The WCI report and Texas Town Meeting

- Chapter format to be defined in Texas

- In parentheses are listed the the people proposed to take responsibility for each chapter. One of them will presents a first review in Texas. (30 min presentation)

- **Anybody willing to contribute to a given chapter is welcome (groups to be defined in Texas in the 30 min discussion after each talk)**

- The authors of a given chapter are referees of another chapter (names to be defined in Texas), the refereeing responsibility includes checking that all contributions from the group are taken into account by the authors.

- People are listed only once as responsible for a chapter. Since all the working groups are open to everybody, you can contribute to as many subjects as you want.

Tentative Table of contents of the WCI report:

I - Introduction
II - The working groups
(5 sections/talks)

III - The achievements (experiments and theory)
(23 sections/talks)
IV - The challenges & perspectives of the field
(6 sections/talks)
V - Conclusions

I: Introduction.

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Statements of science issues *(L.Sobotka)*

II: The working groups.

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Comparisons between theoretical or experimental data sets,
in order to quantify the reliability of our tools.

1. **Transport/Experiment** *(W.Reisdorf J.Lukasik W. Trautmann)*
   Comparison of one body observables between different data sets as a function of centrality
2. **Transport/Theory** *(J.Aichelin, C. Hartnack)*
   Comparison of one body observables between different transport codes as a function of centrality
3. **Fragments/Experiment** *(B.Tamain)*
   Comparison of fragment observables between different data sets in central collisions as a function of the available energy, and in peripheral collisions or light ion induced reactions as a function of centrality
4. **Fragments/Theory** *(B.Tsang C.Bertulani)*

Comparison of fragment observables between different statistical codes

5. **Isospin observables** *(M.Colonna)*

III: The achievements (experiments and theory)

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Exhaustive and critical compilation of the status of the art of a given question: what are the challenges, what are the facts, what are the controversies, and what to do to advance (key observables, key experiments). Mostly based on observables and structured in as small as possible self-contained issues (to share and speed the reviewing work).

1. **Detection** *(A. Pagano, R. DeSouza, N. Le Neindre)*
   Second and third generation detectors.
2. **High energy probes** *(P. Sapienza, G. Martinez, A. Bonasera)*
   Comparison between data and transport models : what have we learned about the different ingredients of the EOS
3. **Transport I: transverse and elliptic flows and stopping** *(W.Lynch, P.Danielewicz)*
   Comparison between data and transport models : what have we learned about the different ingredients of the EOS
4. **Transport II: isospin flows** *(B.A.Li, S.Yennello)*
   Comparison between data and transport models : what have we learned about the different ingredients of the EOS
5. **Transport III: neck dynamics** *(M. Di Toro, A. Olmi, R. Roy)*
   Comparison between data and transport models : what have we learned about the different ingredients of the EOS

6. **Transport IV: radial flow** *(W.Friedman, C.Dorso, F. Rami)*
   Experimental and theoretical status of the art of the expansion dynamics
7. **Molecular dynamics for fermions** *(H.Feldmeier)*
   Connections between the different approaches
8. **Modelization of the EOS** *(C.Fuchs,H.Wolter)*
   Connections between the different models and observables to discriminate between them
9. **Isoscalar collective modes** *(S.Shlomo V.M.Kolomietz G.Colo)*
   What have we learned about the nuclear matter incompressibility
10. **GDR quenching** *(D.Santonocito Y.Blumenfeld)*
    Compilation in models and data
11. **Space time characterization I** *(R.Ghetti, J.Wilczynski, P.Zarubin)*
    Fragment-fragment and fragment-particle correlation functions : what have we learned about emission times, and emission chronology
12. **Space time characterization II***(G.Verde,A.LeFevre,A.Chbihi)*
    Fragment-fragment and fragment-particle correlation functions : what have we learned about the Coulomb structure and the internal energy of the fragmentation pattern
13. **Modelization of fragment formation***(A.Ono ,J.Toke)*
    Connections between the different models and observables to discriminate between them
14. **Statistical descriptions of nuclear decay** *(S. Das Gupta, D. Durand, A. Botvina)*
    Connections and differences between the different models
15. **Instabilities in nuclear matter and finite nuclei** *(V.Baran J.Margueron)*
    A theoretical status of the art

16. **Thermometry** *(J.Natowiz K.H.Schmidt V.Karnaukhov)*
    Compilation in models and data
17. **Calorimetry** *(V.Viola R.Bougault)*
    An experimental compilation of the energetics of a system at the time of fragment formation
18. **Size scalings and isoscaling of the light fragments** *(L.Phair,J. Elliott, R.Scharenberg)*
    Compilation in models and data
19. **Moments analysis and Zipf law** *(X.Campi, Y.G.Ma)*
    Compilation in models and data
20. **Scalings of the largest fragment** *(M.Ploszacjak,J.Frankland)*
    Compilation in models and data
21. **Many fragment correlations** *(B.Borderie)*
    Compilation in models and data
22. **Fluctuations of fragment observables** *(M.D'Agostino F.Gulminelli)*
    Compilation in models and data
23. **Bimodalities** *(O.Lopez M.F.Rivet)*
    Compilation in models and data

IV: The challenges & perspectives of the field

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1. **Links with condensed matter physics and general physics** *(D.Gross)*
2. **Links with astrophysics** *(C.J.Horowitz M.Baldo)*
3. **Links with QGP** *(J.Randrup I.Mishustin)*
4. **Links with nuclear structure** *(R.Charity J.P.Wieleczko)*

5. **The challenges of finite systems thermodynamics**
   (P.Chomaz)
6. **Small fermionic systems: the common methods and challenges**
   (E.Suraud)

V: Conclusions

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Goals, achievements, and perspective for a broader audience
(L. Moretto)