

# WHALESAFE GEAR TRIAL RESULTS SYMPOSIUM

*Understanding the challenges  
of using low-strength gear*  
2023.09.14

ATLANTIC FISHERIES FUND



# SINCE 2018 OVERVIEW

- Development of tension gauges for rope tension.
- Development of a weak rope (3 versions developed).
- Development of a hydraulic load limiter.
- Development of SLTs (Simulated Loaded Traps).
- Sea trials in a controlled environment.
- Sea trials during the fishing season.
- Different products tested:
  - Weak ropes
  - Weak links
  - Sleeves
  - Time Tension Line Cutter
- Assessment of hauling equipment.
- Breaking tests of new and used ropes.



# BREAKING TESTS

## PRELIMINARY RESULTS

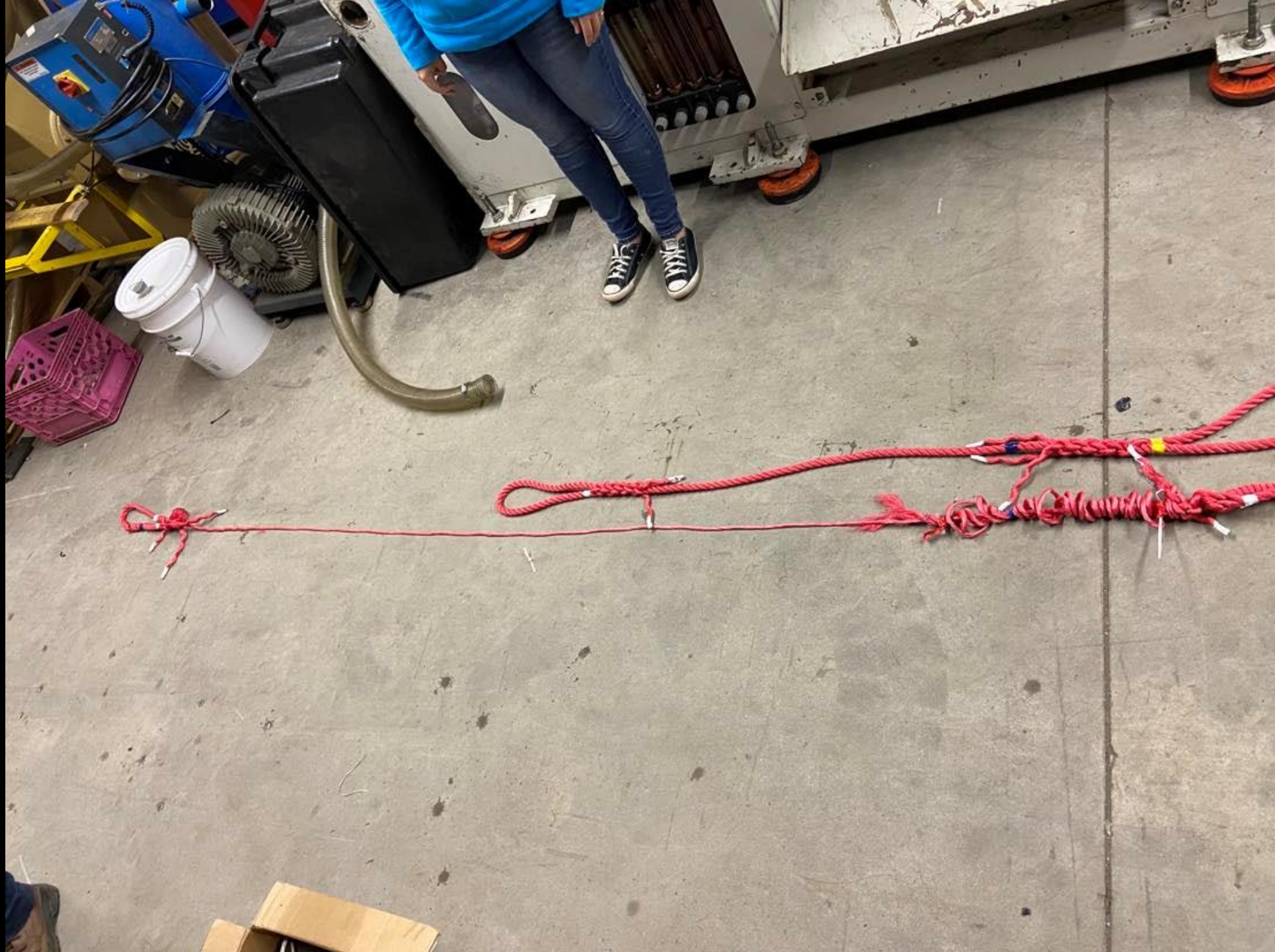
- Testing to ASTM and The Cordage Institute standards
- Over 40 tests performed to date
- Preliminary results:
  - Average rope elongation of 35%
  - Average breaking point of 2,159 lbs (1 487 à 2 606 lbs)















# PHYSICS OF A ROPE USE AND FABRICATION







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- 2 main specifications:
  - Ultimate breaking strength
  - Safe workload (between 15 to 25% breaking strength)



