



Welcome to the 1st **T**exas **C**osmology **N**etwork Meeting

September 15, 2006
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UT Austin, Astronomy



Why **TCN** Now? (I)

- 
- Recent "booming" hires in Cosmology Community
- | | | | | |
|---|------|------------------|------|----------------------|
|  | 2003 | E.Komatsu | UTA | CMB, LSS |
|  | 2004 | V.Bromm | UTA | First Stars |
|  | 2004 | P.Green | UTSA | Inflation, Reheating |
|  | 2005 | M.Ishak-Boushaki | UTD | GR, DE |
|  | 2005 | N.Suntzef | TAMU | SN Cosmology |
|  | 2006 | L.Wang | TAMU | SN Cosmology |
|  | 2006 | M.Becker | TAMU | String Cosmology |
|  | 2006 | K.Becker | TAMU | String Cosmology |
|  | 2006 | M.Milosavljevic | UTA | BH, DM Halo |
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Why **TCN** Now? (II)

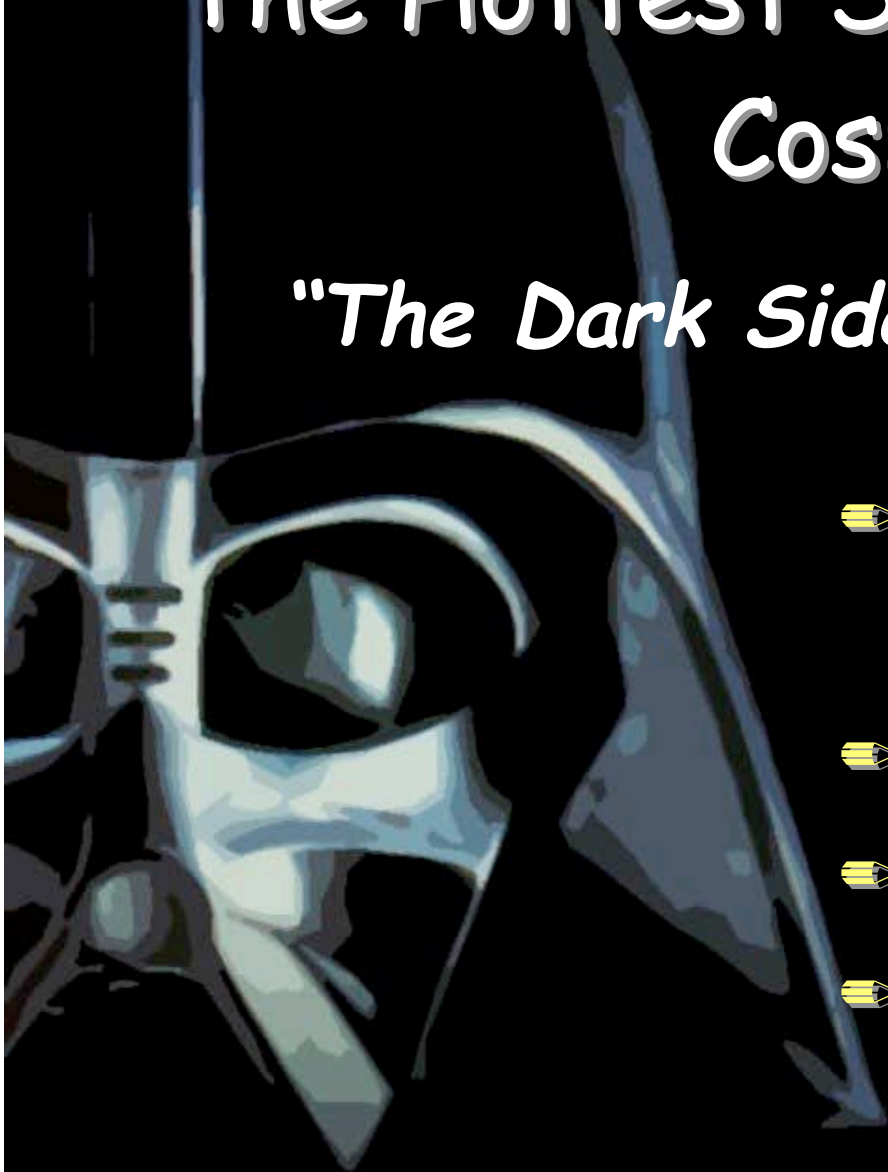
- ⇒ Large-scale Activities and Development
 - ⇒ Mitchell Institute for Fundamental Physics (MIFP) at Texas A&M University
 - ⇒ Established in 2002
 - ⇒ Talk by C.Pope and M.Perry
 - ⇒ Hobby-Eberly Telescope Dark Energy Experiment (HETDEX) at UT Austin
 - ⇒ "High-z (and much bigger) SDSS" with HET in the McDonald Observatory
 - ⇒ Talk by K.Gebhardt and G.Hill



