

SELECTED PUBLICATIONS

- Gilad I. (1983), Motion patterns of amputee workers: A study based on MTM, *International J. of Production Research* 21 (2), 292-300.
- Nissan M. and Gilad I. (1986), Dimensions of human lumbar vertebrae in the sagittal plane, *J. of Biomechanics* 19 (9), 753-759.
- Gilad I. and Kirschenbaum A. (1988), Rates of back pain incidence associated with job attributes and work characteristics, *International J. of Industrial Ergonomics* 2, 267-277.
- Gilad, I., Chaffin, D.B. and Woolley, C. (1989), A technique for assessment of torso kinesiology, *Applied Ergonomics* 20 (2), 82-88.
- Gilad I. and Fidelman U. (1990), The motoric role of the right cerebral hemisphere: Performance analysis of micro-movements, *Cybernetica* 33 (3), 151-173.
- Gilad I., Dar-El, E.M. and Brenner M. (1991), Learning curve parameter prediction, *Proceedings of the 10th International Conf. of Production Research*, Hefei, China.
- Gilad I. (1995), Man-machine system design in diamond manufacturing, *The ILO Encyclopaedia of Occupational Health and Safety*.



ISSACHAR GILAD

B.Sc. 1972, M.Sc. 1976, Ph.D. 1978 (New York University)

Prof. Gilad's professional interests are in the areas of Methods Engineering and Ergonomics, where he is involved in the design of man-machine processes, systems productivity, human performance analysis, occupational biomechanics, and rehabilitation engineering. He received his B.Sc. and M.Sc. degrees in Industrial Engineering and Management from Technion, and Ph.D. degree from New York University. He has been a Visiting Professor at the University of Michigan and at the University of California-Berkeley. Prof. Gilad is a senior member of the International Institute of Industrial Engineers, and the Human Factors and Ergonomics Society. He is on the Council of the International Ergonomics Association, a board member of the International Foundation for Industrial Ergonomics and Safety Research, and Chairman of the Israel Ergonomics Society. Prof. Gilad serves on numerous Scientific Editorial Boards in the areas of Industrial Engineering and Ergonomics.

The areas of Methods Engineering and Ergonomics in the Industrial Engineering profession encompass a widely expanded sphere of theoretical concern and practical influence on productivity. In conducting academic research and consulting in industry, business and government, Prof. Gilad has a common theme in solving problems—searching for quantitative description of a process in question, and obtaining measured values to define system's performance. By practicing methods engineering and referring to the quantitative approach, we provide the scientific knowledge for managing organizational operations, control productivity, and maximize the benefits from technological and human resources. In his view, work measurement and performance analysis are the primary tools in monitoring and enhancing productivity in micro and macro applications. The need to apply ergonomics principles to improve work situations and systems' productivity has been growing over the years. In modern times, we face an increasing awareness by management of the ergonomics and safety issues. Industry has learned that reduction in human performance and systems' outputs are often the result of physical mismatch between workers' capabilities and the technological setup. The knowledge to resolve such a mismatch is complex and demands special expertise. Such expertise requires the combined knowledge of biomechanics and ergonomics, along with the

practice of Industrial Engineering methodologies. It has been found that job design, based on work measurement and ergonomic analysis, is vital for improving work efficiency, job satisfaction and motivation of the human factor in the production equation.

CURRENT RESEARCH PROJECTS

- Design of man-machine systems in manufacturing processes
- Manual material handling in the hi-tech industry
- Architecture of expert systems for ergonomic intervention
- Effect of job complexity on the learning process
- Lifting analysis for non-homogeneous loads
- Methodologies for functional ergonomics in repetitive work