

M dwarfs from a Gaia Perspective



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2nd year
Poster at CS20
Speaker at Splinter (Monday)

Jonathan Gagne



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Co-convener Splinter

Eileen Gonzales



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Elianna Schwab Abrahams



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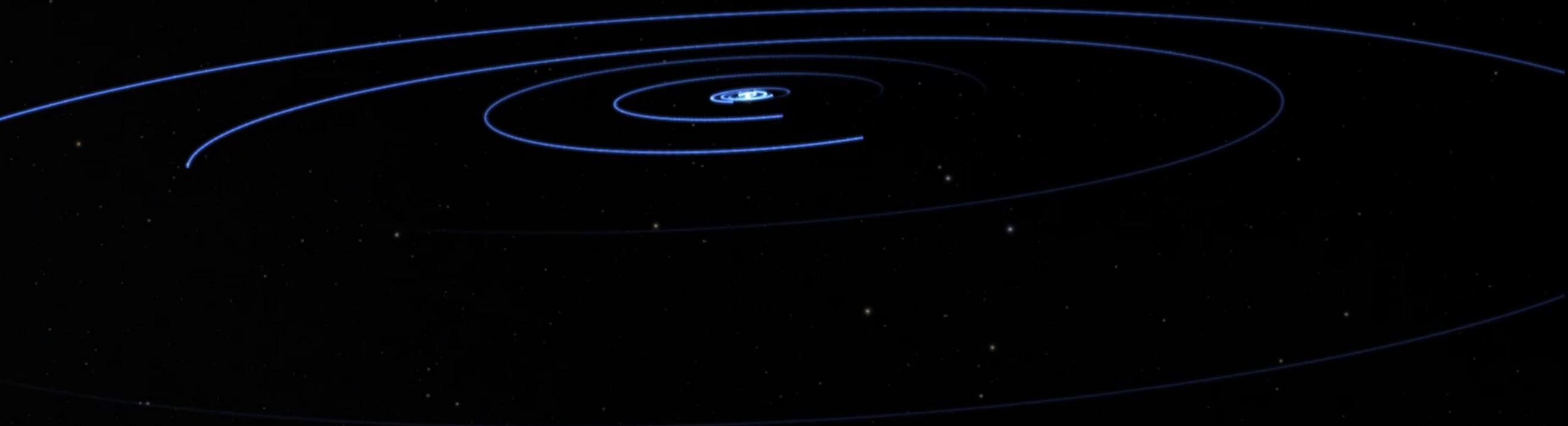
John Bochanski