The Hottest Subject in Modern Cosmology

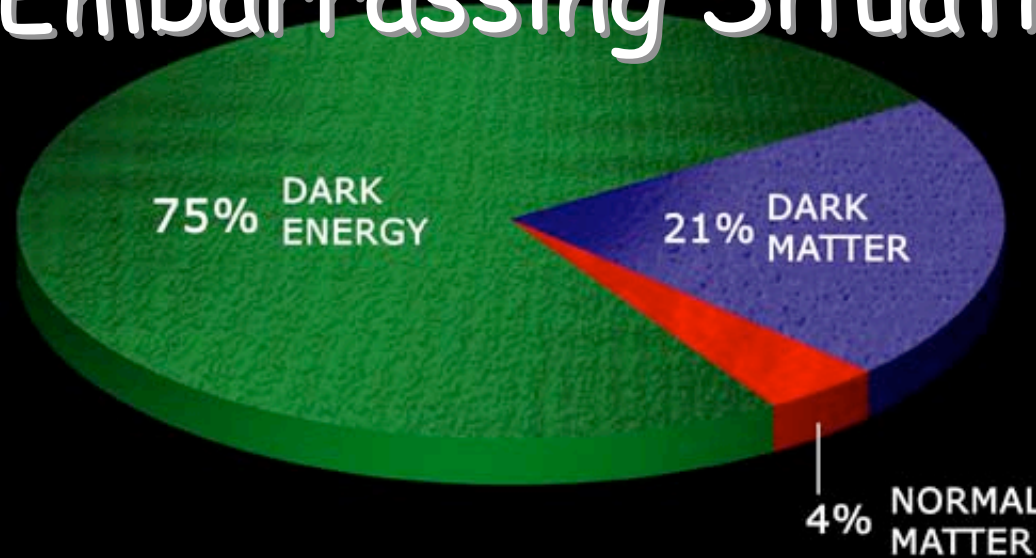
"The Dark Side of the Universe"

- Early-time Dark Energy (Inflation)
- Late-time Dark Energy
- Dark Matter
- Dark Ages



A collage of three images: a blue fractal-like structure on the left, a world map on the wall in the center, and a satellite in space on the right.

Cosmology - Exciting, but Embarrassing Situation

A wooden ruler and a yellow pencil are positioned vertically on the left side of the slide.

⇒ Recent, very successful determinations of the cosmological parameters shows that we don't understand most of the universe!



