Wireless Routing

The basic problem

If A and C are to communicate, B must provide some routing functions (in addition to its own job)
Complicating factors

- Mobile nodes may move in and out of each other’s ranges frequently
- Routes are not stable

Some general classes of wireless routing algorithms

- Table-driven
- On-demand
Table-driven routing algorithms

- Similar to wired algorithms (DV, LSV)
- Each node has a table of routes to every other node in the network
- Topology changes are propagated throughout the network
- General problem: frequent changes in route info $\Rightarrow$ frequent table changes $\Rightarrow$ increased network load

On-demand algorithms

- Routes discovered when needed
  - Example: Ad-hoc On-Demand DV (AODV).
    - Sender broadcasts a "Route Request" for the desired destination
    - Receivers re-broadcast until destination reached
    - "Route Reply" sent from destination along reverse path $\Rightarrow$ nodes on the way enter the route
- General Problem: Delay involved in setting up route
The papers

- **Yi Ma:**
  - Yih-Chun, "Survey of secure wireless ad hoc routing"
  - Focuses on security aspects

- **Sayak Majumdar:**
  - Mauve, "Survey on position-based routing"
  - Reviews routing methods based on geography