Assistant Professor
Rider University
Poster at CS20/Co-convener Splinter

**See Cool Stars Splinter:
Tomorrow 2pm**

100pc Gaia Dr2 Sample

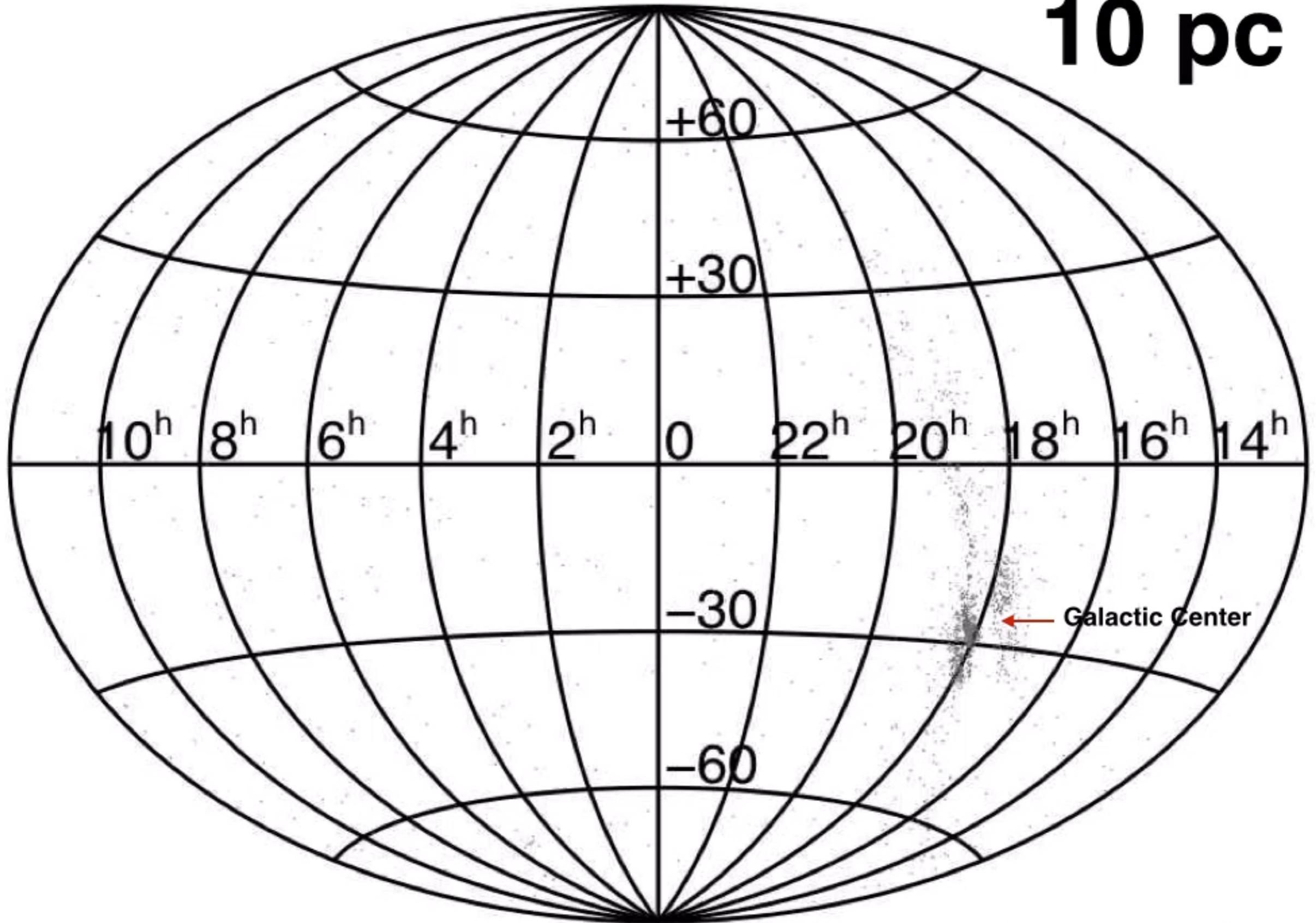


700,055 stars in 100 pc

Movie uses Uniview
D. Tell (Cal Academy) & J. Faherty (AMNH)