$\sim 10^{-34}$ sec

Inflation

Early Dark Energy



How much we don't know about the universe

<30,000 yrs

Radiation Era

Photon,



Neutrino



<8 billion yrs

Matter Era

Dark Matter

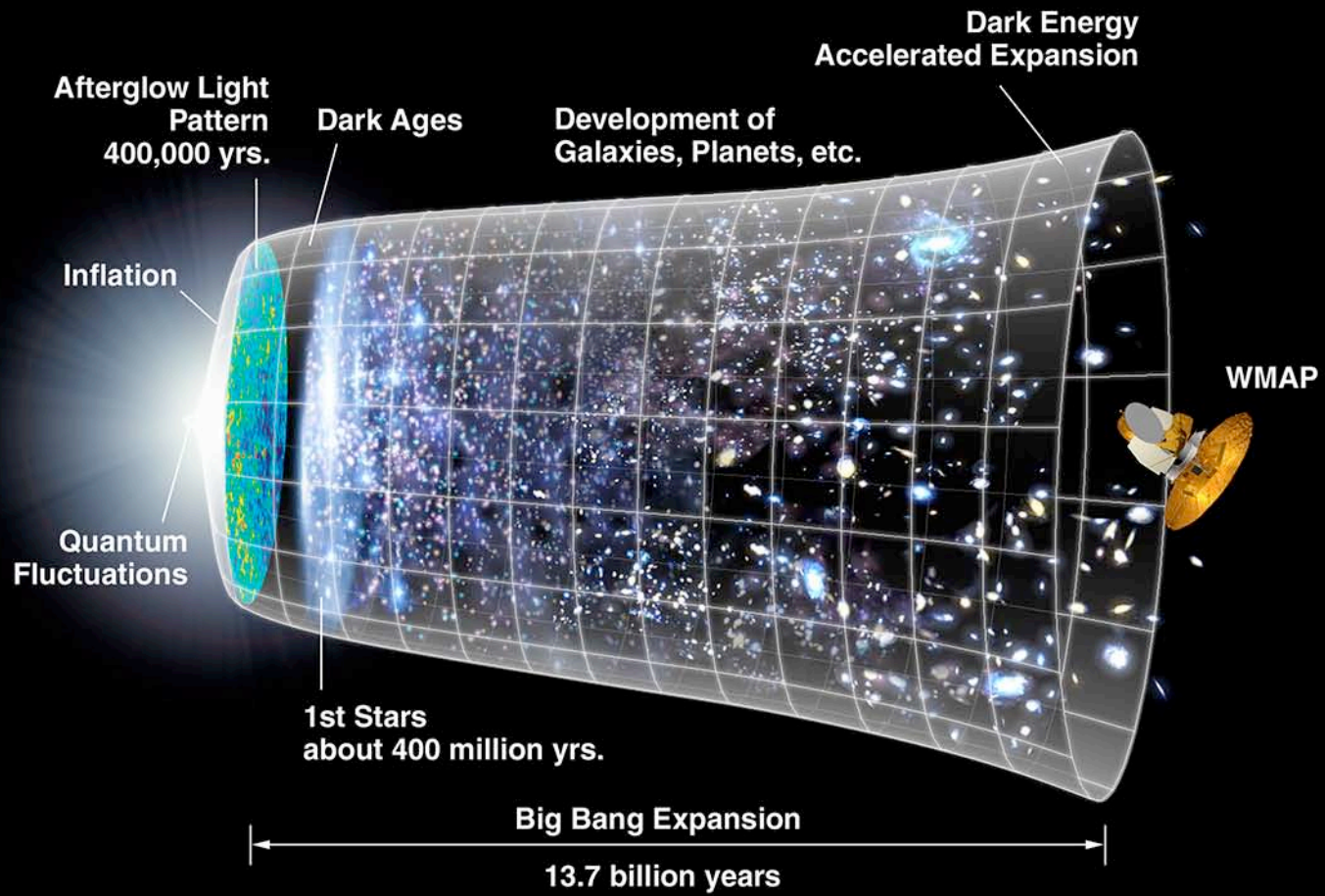


<now

Dark Energy Era

Late Dark Energy







Why **TCN** Now? (III)

- ⇒ Right people with the right expertise
 - ⇒ E.g., see today's talk schedule
 - ⇒ Inflation: S.Weinberg, P.Greene
 - ⇒ Dark Energy: D.Nanopoulos, N.Suntzef, M.Ishak-Boushaki, K.Gebhardt, G.Hill, L.Wang
 - ⇒ Dark Ages: P.Shapiro, V.Bromm
- ⇒ It comes down to simply this: **Let's talk about cosmology with our neighbors in Texas!**



Meeting Agenda

- ⇒ **10:20-noon:** Inflation and Early Universe
 - ⇒ 4 talks (20 minutes + 5 min for questions/discussions)
- ⇒ **Noon-2:00:** Lunch hosted by P. Shapiro
 - ⇒ Campus Club, Room 203
 - ⇒ Everybody welcome!
- ⇒ **2:00-3:40:** Dark Energy
 - ⇒ 4 talks, followed by 20 min break
- ⇒ **4:00-4:50:** Dark Ages
 - ⇒ 2 talks, followed by 10 min break
- ⇒ **5:00-6:00:** Open Discussion
 - ⇒ Organization, next meeting, and future directions

"Some Organization Plans"

➤ Annual Meeting

- Tentative place for the 2nd meeting: UT Dallas

➤ Visitor Program

- Visitors between institutes within Texas
- A visitor program for students?

➤ Possibilities of support for this effort?

- Would the State of Texas like TCN and give us something, if we ask them for support?
 - Something like ARP?
- Similar (but much bigger) network: CMBNET in Europe, funded by European Commission's 5th Framework ~~Improving Human Potential Program~~
 - Meetings, CMBNET postdoc positions



Special Thanks

- ⇒ Thanks for supporting this meeting!
 - ⇒ Department of Astronomy
 - ⇒ Theory Group, Department of Physics
- ⇒ Thanks for helping organization!
 - ⇒ Monica Kidd (Dept. of Astronomy)
 - ⇒ Jan Duffy (Dept. of Physics)
- ⇒ Thanks for creating the website and logo!
 - ⇒ Jim Umbarger (Dept. of Astronomy)