**Economic Development Assistantships (EDA)**

**in**

**throughput and yield enhancement for Steel Pipe Manufacturing for**

**Oil and Gas Transport: An Economic Development Initiative**

**at**

**Department of Mechanical & Industrial Engineering**

**Louisiana State University**

An assistantship in the amount of $25,000 per year for up to four years is available for an incoming outstanding student to study and perform doctoral level research for the *throughput and yield enhancement of* *steel pipe manufacturing.* The assistantship offer is available for 12 months a year beginning in July 2014. The student will be responsible for paying university fees while a tuition exemption is provided for both resident and non-resident tuition. A student insurance supplement of $350 each for fall and spring semesters is also provided if the student selects one of the LSU sponsored health insurance programs. The students who will be awarded EDA funding must maintain a 3.5 overall and semester GPA. Their duties will consist of research on the project submitted by the faculty project director.

This research, in general, is intended to evaluate the productivity of a steel pipe manufacturing system that produces different sizes (diameter, wall thickness, tensile strength, and other characteristics) of pipes for oil and gas industries around the world, and uses seam welding for the production of these pipes. Thegoal of this research is to improve the *overall equipment effectiveness* of the manufacturing line (as it is encountered in a steel mill) so as to run the system effectively and efficiently to enhance the system productivity, translating it to meet the customers’ demands and eventually economic benefit for the company and the State. More specifically, the plan is to develop mathematical models that will allow manipulation of process variables to optimize throughput and yield, intended to assist management in right process planning for the pipe manufacturing companies. Manufacturing processes, uncoiling steel rolls to flat-sheet to pipe-formation flow line, material flow, lean production and inventory, flow line balancing, logistics and distribution, transportation, warehousing, and scheduling of resources are a few perspectives, amongst others, in this research. The mathematical tools needed for the research are basic process balancing, optimization, queuing system, statistics, simulation, and sound knowledge in scientific programming.

Interested PhD students who have BS and MS degrees in engineering and/or related mathematical sciences should contact the following address (electronically only) with (1) a completed Applicant’s Profile Form available at <http://www.mie.lsu.edu/file/mie/file/academics/IEForms/AAPSarker.docx>, (2) a resume, (3) copies of BS and MS transcripts, (4) TOEFL and GRE scores, and (5) any journal publications, all in one pdf file:

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Intended candidates should have a strong background in quantitative areas such as production and operations research. They may refer to [*http://www.mie.lsu.edu/people/faculty/facstaff/bhaba.sarker*](http://www.mie.lsu.edu/people/faculty/facstaff/bhaba.sarker)for information on the research interests of Professor Bhaba Sarker, the project director. The deadline for submitting the stated preliminary application materials is March 15, 2014 (or until selected). The candidate, after preliminary selection, will be contacted for formal admission (if not admitted yet) and other formalities. The selected student may be able to join early.