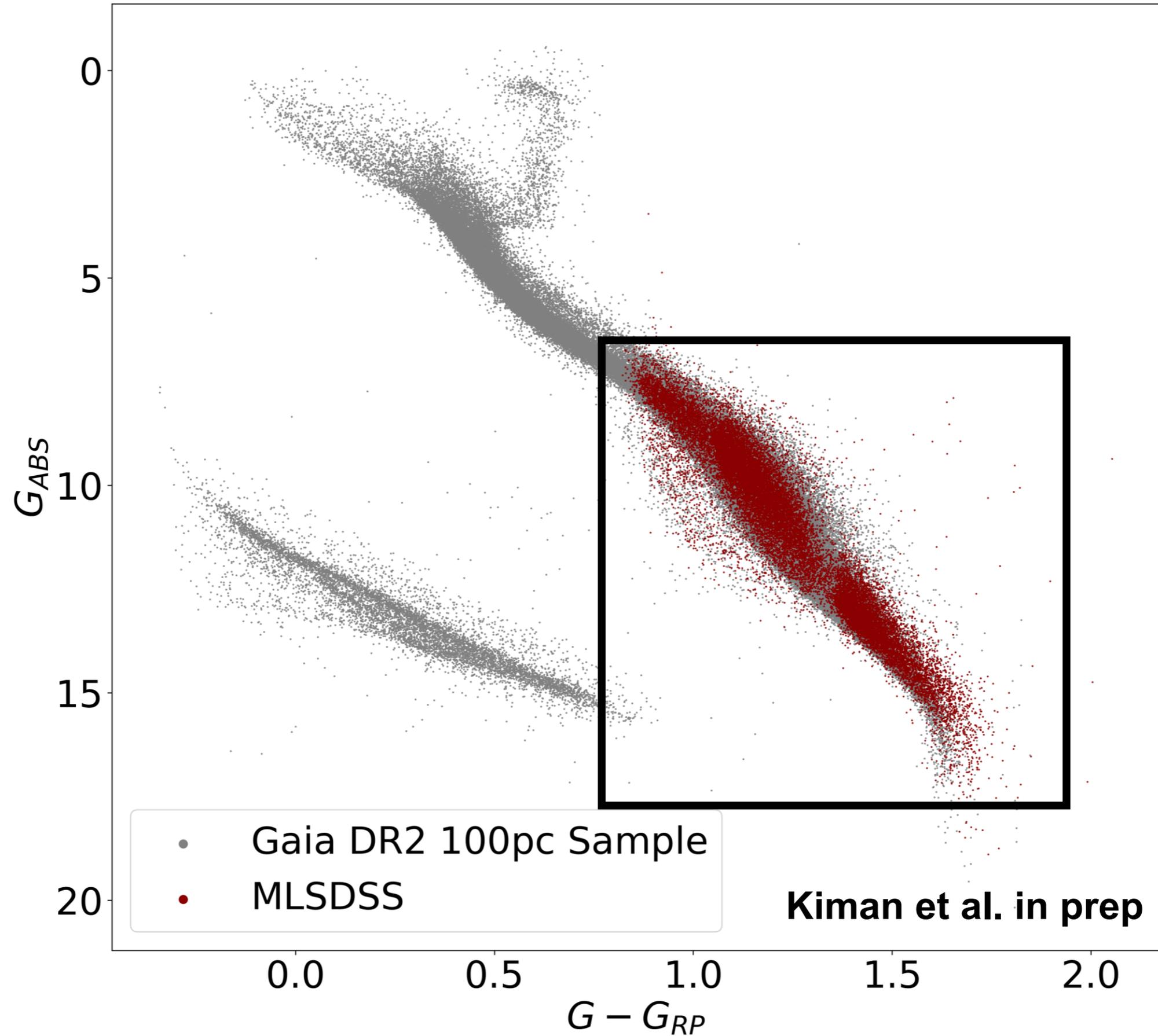
Be Aware of Crowded Regions in Gaia

10 pc

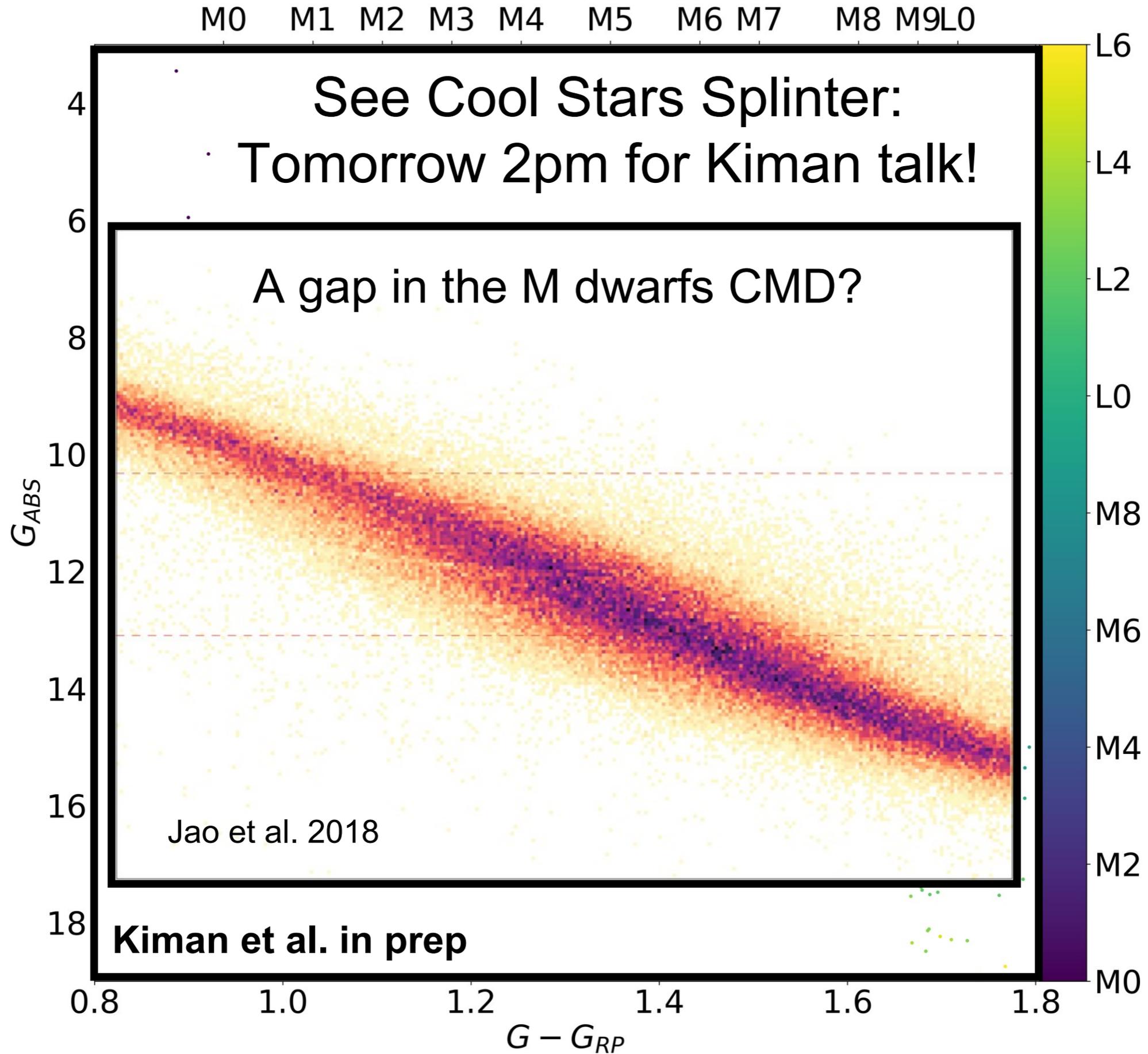


Objects: 1,722

Clean 100pc Sample with SDSS M dwarfs highlighted



