submit a brief cover letter personalizing one's interest in the position(s), with information about research experience and interests, and their CV with the names and contact information for references to Dr. Iakovos Toumazis, IToumazis@mdanderson.org with subject: "**Postdoctoral Fellowship – OR**" or Apply via Slate for the OR-focused positions or with subject "**Postdoctoral Fellowship – Microsimulation**" or Apply via Slate for the microsimulation-focused positions. Review of applications will begin immediately and continue until all positions are filled.

Sincerely,

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