

# Galaxy-IGM workshop 2021

Mon, Aug 16 – Fri, Aug 20

**Review:** 45 min talk + 15 min discussion

**Contributed talk:** 10 min talk + 10 min discussion

**Group presentation:** 10 min talk + 10 min discussion

## Day 1 – Monday, Aug 16

### Morning Session 9:20 – 11:40

Chair: Takuya Hashimoto

9:20 – 9:30 Akio Inoue Welcome

9:30 – 10:30 Hanae Inami Galaxy formation observations review

10:30 – 10:40 Break

10:40 – 11:00 Yoshinobu Fudamoto Rise of Normal, Dust-Obscured Galaxies During Cosmic Reionization

11:00 – 11:20 Masato Hagimoto 銀河南極ソースに対する ALMA 観測の結果を用いたガスの物理状態の解析

11:20 – 11:40 Satoya Nakano 大質量銀河団 SPT-CL J0615 – 5746 に属する CO 分子輝線銀河が示す環境効果による星形成活動の抑制

11:40 – 12:40 Lunch

### Afternoon Session 1 12:40 – 14:50

Chair: Yoshinobu Fudamoto

12:40 – 13:40 Shingo Hirano Galaxy formation theory review

13:40 – 13:50 Break

13:50 – 14:10 Yuri Oku 多相アウトフローを考慮した超新星フィードバックモデルの構築

14:10 – 14:30 Ryo Teraguchi 銀河に降着する Cold Stream とその運動量

14:30 – 14:50 Keita Fukushima 原始銀河団中銀河の Ly $\alpha$  · Ha 放射とその星形成史

14:50 – 15:10 Coffee break

### Afternoon Session 2 15:10 – 17:00

Chair: Hidenobu Yajima

15:10 – 15:30 Yuki Isobe 形成初期銀河における高い鉄酸素比が示唆する大質量星の兆候

15:30 – 15:50 Akinori Matsumoto すばるによる極金属欠乏銀河観測 : He 量から探る初期宇宙の熱史と新素子

15:50 – 16:10 Yi Xu Observations for Outflows of Very Low-Mass Galaxies with  $M^* 10e4-10e6$

16:10 – 17:00 Discussion

## Day 2 – Tuesday, Aug 17

### Morning Session 9:30 – 11:40

Chair: Daichi Kashino

- 9:30 – 10:30 [Hideki Umehata](#) IGM observations review
- 10:30 – 10:40 Break
- 10:40 – 11:00 [Kentaro Nagamine](#) Probing Feedback via IGM tomography and Ly- $\alpha$  forest with Subaru PFS, TMT/ELT, and JWST
- 11:00 – 11:20 [Ken Mawatari](#) CGM properties of various galaxy populations in the SSA22 field
- 11:20 – 11:40 [Dongsheng Sun](#) Cosmological 3D HI gas tomography map in the Fall field with SDSS QSOs at  $z = 2.0$ – $3.0$ : HI IGM-QSO connection
- 11:40 – 12:40 Lunch

### Afternoon Session 1 12:40 – 14:50

Chair: Yuma Sugahara

- 12:40 – 13:40 [Keitaro Takahashi](#) IGM theory review
- 13:40 – 13:50 Break
- 13:50 – 14:10 [Rieko Momose](#) The diversity of IGM-galaxy connection at redshift  $z=2-3$
- 14:10 – 14:30 [Rika Ando](#) ハロー近傍のダークマターの密度場を用いた HI パワースペクトルの再構築
- 14:30 – 14:50 [Nicolas Ledos](#) The effect of heat conduction and dark matter potential on the survival of cold streams feeding galaxies
- 14:50 – 15:10 Coffee break

### Afternoon Session 2 15:10 – 17:00

Chair: Kenji Hasegawa

- 15:10 – 15:30 [Hiroya Umeda](#) 電離スペクトルから迫る形成初期銀河の強い HeII 輝線の起源
- 15:30 – 15:50 [Shotaro Kikuchihara](#) Ly $\alpha$  Intensity Mapping for Extended Ly $\alpha$  Emission around the LAEs at  $z = 2-7$
- 15:50 – 17:00 Discussion

## Day 3 – Wednesday, Aug 18

### Morning Session 9:30 – 11:40

Chair: TBD

- 09:30 – 09:50 [Koki Kakiichi](#) Recovering the growth history of a supermassive blackhole using photometric IGM tomography
- 09:50 – 10:10 [Koki Otaki](#) ダークマター欠乏銀河形成条件の解析
- 10:10 – 10:30 [Takehiro Yoshioka](#) HSC で挑む宇宙再電離の空間的非一様性のマッピング
- 10:30 – 10:40 Break
- 10:40 – 11:40 [Kohei Inayoshi](#) AGN theory review
- 11:40 – 12:40 Lunch

### Afternoon Session 1 12:40 – 14:50

Chair: Kimihiko Nakajima

- 12:40 – 13:00 [Yuichi Matsuda](#) MIRACLES  
13:00 – 13:20 [Yechi Zhang](#) LAEs at  $z=2.0-3.5$  Probed by HETDEX Survey  
13:20 – 13:40 [Yuma Sugahara](#) 電離平衡モデルで見た FIR 輝線と BPT 図の関係  
13:40 – 14:00 Coffee break  
14:00 – 15:00 [Masafusa Onoue](#) AGN observations review  
15:00 – 15:10 Break

### Afternoon Session 2 15:10 – 17:00

Chair: Yoshiaki Ono

- 15:10 – 15:30 [Koya Murakami](#) 21cm 線強度マップの直接画像解析による暗黒物質探査  
15:30 – 15:50 [Kosei Matsumoto](#) 銀河進化と Cold flow の関係  
15:50 – 16:10 [Makoto Ando](#) A systematic search for galaxy protocluster cores at the transition epoch of star formation activity  
16:10 – 17:00 Discussion

## Day 4 – Thursday, Aug 19

### Group Work 9:30 – 17:00

- [Hanae Inami](#) Galaxy formation observations  
[Shingo Hirano](#) Galaxy formation theory  
[Hideki Umehata](#) IGM observations  
[Keitaro Takahashi](#) IGM theory  
[Masafusa Onoue](#) AGN observations  
[Kohei Inayoshi](#) AGN theory

## Day 5 – Friday, Aug 20

### Group Work 9:30 – 12:00

Continuation of day 4

### Group presentations 13:00 – 16:00

Chair: Akio Inoue

- 13:00 – 15:00 10 min talk +10 min discussions × 6 groups Presentations  
15:00 – 15:30 Break  
15:30 – 16:00 Awards and commentary