Calibrating M dwarf properties in Gaia with SDSS sample



Co-Moving M dwarfs in Gaia

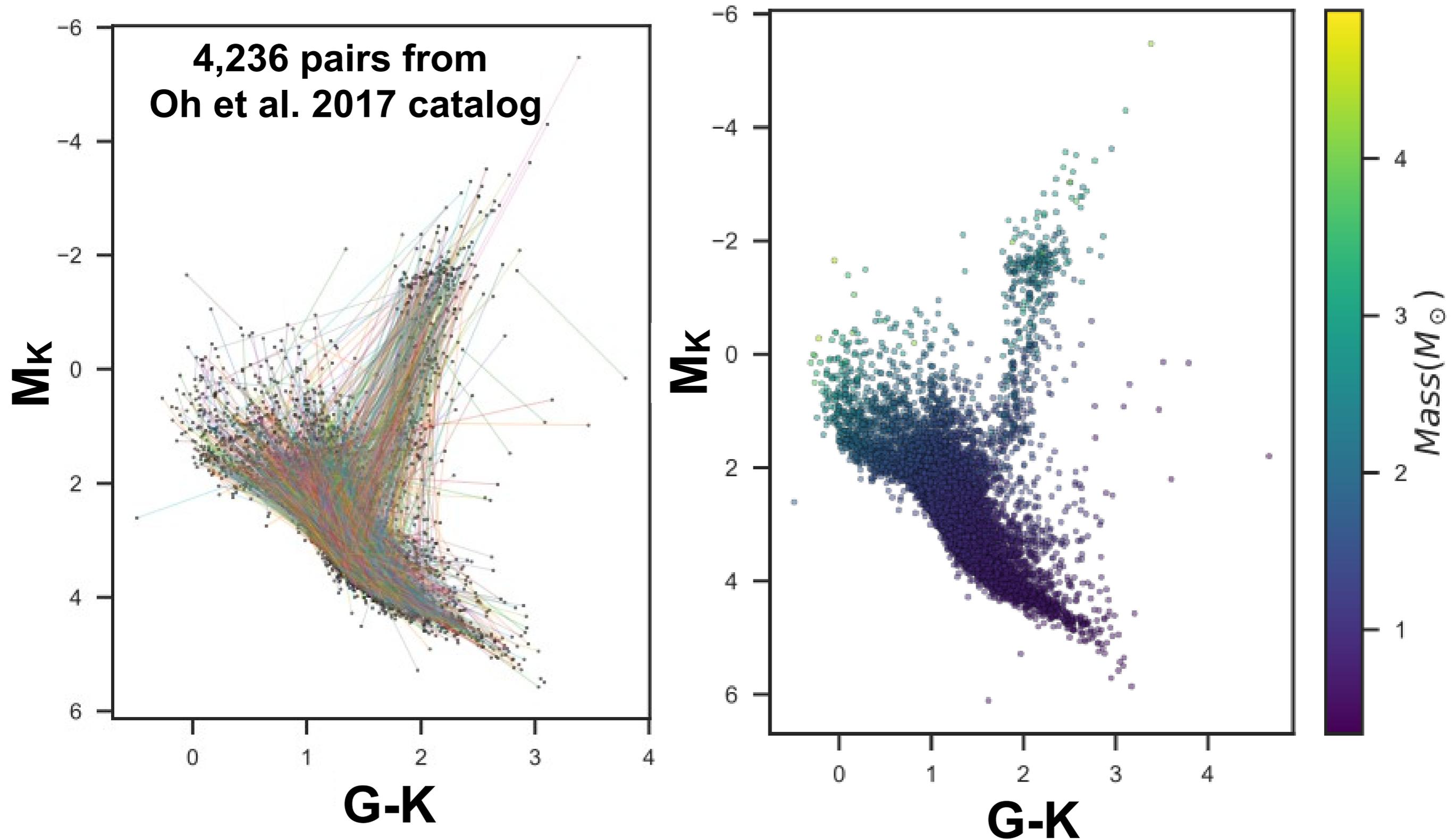
Pairs shown from Oh et al. 2017 catalog



23 new associations, two within 100pc