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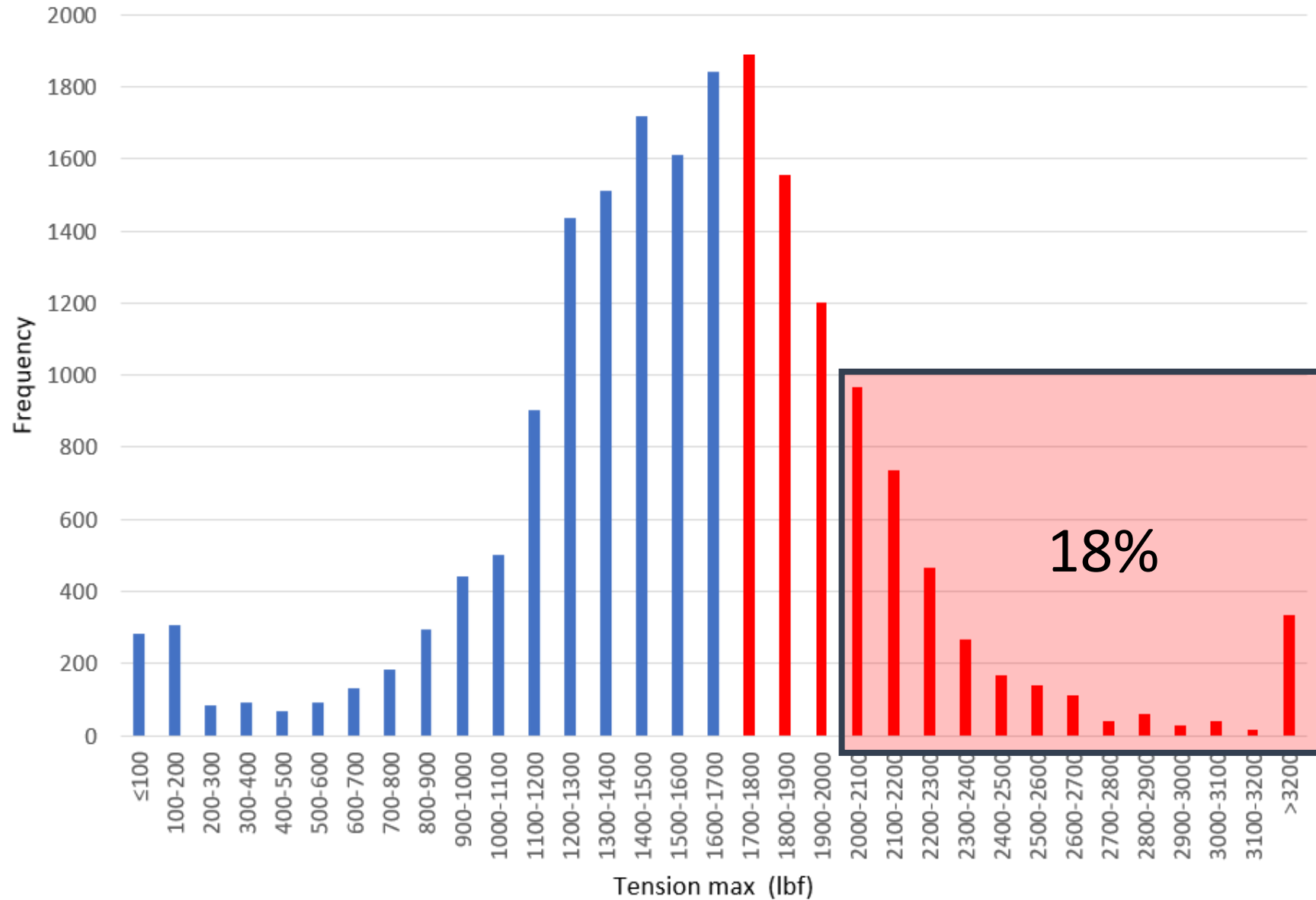
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## EXAMPLES

- Standard rope 5/8" :
  - Breaking strength – 10,000 lbs
  - Safe workload – 2,000 lbs
  - Pre-stretched and heated to increase resistance



