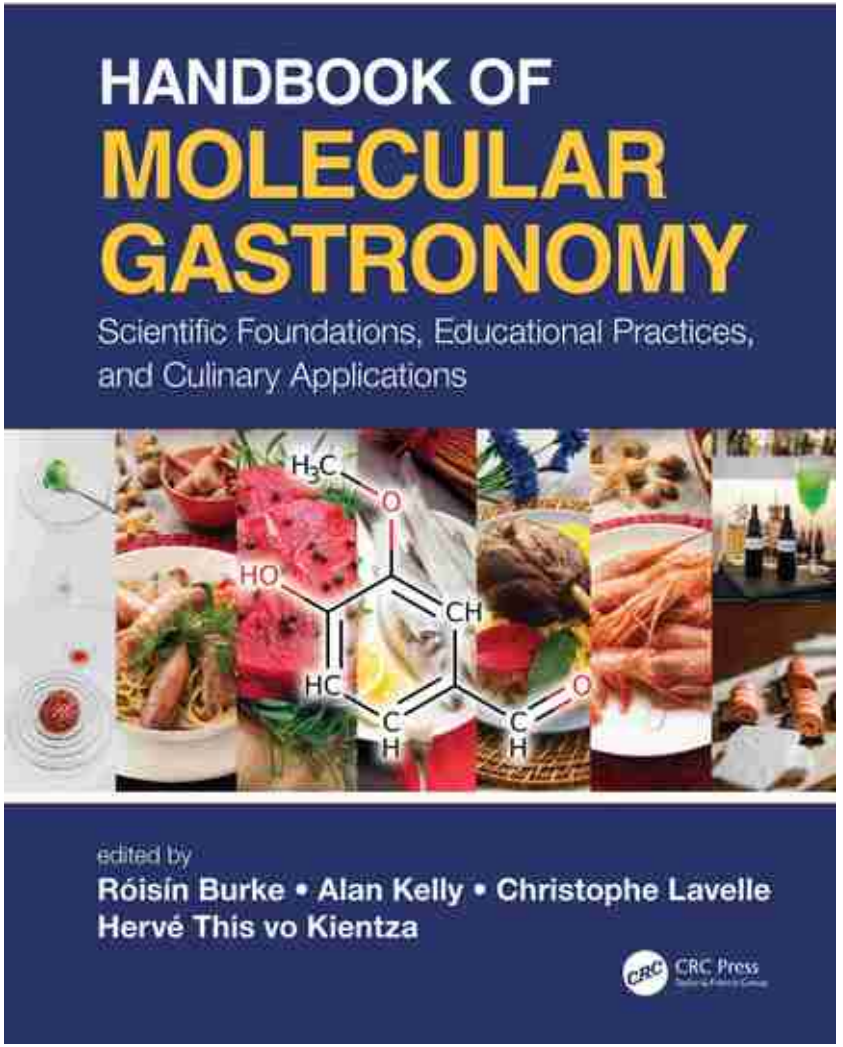
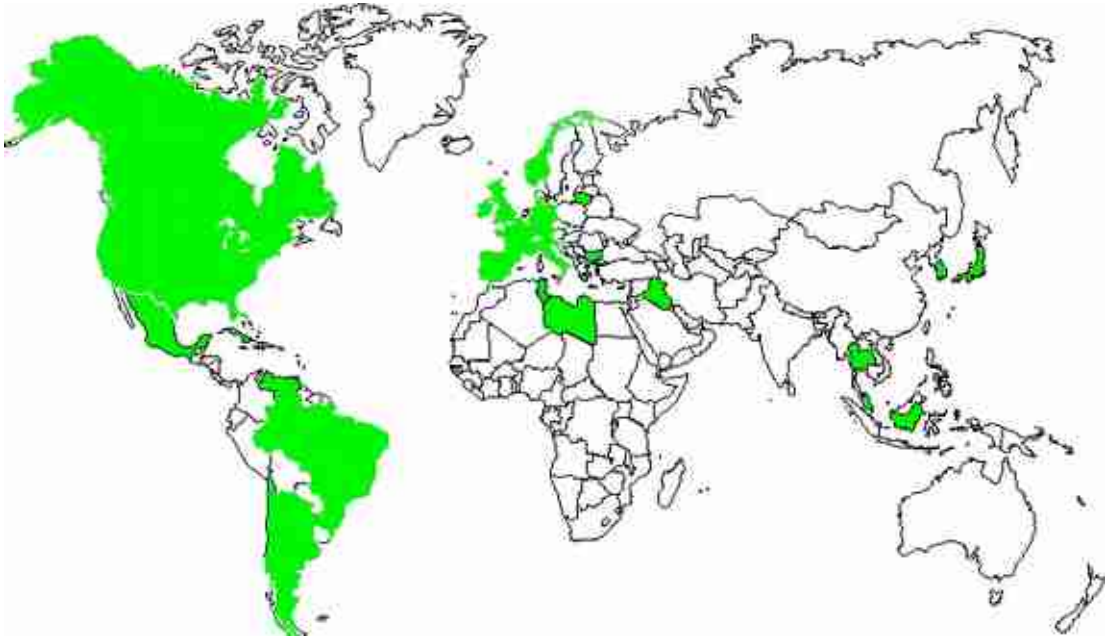
