Growing up as a Proposer (prepared by Kirk Borne: kborne@gmu.edu, January 2004)

Early proposal-writing experience is vital.
-- Get early training with observing proposals (even internal proposals)
-- Do it for yourself and for your future students

Know where to look :
-- AAS electronic news announcements (HST, Chandra, NSF, NOAO, NRAO, etc.)
-- http://www.nsf.gov/
-- http://research.hq.nasa.gov/
-- http://www.scidac.org/   (DOE)
-- and private sources (Sloan, AAS, foundations, ...)

Know when to look :
-- most research programs have annual cycles with fixed dates

Lots of non-traditional funding programs:
-- NASA: E/PO (IDEAS), Archival Research, AISRP, ADP, ATP, Code Y and Code R
-- NSF: Education (ISE, ITEST, and more), Computing (ITR, IDM, SEIII)
-- State funds
-- Special Institutional Funds (Dean's or Director's Discretionary Funding)

Know what to write :
-- read, Read, READ the Call For Proposals
-- Science is #1
-- Provide broad scientific motivation for project
-- Know your audience, your reviewers
-- Write to general astronomer, not specialists
-- Identify specific goals
-- Identify specific plans
-- Identify your capabilities (papers, data, software, computers, collaborators)
-- Know the limitations of the resources that are being requested
-- Don't promise what you cannot deliver
-- Make it interesting, concise, appealing (since the panels have lots to read)

Checklist :
-- Plan early
-- Check past approved programs
-- read, Read, READ the Call For Proposals -- Always satisfy every requirement!
-- Science is #1
-- Find out the over-subscription rate. 4 to 1 is typical. 25 to 1 is not good.
-- Determine what resources are available. (time and/or money)
-- Identify the limiting resource: then write to that (since panels must allocate this)
    e.g., HST proposals provide funding, but the limiting resource is the telescope time
-- Contact your Sponsored Programs Office very early (2-4 weeks or more!!)
-- If you fail, hang in there, learn from the criticism, and try again next year …
     -- Use reviewers' feedback from your previous year's submission to make it better
-- Use internal reviewers (Pink Team, Red Team, Gold Team) : friends who are willing to
    criticize honestly.
-- If there are several authors (collaborators), be sure to use "one voice" in the proposal