Faherty et al. 2018

Co-Moving M dwarfs in Gaia

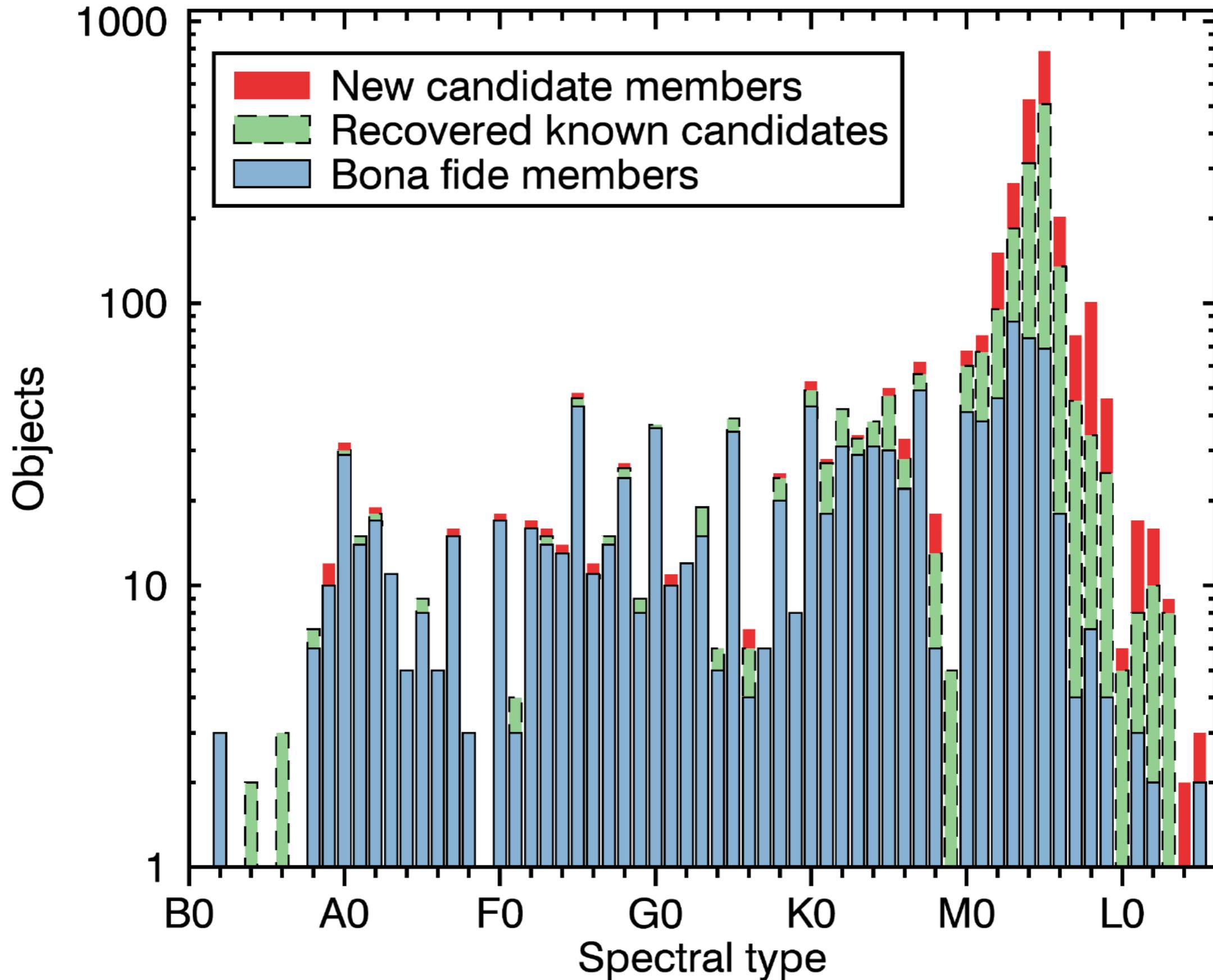


Associations of Young Stars Near the Sun

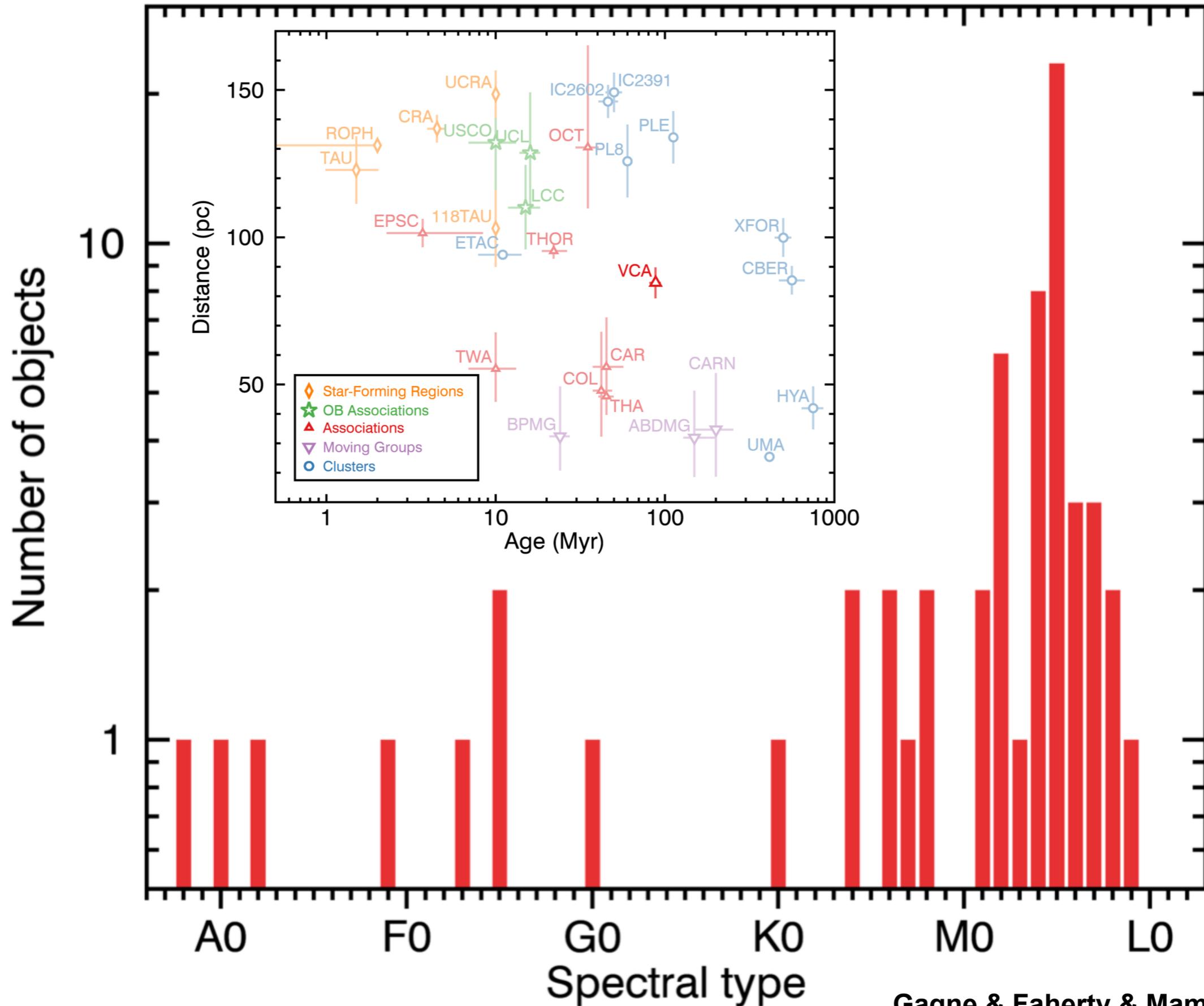


