

Fall 2020 Learning Seminar: 3 dim'l TQFTs and Modular Categories
 Tuesdays 4:15pm - 5:30pm Houston Time
 ~50-60 minutes of lecture, with breaks between for chat

Source of videos: <https://impa.br/sobre/memoria/reunioes-cientificas/quantum-groups-and-3-manifold-invariants-2/>

Host: Chelsea Walton (Rice)

Participants: Fabio Calderón (U. Nac. Colombia, Bogotá), Matthew Foster (Rice), Jason Joseph (Rice), Shelly Harvey (Rice), Kaden Hazzard (Rice), Hongdi Huang (Rice), Alexander Leguizamón Robayo (U. Nac. Colombia, Bogotá), Alex Manchester (Rice), Yiby Morales (Los Andes U, Bogotá), Anh-Tuong Nguyen (UIUC), Van Nguyen (USNA), Pablo Ocal (Texas A&M), Xingting Wang (Howard), Harshit Yadav (Rice),

Date	Topic/ Text Material	Speaker	Comments
September 1	Introduction to Seminar	Chelsea Walton [talk notes]	15 min talk + 15 min chat
September 8	Invariants of Knots: Alexander polynomial	Youtube video of Anthony Bosman	Another nice video is Bosman's talk on the Jones polynomial .
September 15	Invariants of 1- and 2-dimensional manifolds: TFTs in dimensions 1 and 2	Youtube video of Christopher Douglas	A nice pre-video that builds off of last week is Bosman's talk on Surfaces & Genus
September 22	Towards invariants of 3-dimensional manifolds: Extended TFTs in dimension 3, tensor categories, Hopf Algebras	Youtube video of Christopher Douglas	
September 29	Lie algebras and their representations	Youtube video of André Henriques	
October 6	Deformations of the universal enveloping algebras	Youtube video of André Henriques	
October 13	Braided tensor categories and braided Hopf Algebras	Youtube video of Christopher Douglas	
October 20	The quantum group and its modules	Youtube video of André Henriques	
October 27	The braided structure on the quantum group	Youtube video of André Henriques	
November 3	The ribbon structure on the fusion category	Youtube video of Christopher Douglas	
November 10	Ribbon Hopf Algebras and ribbon categories	Youtube video of André Henriques	
November 17	Quantum dimension and the fusion category	Youtube video of André Henriques	
November 24	3-manifold invariants from the fusion category	Youtube video by Christopher Douglas	
December 1	Modularity of the fusion category	Youtube video by Christopher Douglas	
December 8	"Out"roduction to Seminar	Chelsea Walton	The talk will be on a bird's eye view of this new expository paper: https://arxiv.org/pdf/2011.12932.pdf