

Spring 2021 Learning Seminar: Hochschild Cohomology for Algebras, towards Deformation Theory
 Tuesdays 3:30pm - 5:00pm Houston Time. Two 30 minute talks, with a break in between

Text: Witherspoon's "Hochschild Cohomology for Algebras" (2020)

Host: Chelsea Walton (Rice).

Participants: Fabio Calderón (U. Nac. Colombia, Bogotá), Shelly Harvey (Rice), Hongdi Huang (Rice), Austen James (Rice), Naomi Krawzik (Sam Houston), Dhilan Lahoti (Rice), Alexander Leguizamon Robayo (U. Nac. Colombia, Bogotá), Anh-Tuong Nguyen (UIUC), Van Nguyen (USNA), Pablo Ocal (Texas A&M), Tolupe Oke (Texas A&M), Andres Riaño (U. Nac. Colombia, Bogotá), Padmini Veerapen (Tennessee Tech), Xingting Wang (Howard), Harshit Yadav (Rice)

Date	Book Material I (skipping 2.1-2.4, include as needed)	Speaker I	Book Material II (skipping 2.1-2.4, include as needed)	Speaker II
February 2nd	Introduction to Learning Group	Chelsea	A.1: Complexes A.2: Resolutions and dimensions	Chelsea
February 9th	A.3: Ext and Tor A.4: Long exact sequences	Chelsea	A.5: Bicomplexes A.6: Categories, functors, and derived functors	Chelsea
February 16th	(Texas winter storm. Meeting cancelled)			
February 23th	1.1, 1.2: Definition of Hochschild co/homology (could skip normalized bar resolution), and Interpretation in low degrees	Van	1.1, 1.2: Definition of Hochschild co/homology (could skip normalized bar resolution), and Interpretation in low degrees	Van
March 2nd	1.3: Cup product	Fabio	1.4: Gerstenhaber bracket	Fabio
March 9th	1.5: Cap product and shuffle product	Andres	2.5: Actions of Hochschild cohomology	Tolu
March 16th	3.1: Tensor product of algebras	Anh	3.2: Koszul complexes and the HKR Theorem	Anh
March 23rd	3.3: Twisted tensor product of algebras	Pablo	3.4: Koszul algebras	Hongdi
March 30th	3.5: Path algebras and monomial algebras	Austen and Dhilan	3.6: Skew group algebras	Naomi
April 6th	5.1: Formal deformations	Padmini	5.2: Infinitesimal deformations and rigidity	Padmini
April 13th	5.3: Maurer-Cartan equation and Poisson bracket, and more on quantization	Alex	5.3: Maurer-Cartan equation and Poisson bracket, and more on quantization	Alex
April 20th	5.4: Graded deformations	Harshit	5.5: Braverman-Gaitsgory theory and the PBW Theorem	Harshit
April 27th	7.1: A_∞ -algebras	Xingting	7.2: Minimal models	Austen
May 4th	7.3: Formality and Koszul algebras	Xingting	7.4: A_∞ -center 7.6: (just on A_∞ algebras if time permits)	Pablo