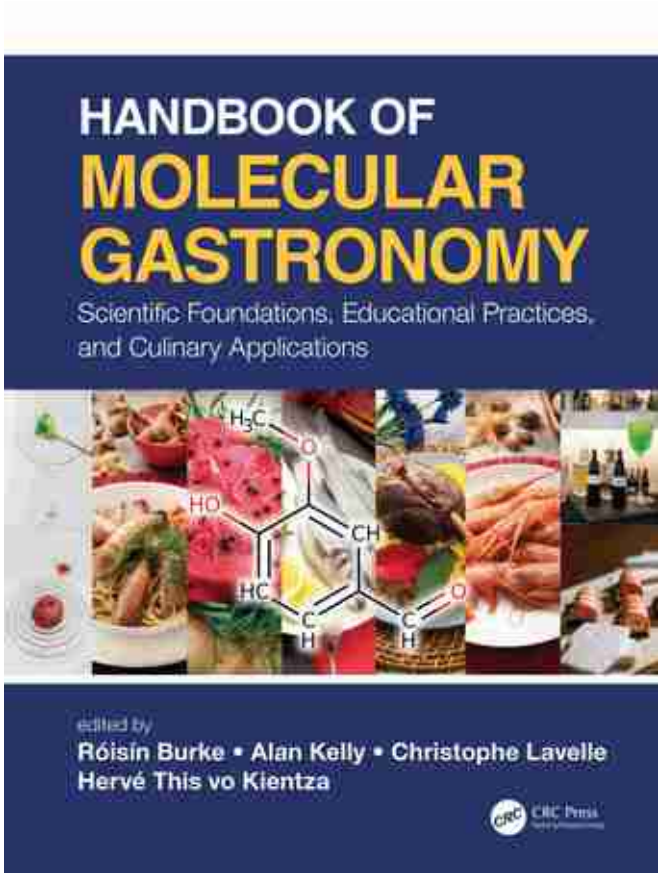
Molecular and Physical Gastronomy Seminar #4