Frequency of max rope tension  
from 19,525 haulings and 10 fishing operations



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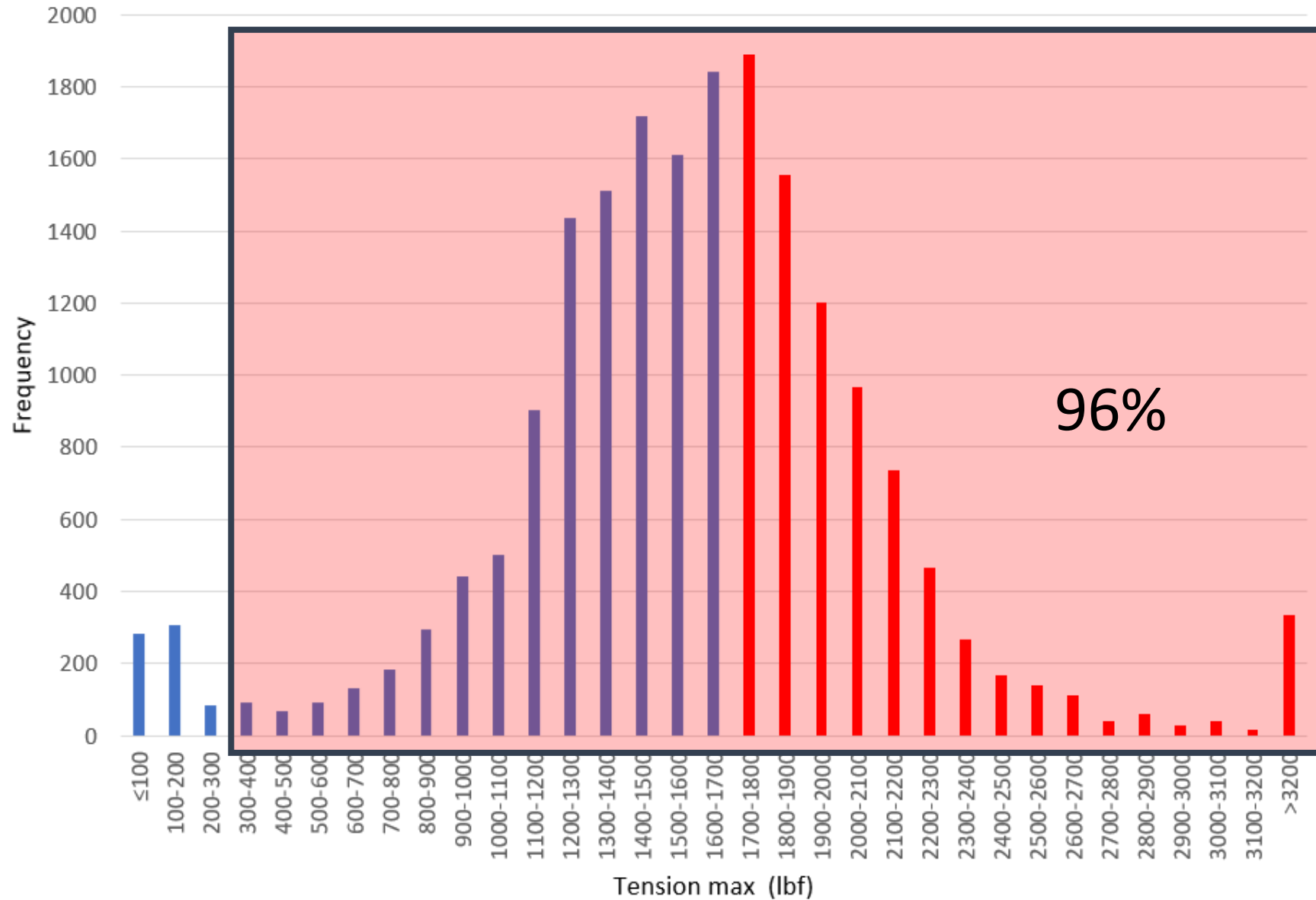
- 2 main specifications:
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## EXAMPLES

- Standard rope 5/8" :
  - Breaking strength – 10,000 lbs
  - Safe workload – 2,000 lbs
  - Pre-stretched and heated to increase resistance
- Weak Rope or Weak Links:
  - Breaking strength – 1,700 lbs
  - Safe workload – 340 lbs
  - NOT pre-stretched since trying to reduce the resistance



Frequency of max rope tension  
from 19,525 haulings and 10 fishing operations







# CONCLUSION

## WEAK ROPE / WEAK LINKS

As we can see, a lot of work has been done by our group on rope tension and on different weak rope systems, but there is still a lot of work to be done before we can say that this is a viable and safe fishing technique.

Therefore, we continue to strongly recommend the Department not to make the use of Weak Ropes and Weak Links mandatory for commercial fishing, at least not until technologies or techniques for their safe use have been developed and extensively tested.

# PARTICIPATION HARVESTERS

Robert Boucher  
Rémi Chiasson  
Sébastien Chiasson  
Martin Duguay  
Stéphane Ferron  
Jocelyn Gionet  
Joël Gionet  
Reno Guignard  
Donald Haché  
Jocelyn Haché  
Pierre Haché

Jean LeBouthillier  
Frédéric Mallet  
Adrien Noël  
Alain Noël  
Gilles Noël  
Hubert Noël  
Lévi Noël  
Martin Noël  
Patrick Noël  
Réjean Noël



# Thank you!

# OTHER CONTRIBUTERS

Philippe Cormier  
Dr. Dounia Daoud  
Jordan Duguay  
Dr. Cédric Gervaise  
Robert Haché  
Pascale Légère  
Véronique Loubier-Chiasson  
Dr. Lyne Morissette  
Paul Robichaud  
Dr. Yvon Thériault  
Christian Thériault  
Richard Thomas

