

## **Abstract**

This talk will cover the following points:

- 1) Robust stabilization and tracking performance for the nonlinear feedback control system with the uncertainties.
- 2) Reliable detection of faults issues for the above control design scheme with the uncertainties.
- 3) Robust tracking control system design problem for nonlinear plants under bounded uncertainties and input constraints
- 4) Fault detection problem of the output tracking filter and robust controller for nonlinear plants under unknown but bounded uncertainties

Finally, some applications by using distributed control system (DCS) are also shown.