

# The promise of Interleukin-2 Therapy for autoimmune and inflammatory diseases, allergy, transplantation and cancer

**Centre International de Conférences Sorbonne Université Paris  
September 14-17, 2022**

<https://www.il-2-2022.com>

## **International Organizing Committee**

Abul Abbas, Christophe Benoist, Jeff Bluestone, David Klatzmann (Chair),  
Thomas Malek, Georges Tsokos

## **Local Organizing Committee**

Caroline Aheng, Amelie Bonnefond, Dusko Ehrlich, Emmanuel Gautherot, Emmanuelle Le  
Chatelier, Encarnita Mariotti-Ferrandiz, Michelle Rosenzweig, Nicolas Tchitck

## **Confirmed speakers**

Abul K. Abbas, Stanley Appel, Christophe Benoist, Jeff Bluestone, Onur Boyman, Frederic De  
Blay, Jason Fontenot, Ron Germain, Agnes Hartemann, Jens Humrich, John Koreth, David  
Klatzmann, Warren Leonard, Zhanguo Li, Adrian Liston, Catherine Lubetzki, Ziad Mallat, Diane  
Mathis, Arsene Mekinian, Thomas Malek, Aleksander Rudensky, Shimon Sakaguchi, Scott  
Snapper, Anish Suri, Nadia Tcho, Georges Tsokos, Steven Quayle, Lucy Walker, Jonathan  
Zalevsky

## **Partners**



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## AGENDA

Wednesday 14

**18.00**

### **Opening Session**

Welcome words

### **Keynote lectures**

Chair: Abul Abbas

- *Treg based therapies today* – Jeff Bluestone
- *IL-2 based therapies today* – David Klatzmann

**20.00**

### **Welcome reception**

## Thursday 15

9.00

### Session I - On mechanistic aspects: IL-2, receptors and signaling

Chair: Lucy Walker

1. *IL-2R-dependent mechanisms in immune tolerance*. Thomas Malek
2. *Terminal differentiation and function of effector regulatory T cells*. Alexander Rudensky

#### Talks from abstracts

- *Identification of conditional regulators of IL2RA within CD4+ T cell subsets*. Maya Arce
- *IL2 governs distinct cellular processes in regulatory T cells subsets*. Acacia Crouch

## 10.30 – 11.00 – Coffee break

11.00

### Session II - Lessons from current clinical trials with native IL-2

Chair: Scott Snapper

1. *The Chinese experience*. Zhanguo Li 30'
2. *The Lupil-2 study*. Jens Humrich 20'
3. *IL-2 in humans modulates circulating and tissue-homing Treg cells*. Onur Boyman 20'
4. *Low-dose IL-2 in Chronic GVHD*. John Koreth 30'

## 13.00 – 14.00 – Lunch & posters

14.00

### Session III - On mechanistic aspects: physiology and pathophysiology

Chair: Alexander Rudensky

1. *High Content Imaging Reveals a Spatially-constrained IL-2 Dependent Circuit that Underlies Treg Control of Self-Reactivity*. Ron Germain
2. *Tissue-Tregs*. Christophe Benoist
3. *Manipulating IL-2 and costimulation to tame autoimmune responses*. Lucy Walker

#### Talks from abstracts

- *An IL2RA enhancer polymorphism determines responsiveness to IL-2 signalling and the balance between pathogenic and protective immunity in Crohn's disease*. Jennie Clough
- *Deciphering a novel hypomorphic IL2RB mutation on immune dysregulation*. Elena Hsieh

## 16.00 – 16.30 – Coffee break

16.30

### Session IV - Lessons from current clinical trials with native IL-2 (continue)

Chair: John Koreth

5. *Low-dose IL-2 for inflammatory bowel diseases*. Scott Snapper 30'
6. *Low dose IL-2 in Multiple Sclerosis*. Catherine Lubetzki 20'
7. *Low dose IL-2 in allergy: effects on the allergic response to a controlled exposure to allergens on patients with allergic rhinitis*. Frederic De Blay 20'
8. *Low-dose IL-2 in Recurrent Spontaneous Abortion of immunological cause: results from an open trial*. Arsène Mekinian 20'
9. *Transreg update*. Roberta Lorenzon 10'
10. *Low-dose IL2 in patients with coronary artery disease*. Ziad Mallat 20'

