Braided Tensor Categories Study Group, Summer 2020

Etingof-Gelaki-Nikshych-Ostrik's "Tensor Categories" (2015), Chapter 8:
http://www-math.mit.edu/~etingof/egnobookfinal.pdf
EGNO Corrections: http://www-math.mit.edu/~etingof/tensbookcor.pdf

Wednesdays at 2pm Chicago Time
two 30 - 40 minute talks, with a small break in between

Participants: Hongdi Huang, Yiby Morales, Monique Muller, Anh-Tuong Nguyen, Julia Plavnik,
Ana Ros Camacho (on occasion), Sean Sanford, Angela Tabiri, Chelsea Walton, Harshit Yadav

Date	Name	Topic	EGNO (portion of) Section & Notes
April 29th	Chelsea	Intro and Braided Categories	8.1
April 29th	Chelsea	Examples of braided categories	8.2
May 6th	Hongdi	Quasitriangular Hopf algebras	8.3; pg.198 - 200; could use Radford Ch 12, 13
May 6th	Angela	Coquasitriangular Hopf algebras	8.3; pg. 201- 203; could use Radford Ch 14
May 13th	Sean	Pre-metric groups and braided pointed fusion categories	8.4 thru Exercise 8.4.8, may need to add in background on group cohomology (Sec 1.7)
May 13th	Sean	Pre-metric groups and braided pointed fusion categories	8.4; Thm 8.4.9 thru end of section
May 20th	Monique	Center as a braided category	8.5; give definition of center from Sec 7.13
May 20th	Monique	Factorizable braided tensor category	8.6; recall of Deligne product from Sec 1.11
May 27th	Harshit	Module categories over braided tensor categories, and commutative algebras	8.7; recall module categories from Sec 7.1.1 8.8; Def 8.8.1, Exer 8.8.3, 8.8.4, 8.8.5
May 27th	Harshit	Commutative algebras and central functors	8.8; Exer 8.8.2, Def 8.8.6 thru end of sec
June 3rd	Angela	The Drinfeld morphism	8.9
June 3rd	Yiby	Ribbon monoidal categories	8.10; thru Thm 8.10.7
June 10th	Yiby	Ribbon monoidal categories and Ribbon Hopf algebras	8.10, 8.11; Corollary 8.10.8 thru end of 8.11
June 10th	Monique	Characterization of Morita equivalence	8.12
June 17th	Harshit	The S-matrix of a pre-modular category	8.13; thru Exer 8.13.7; recall material on Grothendieck rings from Secs 1.5 and 4.5
June 17th	Harshit	The S-matrix of a pre-modular category	8.13; Prop 8.13.8 thru rest of section
June 24th	Hongdi	Modular categories	8.14 (will have to decide where to split material…
June 24th	Angela	Modular categories	8.14 …add example, feel free to use other texts)
July 1st	Harshit	Gauss sums and the central charge	8.15 (would be nice to see where used in literature)
July 1st	Harshit	Representation of the modular group	8.16
July 8th	Chelsea	Modular data	8.17
July 8th	Chelsea	Modular data	Some material from Gannon's 2005 J. Alg Comb paper https://link.springer.com/content/pdf/10.1007/s10801-005-2514-2.pdf
July 15th	Anh	The Anderson-Moore-Vafa property, Verlinde categories	8.18
July 15th	Anh	A non-spherical generalization of the S-matrix	8.19
July 22nd	Hongdi	Centralizers and non-degeneracy	8.20 (best to have 1 person give both talks today)
July 22nd	Hongdi	Centralizers and non-degeneracy	8.20 (best to have 1 person give both talks today)
July 29th	Sean	Dimensions of centralizers	8.21; recall (again) categorical dimension first
July 29th	Sean	Dimensions of centralizers	8.21; recall Frobenius-Perron dimension first
August 5th	Anh	(Skipping Projective centralizers) Equivariantization	(Skipping 8.22) 4.15 (and 2.7)
August 5th	Anh	De-equivariantization	8.23; thru Remark 8.23.5
August 12th	Anh	De-equivariantization	8.23; Def 8.23.6 thru rest of section
August 12th	Julia	Braided G-crossed categories	8.24