HTvK

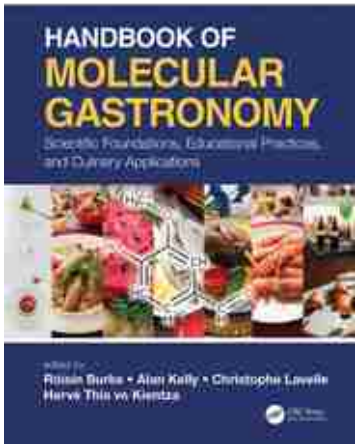
2021 :
a friendly community





HTvK

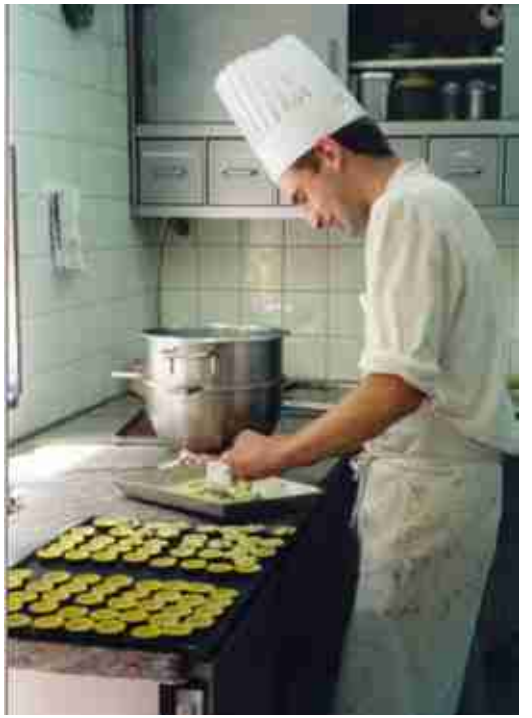
Three parts for now and for the future



1. Scientific research : molecular and physical gastronomy

2. Educational practices

3. Applications to culinary art (‘’Edible ideas’’)



Education

Cooking

HTwK

Now, every year : the International Workshops on Molecular and Physical Gastronomy

10 th
International Workshop
on Molecular and Physical Gastronomy
(IWMPG 10)

1-3 June 2021

For connection:
https://eu.bbcollab.com/guest/
9ad4c559d7234f7e9fe394e083a01f6a

Suspensions
(liquid suspensions, solid suspensions
complex suspensions)

Organization Committee

INRAE ICMPG

Next topic

11 th
International Workshop
on Molecular and Physical Gastronomy
(IWMPG 10)

AgroParisTech, 16 rue Claude Bernard, 75006 Paris (France)
Tel: +33 (0)1 44 08 16 61. email : icmpg@agroparistech.fr

2-3 June 2022

Organized by:
AgroParisTech-INRAE International Centre for Molecular Gastronomy

Under the patronage of the Académie d'agriculture de France

ACADÉMIE D'AGRICULTURE DE FRANCE

For connection:
https://eu.bbcollab.com/guest/4dd4e6492b14442e92445f262c2f0a1b

Scales
Describing and analyzing food and culinary transformations at various scales (from molecular to macroscopic), building food at all scales

INRAE ICMPG AgroParisTech

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A tool for the activities of our community
(don’t be shy, send manuscripts)

HTvK

In the Int J Mol Phys Gast

The content of this Journal

1. Editorials : http://www.agroparistech.fr/-1-Editorials-.html

2. Science Section : http://www.agroparistech.fr/The-Scientific-Section.html

3. Letters to the Editors : http://www.agroparistech.fr/Letters-to-the-Editors.html

4. Publications by University students :

5. Educational Applications of Molecular Gastronomy :
http://www.agroparistech.fr/Educational-Applications,2207.html

6. Technological Applications of Molecular Gastronomy :
http://www.agroparistech.fr/Technological-Applications,2211.html

7. Comments : http://www.agroparistech.fr/Comments,2213.html

8. News :http://www.agroparistech.fr/In-Brief,2209.html

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And for the 10th Contest of Note by Note Cooking

‘’Savoury dice

(no Rubik cube)

But beforehand, we have the Christmas dinner to prepare

Hypotheses and problem

Assuming:

- all pieces of meat are geometrically analogous, and they are made of the same material
- the oven is powerful enough to keep the temperature at any time
- at the beginning of cooking, the piece of meat is at room temperature
- the oven is preheated at 200 °C.

As a whole, we have 5 variables T, ρ, M, K, Cp, whereas the number of dimensions (m, kg, s, °C) is only four. We look for one law of the kind :

$$T \sim M^a.\rho^b.K^c.Cp^d$$

Using the units :

$$s \sim kg^{a}.kg^{b}\, m^{c}\, kg^{c}\, m^{2d} / m^{3b}.s^{3c}\, °C^{c}\, s^{2d}\, °C^{d}$$

We find :

$$T \sim M^{3}\, \rho^{3}\, K\, C$$

In other words, the cooking time is varying as the mass at the power 2/3...
which is what chefs advise to do !

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But low temperature cooking makes it much better

Don’t forget the heat gun for glycation reactions

Celebrate knowledge and gourmandise!

HTwK