## 18.30 End of the day

## Friday 16

9.00

### Session V –Treg targeted IL-2 muteins in clinical trials

Chair: J. Humrich

1. *Insights From Engineering IL-2 Muteins: Results from a Phase 1b Study in Systemic Lupus Erythematosus (SLE)*. Nadia Tchao, Amgen
2. *Update on the Ongoing Development of Rezpegaldesleukin, a Selective Regulatory T-Cell Inducing IL-2 Conjugate*. Jonathan Zalevsky, Nektar
3. *IL2-CD25 for selective Treg expansion*. Mary Struthers, Bristol Myers Squibb

## 10.30 – 11.00 – Coffee break

11.00

### Session VI – biomarkers of IL-2 therapeutic effects: iMAP outcomes

Chair: C. Benoist

- |                                   |                                  |
|-----------------------------------|----------------------------------|
| 1. <i>Deep cytometry</i>          | Michelle Rosenzweig 25'          |
| 2. <i>Transcriptome</i>           | Nicolas Tchitchek 25'            |
| 3. <i>TCR</i>                     | Encarnita Mariotti-Ferrandiz 25' |
| 4. <i>Microbiome</i>              | Emmanuelle Le Chatelier 25'      |
| 5. <i>Comments and discussion</i> | Christophe Benoist 15'           |

## 13.00 - 14.00 – Lunch & posters

14.00

### Session VII - IL-2 and Treg cell therapies: competing or complementing?

Chair: Olivier Boyer

1. *Suppressing Neuroinflammation: Treg Therapy of ALS*. Stanley Appel, Coya Tx
2. *Remarkably enhanced survival and superior efficacy of IL-2 self-sufficient Tregs*. Janie Robert

#### Talks from abstracts

- *Finely controlled IL2 signal in engineered human Tregs with utilizing a chemically induced signalling complex*. Adel Nada, GentiBio

## 15.30 – 16.00 pm – Coffee break

16.00 pm

### Session VIII – Round table: the promise of IL-2 and IL-2 muteins in autoimmune and inflammatory diseases

Moderator and introductory talk: Abul Abbas

Nadia Tchao, Jonathan Zalevsky, David Klatzmann, Jens Humrich, Scott Snapper, John Koreth, Thomas Malek

## 17.30 – 19.00 Drinks and posters

19.00 End of the day

## Saturday 17

9.00

### Session IX - IL-2 in cancer therapy

Chair: Jeff Bluestone

1. *Introduction*. Abul Abbas 10'
2. *Towards control of antigen-specific Tregs in immunological diseases and cancer*. Shimon Sakaguchi 30'
3. *Leveraging the Immuno-STAT platform to enhance anti-tumor immunity by selectively delivering IL-2 to tumor-specific T cells*. Matteo Levisetti - Cue Biopharma, Inc 15'.

#### Talks from abstracts

- *Differentiating PD-1+TCF-1+ stem-like CD8 T cells 1 towards a distinct effector T cell population with enhanced anti-tumor and anti-viral efficacy by the novel PD-1 cis-targeted immunocytokine PD1-IL2v (RG6279)*. Christian Klein, Roche, 15'
- *Potent antitumor immunity by targeting the high affinity IL-2R with high-dose mIL-2/CD25 and anti-PD-1 checkpoint blockade*. Kathryn LaPorte 15'
- *Role of IL2 in solid tumor CAR-T cell therapies*. Richard Paul Junghans 15'
- *ANV419, a novel CD122-biased IL-2/anti-IL-2 fusion protein with potent NK and CD8 T cell stimulating capacity, shows efficacy in syngeneic tumor models and induces selective effector cell proliferation in patients with progressed cancer*. Kirsten Richter 15'

## 10.45 – 11.15 – Coffee break

11.15

### Session X - Novel IL-2s, vectorisation and combination therapies

Chair: Jason Fontenot

1. *Using brain-delivery of IL2 to treat neuropathologies*. Adrian Liston 30'
2. *Treg stimulation and autism*. Pierre Ellul 20'
3. *CUE-401: a novel IL-2/TGF-beta fusion protein for induction and expansion of regulatory T cells*. Steven Quayle, Cue Biopharma Inc., 15'
4. *ILT-401*: Thomas Vazquez, ILTOO Pharma 15'

#### Talks from abstracts

- *Synergistic activity of IL2 mutein with tolerogenic ImmTor nanoparticles induces massive expansion of antigen-specific Tregs*. Kei Kishimoto 15'
- *IL2 superkines engineered with tunable selectivity for IL2R $\alpha$ ,  $\beta$ , and  $\gamma$  chains enabling pro and anti-immune functions*. Farah Merchant Medicenna Therapeutics 15'
- *An engineered pegylated IL-2 for the treatment of immune mediated disease by selective Treg expansion*. Mark Peakman, Sanofi 15'

## 13.30 End of the meeting