



世界トップレベル研究拠点  
(WPI) 2012-2022



# 名古屋大学トランスフォーメティブ生命分子研究所 Institute of Transformative Bio-Molecules

*'Needs-inspired basic research' toward transformative bio-molecules*

## Plant Chemical Biology



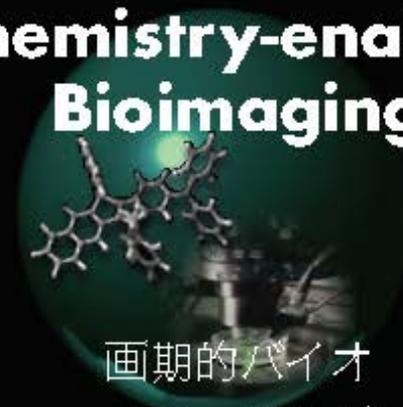
植物を分子で  
理解・制御

## Chemical Chronobiology

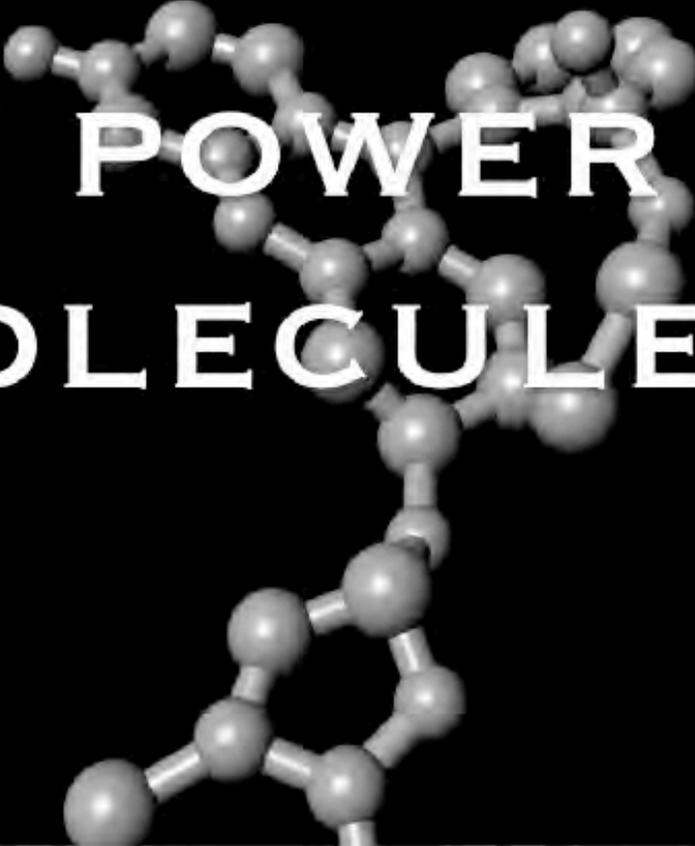


体内時計を  
分子で制御

## Chemistry-enabled Bioimaging



画期的バイオ  
イメージング



**THE POWER OF  
MOLECULES**

**Synthetic  
Chemistry**

**Plant  
Biology**

**MIX**

**RESEARCH FIELDS**

**Theory**

**Animal  
Biology**

# Synthetic Chemistry

**Cathleen Crudden**  
Queen's U., Canada



**Kenichiro Itami**  
Director



**Takashi Ooi**



# Plant Biology

**Tetsuya Higashiyama**  
Vice Director



**Keiko Torii**  
U. Washington, USA



