

## LETTER FROM THE GUEST EDITOR

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It is particularly gratifying to be invited to be Guest Editor of the last issue of the 50th anniversary volume of the journal *Radiocarbon*. This issue, which is devoted to radiocarbon calibration, builds upon research spanning the last 50 years by the great scientists in the field who recognized that the atmospheric <sup>14</sup>C is variable and developed and analyzed suitable records to construct radiocarbon correction or calibration curves.

The IntCal09 and Marine09 calibration curves presented here and in the Supplemental Information (available at [www.radiocarbon.org](http://www.radiocarbon.org)) are the culmination of several years of meetings and discussion among the members of the IntCal Working Group (Reimer et al., this issue). A new approach to the construction of radiocarbon calibration curves was developed to accurately model calibration data with complex uncertainty structures and multiple years of growth per sample. The details of this Bayesian approach are given in Heaton, Blackwell, and Buck (this issue).

The Southern Hemisphere has not been forgotten. Two papers in the issue investigate the variability of the interhemispheric offsets and reiterate the importance of interlaboratory comparisons through 20 new decadal measurements of paired New Zealand kauri and Irish oak (Hogg et al., this issue-b) and a comparison of previously published Southern Hemisphere tree-ring <sup>14</sup>C (Hogg et al., this issue-a).

The IntCal09 and Marine09 curves represent our best estimate for atmospheric and marine <sup>14</sup>C variations back to 50,000 years BP and are a significant improvement over IntCal04 and Marine04 for samples older than about 12 cal kBP. The curves, which are recommended for general use until further notice, were presented and ratified at the 20th International Radiocarbon Conference, Kona, Hawaii. As new data are acquired and our understanding of carbon reservoir exchanges grows, there will be continue to be changes to the calibration curves. Even as we wrap up this issue, the IntCal Working Group, with advice and assistance from the IntCal Oversight Committee, are already working on the next update to the calibration curves.

## REFERENCES

- Heaton TJ, Blackwell PG, Buck CE. 2009. A Bayesian approach to the estimation of radiocarbon calibration curves: the IntCal09 methodology. *Radiocarbon* 51(4):1151–64.
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- Hogg A, Palmer J, Boswijk G, Reimer P, Brown D. (this issue-b). Investigating the interhemispheric <sup>14</sup>C offset in the 1st millennium AD and assessment of laboratory bias and calibration errors. *Radiocarbon* 51(4):1177–86.
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