

Useful Resources

Books/Notes:

- *Dark Energy: Theory and Observations*, Luca Amendola & Shinji Tsujikawa, Cambridge University Press, 2015.
- *Primordial Cosmology*, Patrick Peter & Jean-Philippe Uzan, Oxford University Press, 2013.
- *Modern Cosmology*, Scott Dodelson, Academic Press, 2003.
- Alex Barreira's lecture(s) on MG at MPA: https://wwwmpa.mpa-garching.mpg.de/~komatsu/lecturenotes/Alex_Barreira_on_Modified_Gravity.pdf

Papers:

- General overview of the testing gravity in cosmology: M. Ishak, <https://arxiv.org/abs/1806.10122>
- Alpha parameters introduced: Bellini & Sawicki, <https://arxiv.org/abs/1404.3713>
- Hi_class code: Zumalacarregui et al., <https://arxiv.org/abs/1605.06102>
- EFTCamb code: Hu et al., <https://arxiv.org/abs/1312.5742>.
- Comparison of modified Einstein-Boltzmann solvers: Bellini et al., <https://arxiv.org/abs/1709.09135>
- Verifying the quasi-static approximation in $f(R)$: Noller, von Braun-Bates & Ferreira, <https://arxiv.org/abs/1310.3266>
- DGP gravity introduced: Dvali, Gabadadze & Porrati, <https://arxiv.org/abs/hep-th/0005016>.
- Cosmology of $f(R)$: Pogosian & Silvestri, <https://arxiv.org/abs/0709.0296>.
- The famous Hu & Sawicki $f(R)$ gravity model: Hu & Sawicki <https://arxiv.org/abs/0705.1158>.
- Early comparison of self-accelerating DGP to data: Maartens & Majerotto <https://arxiv.org/abs/astro-ph/0603353>
- Growth of structure in DGP: Koyama & Maartens, <https://arxiv.org/abs/astro-ph/0511634>
- Horndeski's original paper (1974): Horndeski, International Journal of Theoretical Physics, 10, 363–384 (not on arXiv).
- Review on modern Horndeski gravity: Kobayashi, <https://arxiv.org/abs/1901.07183>.
- Implications of GW170817 for Horndeski theories: Baker et al, <https://arxiv.org/abs/1710.06394>. Also on this topic: Ezquiaga & Zumalacarregui, <https://arxiv.org/abs/1710.05901>; Creminelli & Vernizzi, <https://arxiv.org/abs/1710.05877>; Sakstein & Jain, <https://arxiv.org/abs/1710.05893>.
- Caution about the validity of EFT approaches to gravity: de Rham & Melville, <https://arxiv.org/abs/1806.09417>.
- Beyond Horndeski gravity is (virtually) ruled out: Creminelli et al., <https://arxiv.org/abs/1809.03484>.
- Possible further bounds on GW stability in Horndeski?: Creminelli et al., <https://arxiv.org/abs/1910.14035>.
- Bounds on the remaining Horndeski parameters from large-scale structure: Noller & Nicola, <https://arxiv.org/abs/1811.12928>.
- Bounds on the model-independent μ and Σ functions (slightly old now): Simpson et al., <https://arxiv.org/abs/1212.3339>
- The classic chameleon paper: Khoury & Weltmann, <https://arxiv.org/abs/astro-ph/0309300>.

- Chameleon review: Burrage & Sakstein, <https://arxiv.org/abs/1709.09071>.
- Bounds on model-independent MG parameters from Planck: Planck Collaboration, <https://arxiv.org/abs/1502.01590>.
- Vainshtein screening in simulations: Barreira, Bose & Li, <https://arxiv.org/abs/1511.08200>.
- More details on the forms of μ and Σ : Silvestri, Pogosian & Buniy, <https://arxiv.org/abs/1302.1193>.
- The cubic Galileon gets ruled out by the ISW-galaxy cross-correlation: Renk et al., <https://arxiv.org/abs/1707.02263>.
- Classic redshift space distortions: Hamilton, <https://arxiv.org/abs/astro-ph/9708102>.
- Forecast bounds on LISA measurements of GW luminosity distance: Belgacem et al., <https://arxiv.org/abs/1906.01593>.
- MG effects on GW propagation: Nishizawa, <https://arxiv.org/abs/1710.04825>.
- The universal void density profile: Hamaus et al., <https://arxiv.org/abs/1403.5499>.
- Lensing by voids in the cubic Galileon: Barreira, <https://arxiv.org/abs/1505.05809>; also Baker, <https://arxiv.org/abs/1803.07533>.
- Lensing by troughs in DES: Gruen et al., <https://arxiv.org/abs/1507.05090>.