

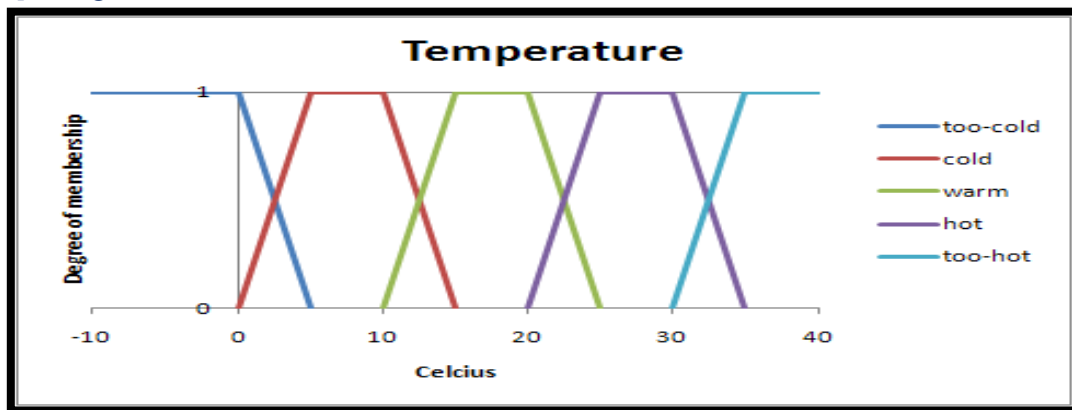


# Neural Networks and Fuzzy Logic (630514)

## Lecture 18

### Different Types of Membership Functions

- **Membership function (MF)** - A function that specifies the degree to which a given input belongs to a set.
- **Degree of membership**- The output of a membership function, this value is always limited to between 0 and 1. Also known as a membership value or membership grade.
- **Membership functions** are used in the **fuzzification** and **defuzzification** steps of a FLS (fuzzy logic system), to map the non-fuzzy input values to fuzzy linguistic terms and vice versa.



- Membership Functions for T (temperature) = **too-cold, cold, warm, hot, too-hot.**
- There are different forms of membership functions such as:
  - **Triangular.**
  - **Trapezoidal.**
  - **Piecewise linear.**
  - **Gaussian.**
  - **Singleton.**

