Summary and Concluding Remarks

Speaker: Bernie Burke, MIT
THE CONCEPT

INSTRUMENT

PROJECT

THE DEVELOPMENT

SKA

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GETTING THERE

Work Toward National & International Management

Start "Phase A" Studies - Concrete designs, defensible budget estimates, credible technology, accompanying technical work. Compare competing concepts, reconcile expertise.

Keep scientific community informed.

Work with NSF, NASA in sharpening up the budget estimates.

Internationally, firm up national commitments.

Question: Is operating international organizations by 2003 a realistic goal?

Question: Is $600M a realistic cost estimate?

Question: Is 22 GHz a feasible high-frequency limit?

In general, time is now to press the NSF and convince our colleagues that the SKA is ready to follow ALMA in MRE.

GET TO WORK!
SKA Science

"Themes & Dreams"

The Early Universe
- The Evolving Universe
- Stars & Planets
- Fundamental Physics

The Cosmic Cycle

Birth \( \xrightarrow{\text{Life}} \) ISM \( \xrightarrow{\text{SN, WD}} \)

Comparison with NFRA '99 Symposium

Heavier emphasis on k-band projects

Greater interest in Magnetic Fields, pulsars

Less (?) emphasis on galactic structure

Revive Phynny's theme: marseose resolution
National Issues

How to obtain NSF (NASA) Support?
The financial Catch-22
[No money without concept]
[No concept without money]

Forming a National program
Formulating National requirements
Must Develop Straw-man designs
[with realistic costs]

International Issues

Work toward a structured program
Line up national financial commitments
Reconcile Divergent Requirements
Define a site
STATE OF TECHNOLOGY

Elements (Dishes, Dipoles)  Promising
Feeds  Promising
LNA's  Promising
Interconnections  Not yet
Correlator  Promising
Post-processing  Yes
Configuration  Promising

Major Technical Issues (Cost-related)
Element Design  $D=3\,\text{m}$?  $D=10\,\text{m}$?
Interconnections-Modeus  (Analog? Early digital?)
Array Design  Large $N$?
RFI minimization

Define the Trade-offs & Limits
Encourage the DSN, derive the fallout