Banyan Sigma Models are blue ellipses
Gagne+Faherty+ et al. 2018

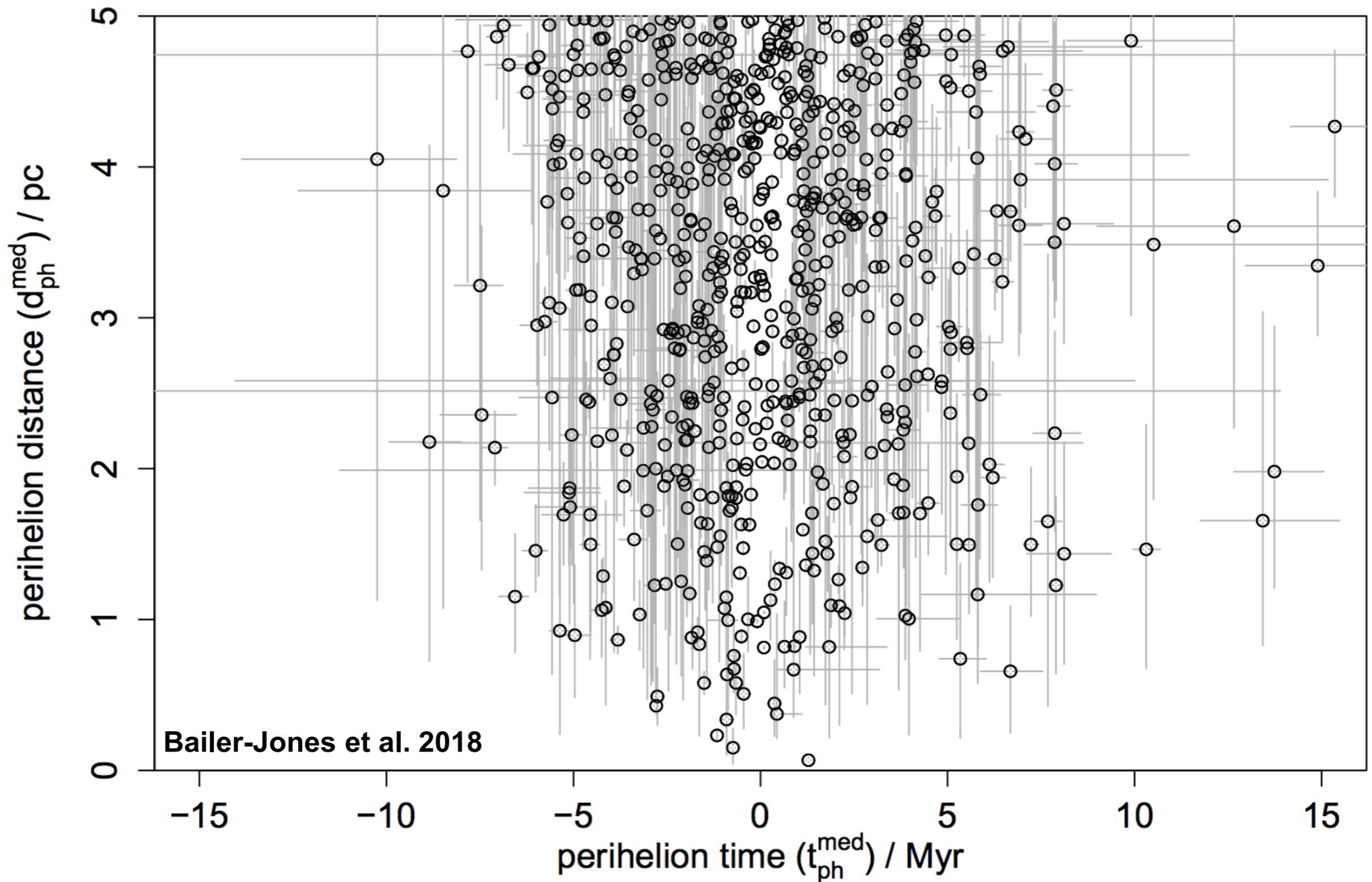
New M dwarfs in Known Moving Groups

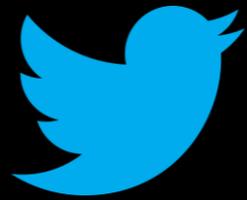


NEW Moving Groups Dominated by M dwarfs



Low-mass Star Stellar Flybys





@jfaherty

Tweetable Conclusions

M dwarf science is blowing up with Gaia

- Be aware of crowding issues in Gaia DR2
- Analysis of color magnitude diagrams is leading to fundamental physics of M dwarfs
- Co-moving catalogs have led to a goldmine of kinematically connected M dwarfs from pairs, to moving group members (as well as entirely new groups!)

