It is estimated that in 2050 two out of three people will live in cities (FAO 2015), this puts pressure on the environment and health, and could increase poverty and social exclusion (Michel and Ribardière 2017). However, urban agriculture (UA) practiced by 800 million people worldwide increases the sustainability of urban metabolism (Darrot and Noel 2018, Dumat et al, 2016) by rendering multiple services (Calais et al. strengthening the resilience of cities to climate change (Ferreira et al., 2018). UA promotes empowerment of citizens towards more food justice (Carolan 2018), social bonding (Levkoe 2006), participative land management (Vandenbroucke et al., 2018). UA would promote the greening of practices (Contesse et al., 2018). According to Bories et al. (2018), UA promotes the reconnection of the actors to the territory, and this in an inclusive way thanks to the great variety of the projects. Sachsé (2018) questions urban gardens (17 millions gardeners in France) as vectors of ecological transition.

However, three factors can limit its development: conflicts of use for space; insufficient social dynamics and / or ecosystem pollution. That is why, in France since 2017, the law n° 2015-992 (article 68 of the law of energy transition) imposes the zero pesticide objective to the State, the local authorities and the public establishments for the maintenance of the public spaces. Consumption of polluted vegetables is indeed a common way of exposing urban populations to toxic substances (Dumat et al., 2019).

Participatory sciences (Charvolin 2017) are implemented in UA projects to respond to the interest of the actors involved to understand and act sustainably. For example, the participatory science project "POC" identifies and characterizes non-commercial farms in Toulouse and its agglomeration. Owners of poultry yards are interviewed about their practices and non-invasive samples are taken from some hens to study possible pathogens. UA is fully integrated into the "training-research-development" continuum: UA companies organize collaborations with training institutions and research laboratories. In Paris, this is the case of Agricool (Julian 2018) which cultivates strawberries sold short circuit without pesticides. The seeds grow under controlled conditions in a recyclable soil-free substrate whose injections are computer-controlled and carried out in a closed circuit to save water and reduce the waste produced. There is also unprecedented development of participatory action research in which the production of knowledge aims to facilitate a dynamic of change (see Cit’in research program Democratic Experiments for the ecological transition in progress since the end of 2017). These projects suggest new research formats in the context of cooperation between researchers and transition actors. This involves interrogating the forms of citizen action and the individual and collective movements for the ecological transition that are based on collaborations with researchers with a dual purpose of research (production of knowledge, data) and training. These "implicated" action research processes aim at facilitating a dynamic of change in which the actors are considered as co-researchers in the process (C. Gonzalez-Laporte, 2014). Action research differs from participatory science in that the responsibility to carry out the development of fundamental knowledge goes hand in hand with the continued success of a project (Liu, 1997). This specific posture of the researchers invites to a reflexivity that it is to explore in its multiple dimensions (Heinich, 2012).

The contributions expected for sub-session S4-3 concern: the dynamics of ecological transitions driven by urban agriculture, participatory science projects, studies on the management of land-use conflicts, territorial projects, methods of citizen consultation and training and sustainable management of historic pollution.
Guidelines for communication proposals
(format and submission):

- The communication proposals for this session are to be sent by email to:
liliane.sochecki@iut-tlse3.fr, camille.dumat@ensat.fr, s_mombo@univ-masuku.ga,
olivier.bories@ensfea.fr before January 20, 2020 with the subject matter "Proposal T2020".

- They will be examined by the scientific committee of the sub-session also composed of:
PR Aubry C.; PR Shahid M.; PR Duchemin E.; PR Guetat H.

- Proposals for communication must comply with the following instructions: times new roman,
font size 12, single spaced, 2.5 cm margins. They include a title in bold italic (times new roman 14), men-
tion the author(s) with footnotes their status and their institutional attachment, indicate 5 key words. Pro-
posals have a maximum of 600 words (including bibliographic references). You can indicate Oral
communication or Scientific Poster.

The information on the Conference
(presentation, calls for papers, registration, etc.) is available on the website:
https://transitions2020.sciencesconf.org

Students in PhD and Master 2 are invited to register on the conference website
(free registration subject to availability)