セミナーのお知らせ

マテリアル生産科学専攻　准教授

宇都宮　裕 (7503)

ケンブリッジ大学の O. Music 君が来学されるのを機に下記の発表をお願いしました。Music 君は大学院生で、祝日でもあることから、カジュアルな会とします。関心をお持ちの方はどうぞお集まり下さい。専門外の方はもちろん、学部生や大学院生、一般の方の参加も歓迎です。

日　時：　平成 21 年 3 月 20 日（金）　11:30 - 12:15

場　所：　材料系 R2 棟 2F セミナー室（R2-221）

講演者：　Mr Omur Music (Department of Engineering, University of Cambridge)

なお、講演内容は以下の通りです。

METHOD FOR EVALUATION OF FLEXIBLE FORMING PROCESSES

Modern flexible forming process of Incremental Sheet Forming (ISF), invented in the 1990's has been a subject of a large volume of research, concentrating mainly on the initial process configuration. However, besides the original ISF process configuration, many other processes and configurations could be explored and older craft processes could potentially be automated. The aim of the work described here is to develop novel flexible sheet metal forming processes with applications in industry. The literature review shows that there is a large potential for development of novel flexible forming processes. To evaluate and compare candidate processes and to design new processes, a standard test is proposed and implemented for the ISF, power hammer and the English wheel. Finally, future work is presented, which involves completion of current work and design and evaluation of the next generation of new flexible forming processes.

ANALYSIS OF COLD RING ROLLING PROCESS

In this study, cold ring rolling process used in production of bearing rings is investigated. The investigation is based on numerical simulation by commercial finite element analysis software MSC.SuperForm. Material characterization has been done by torsion tests. Initial and boundary conditions have been determined by experiments and comparison with numerical simulation. Parameter study has been performed to determine the optimum numerical analysis parameters. With the determined input data, two- and three-dimensional models of cold ring rolling have been developed. Also, a simplified, fast and reliable two-dimensional "Segment" model for analysis of cold ring rolling has been developed, in which only an angular segment of the ring is modeled, therefore reducing computational time. Developed models have been compared to each other and verified against experimental results. Using the developed models, analysis of cold ring rolling process has been performed, and effect of parameters on ring geometry, residual stresses and tool forces has been examined. Evaluation of these results has lead to suggestions for improvement of the process.

外部の方へ：当日は、祝日につき建物がロックされています。
11:20-11:30の間に生協側通用口（1F）に案内者がおりますので、コンタクト下さい。