**Toshinori Kinoshita**



**Steve Kay**  
U. Southern Calif,  
USA



# MIX TOP SCIENTISTS

**Shigehiro Yamaguchi**  
Vice Director



**Jeffrey Boege**  
ETH, Switzerland



**Takashi  
Yoshimura**



# Theory

**Takeshi Yanai**



**Florence  
Tama**

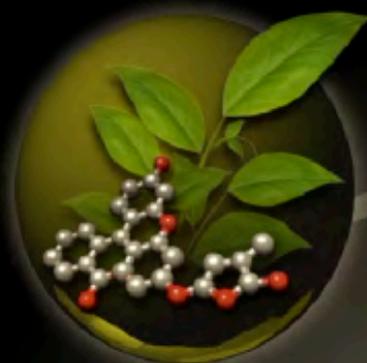


**Wolf Frommer**  
U. Düsseldorf, Germany

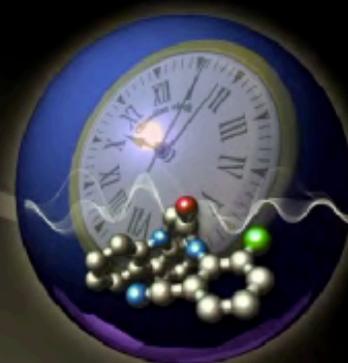


# Animal Biology

**Plant  
Chemical  
Biology**



**Chemical  
Chrono-  
biology**

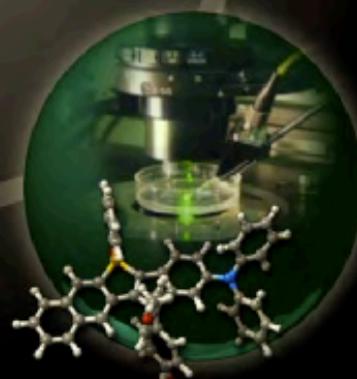


# EMERGING NEW AREAS

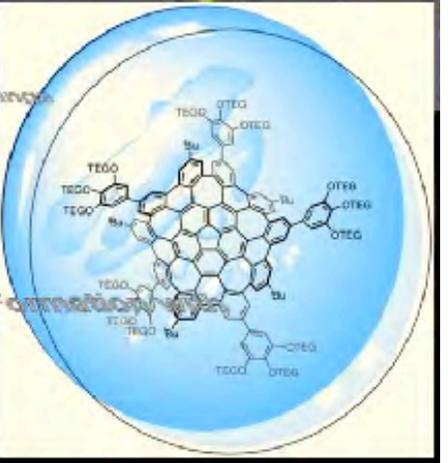
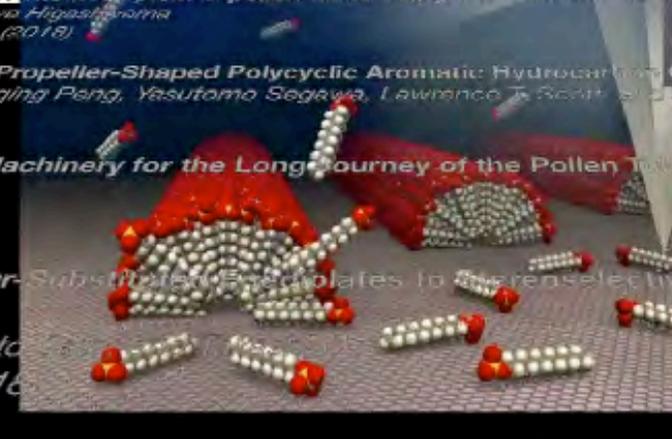
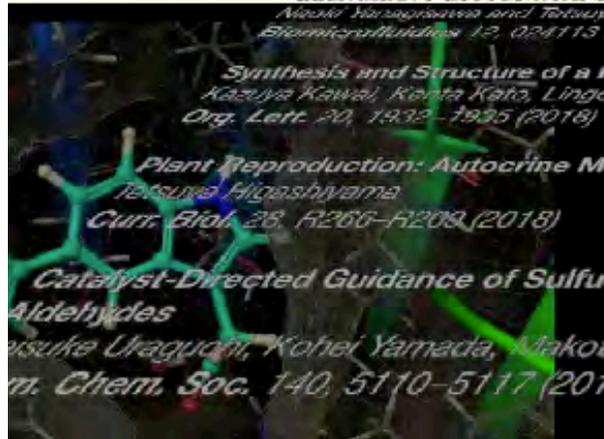
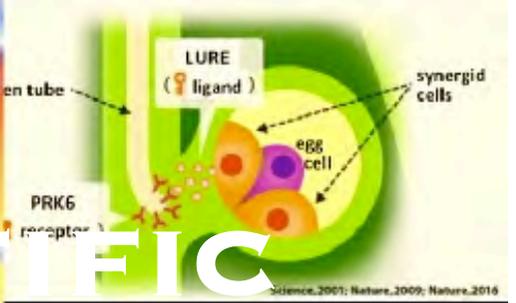
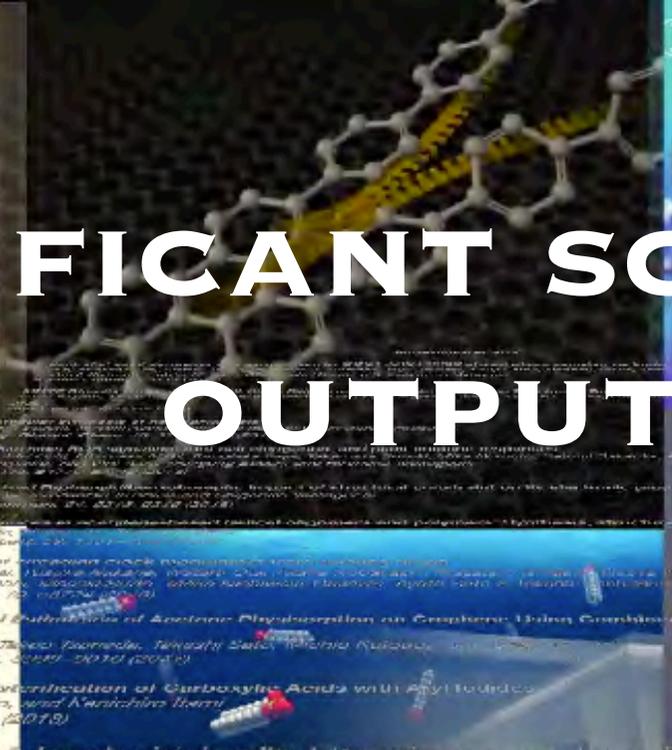
**Striga**



