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# ***Nontraditional Machining- Introduction***

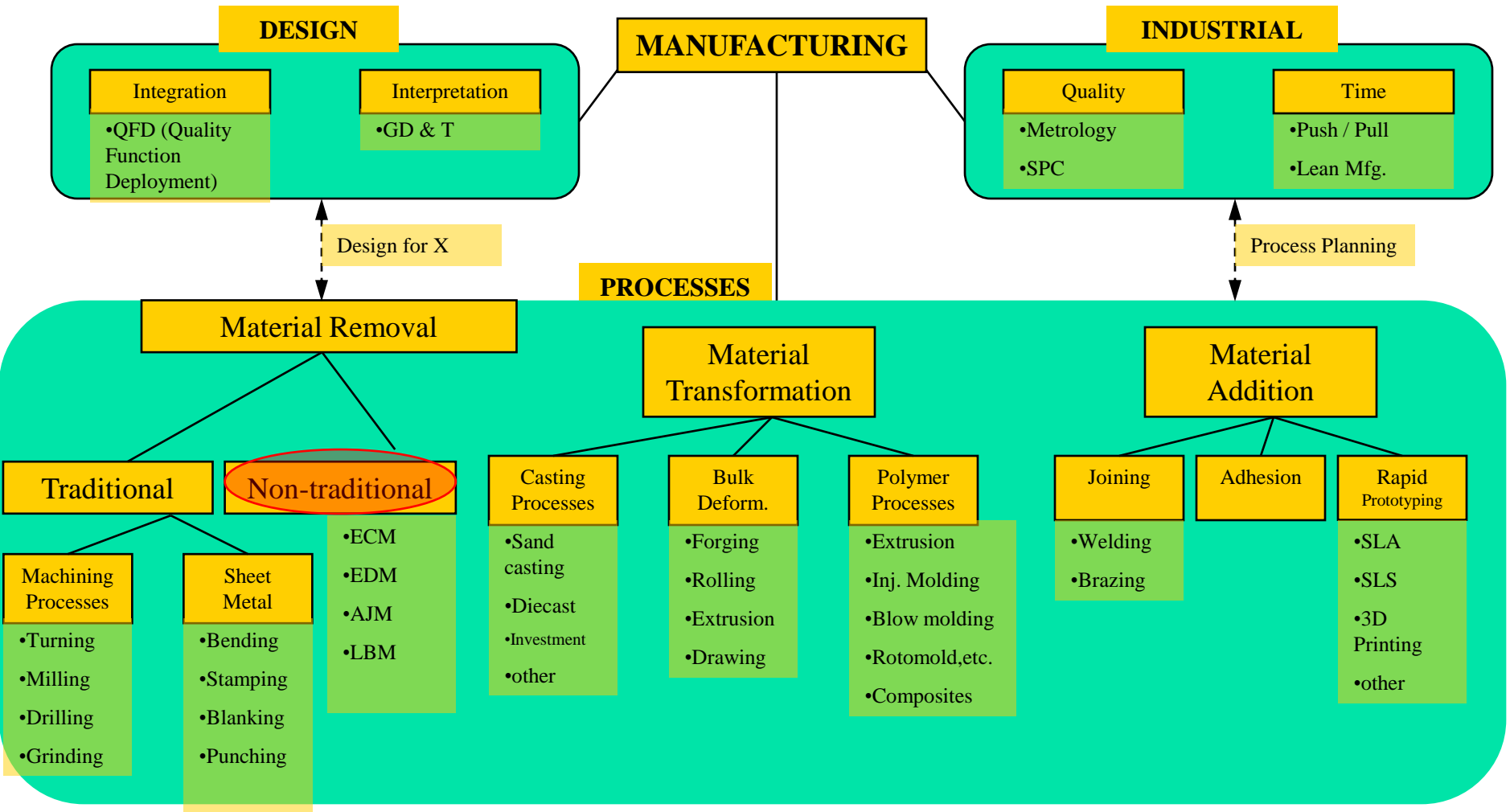
***Peiman Mosaddegh, Ph.D.***

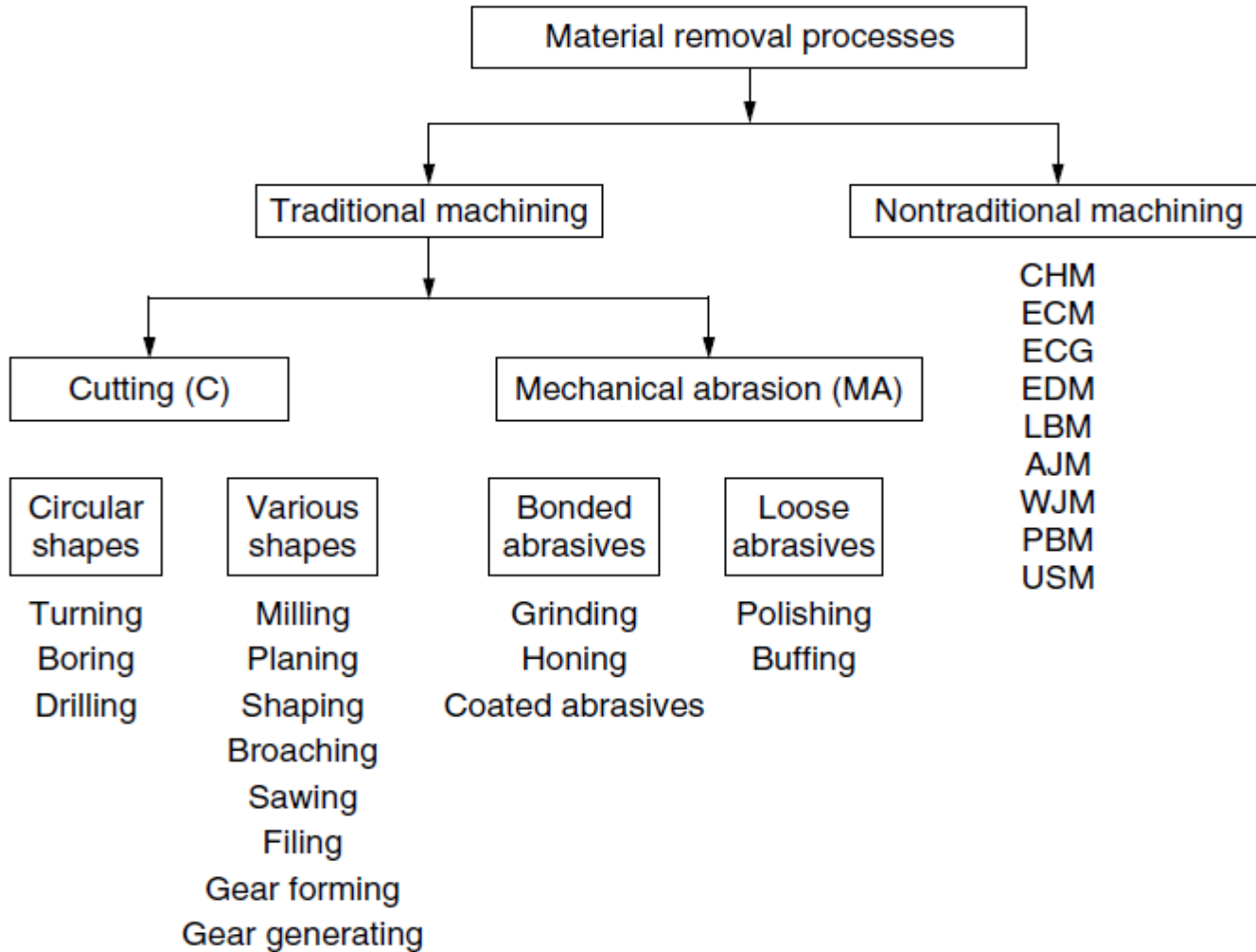
**Isfahan University of Technology**

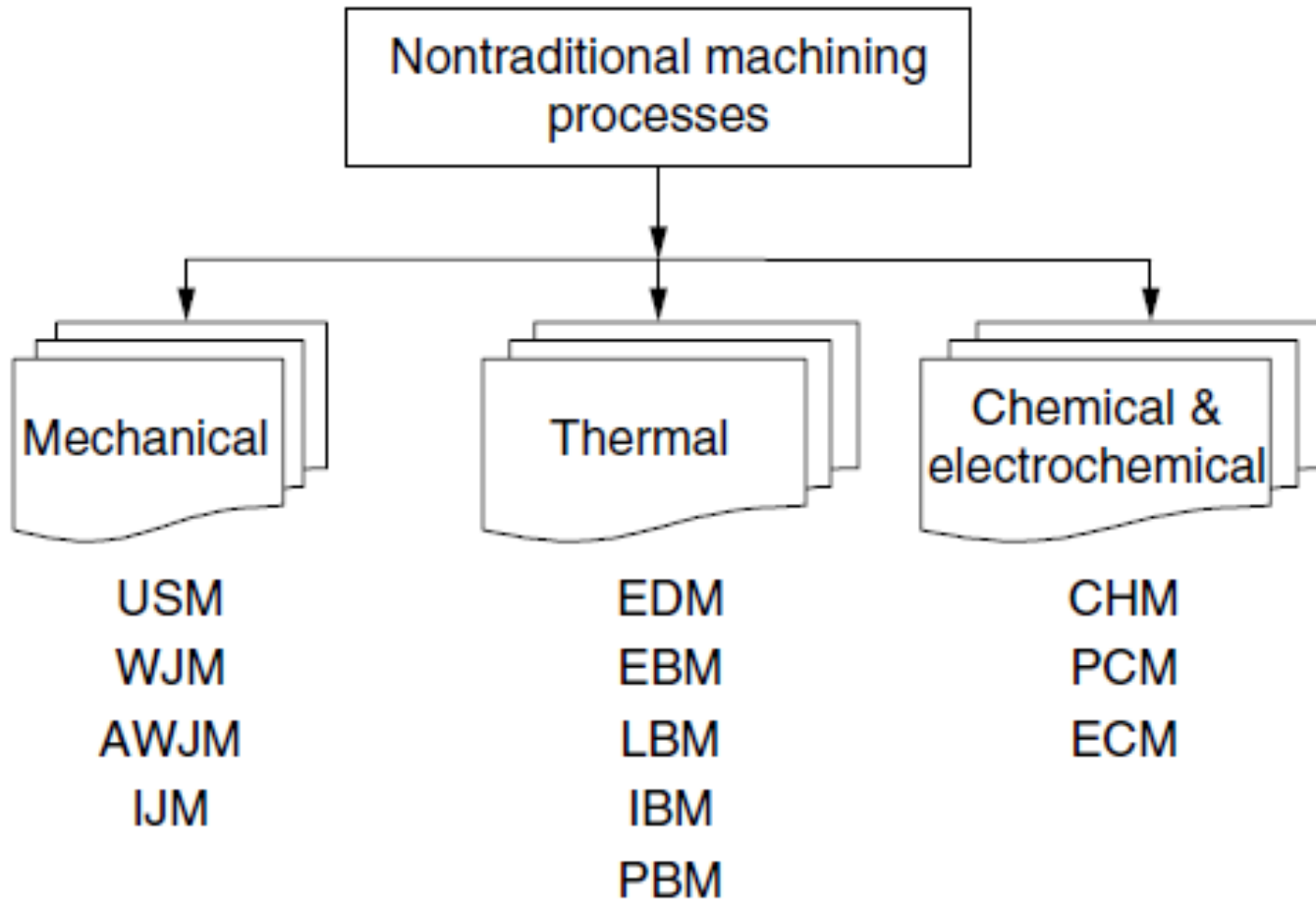
**Fall 2017**



# Mental Map









# ***Nontraditional Machining***

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## What is meant by “Non-Traditional”??

- A group of processes that remove excess material by various techniques involving mechanical, thermal, electrical, or chemical energy (or combinations of these energies) but do not use a sharp cutting tool in the conventional sense

Material removal processes that do not use a sharp tool to cut material (as with milling & turning, etc.)



## Three Basic Categories

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- Mechanical Energy Processes
- Electrochemical / Chemical Processes
- Thermal Energy Processes

**Developed since World War II in response to new and unusual machining requirements that could not be satisfied by conventional methods**



# Why?

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- Need to machine newly developed metals and non-metals with special properties that make them difficult or impossible to machine by conventional methods
  - Need for unusual and/or complex part geometries that cannot easily be accomplished by conventional machining
  - Need to avoid surface damage that often accompanies conventional machining or Burr-free
  - Tool wear advantages that are offered by some of the nontraditional machining processes allow for continuous machining, with at least in theory, zero tool wear



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# *Questions???*