**Chemistry-  
enabled  
Live Imaging**



# SIGNIFICANT SCIENTIFIC OUTPUTS



Nature (5), Science (6), Cell (4), Nature sister journals (49)

since 2013



# WORLD VISIBLE INSTITUTE

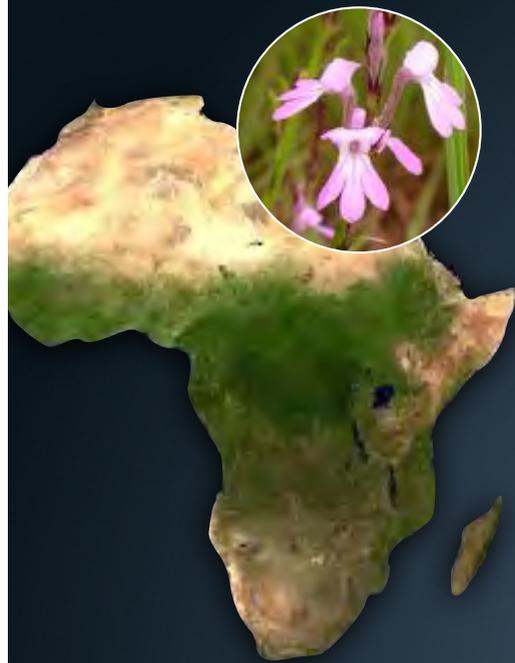


A dark blue world map is the background. Numerous yellow dots are scattered across the map, representing various global locations. From a central point in Europe, several yellow curved lines arc outwards to connect to other yellow dots located in North America, South America, Africa, and Asia. The text 'ITbM SPIRITS EVERYWHERE' is centered over the map in white, bold, sans-serif font.

**ITbM SPIRITS  
EVERYWHERE**



CHANGE THE WORLD  
WITH MOLECULES



# ストライガ問題 **寄生植物**

- ・穀物に寄生して、枯らしてしまう
- ・アフリカ耕作地の2/3が侵されている  
(約4000万ヘクタール)
- ・年間1.3兆円の損害(食糧問題)
- ・1億人の生活を脅かしている
- ・アフリカの貧困の大きな原因



分子

イネ、トウモロコシ、  
ソルガムなど

ピンクに染まってしまった大地を「分子」の力で緑に戻し、食糧危機の解決に貢献