

A Brief History of the Two Task/Working Groups on Sequence Stratigraphy

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Currently there are two task/working groups looking at providing recommendations for best practices in sequence stratigraphic methods and unit definition. One was established by the International Subcommittee on Stratigraphic Classification (ISSC) as part of a series of task/working groups to provide input to a revised edition to the International Stratigraphic Guide. The chair of ISSC, Dr Maria Cita of Italy, appointed Ashton Embry as chair of the ISSC Task Group on Sequence Stratigraphy and he assembled the Task Group which consists of two people who specialize in coastal/shallow water siliciclastics (AE, DO), one on deep water siliciclastics (EJ), and two on carbonates (BB, PG). Two are professors (DO, PG), two are from a geological survey background (AE, BB) and one is from industry (EJ). Two are from Canada (AE, BB), one from the USA (DO) and two from Europe (EJ, PG) and all have publications on sequence stratigraphy. Most importantly, all members have spent many field seasons doing stratigraphy and sedimentology (over 100 field seasons among them) and most are familiar with and have used seismic data in their work. All are committed empiricists and use what they can observe in strata to guide their efforts in formulating sequence stratigraphic methods and unit definition.

The other group is Octavian Catuneanu's International Working Group on Sequence Stratigraphy which was established last year by Dr Catuneanu, who appointed himself as the chair. It consists of 20 additional members mainly for the USA and mainly with expertise in coastal/shallow water siliciclastics. It seems there is some misunderstanding that the IWGSS is somehow connected to NACSN. It has no connection to NACSN or any other national or international stratigraphic commission. NACSN has indicated that it will be interested in seeing the final report of the IWGSS

Given the significant differences in approaches taken by the two groups, I consider it useful to have two separate TG/WGs and I endorse Dr Catuneanu's initiative. The last ISSC Working Group on Sequence Stratigraphy (1995-2001) included both empiricists and model-driven individuals and was plagued by major infighting. The WG could not even agree on the definition of a sequence after 6 years of deliberations. Having two separate TG/WGs, each with its own distinct approach to science (empiricism versus theoretical reasoning), potentially solves this major problem of gridlock that seems to occur whenever the two camps get together. Hopefully the USC website will be a convenient "meeting room" to discuss our differences.

Dr Catuneanu prepared a position paper "Formalizing Sequence Stratigraphy" for the WG's consideration and circulated it last summer. It is basically a précis of his recently published textbook and it advocates for the theoretical "seven surface/four systems tract" approach. This paper has now been posted to the USC Sequence Stratigraphy website under the authorship of IWGSS. Given that it is exactly the same one that was circulated

by Dr Catuneanu last year, and given the extensive expertise and experience of the stratigraphers Dr Catuneanu has recruited for his WG, we hope most of the other members of the WG will eventually contribute to the document at some stage of its evolution.

The ISSC TG circulated the jointly authored, first draft of their report in February of this year and it recommends an empirical, data-based approach (i.e. uses only surfaces that are well supported by observation-based data from strata). Dr Catuneanu circulated a rather scathing review of the report (available on USC website) which was tainted by numerous personal slurs and by innuendo suggesting unethical behavior. Hopefully other members of IWGSS will not follow the lead of their chair and will confine their comments to scientific topics and avoid diatribes on the motives, scientific abilities and personal traits of the members of the ISSC TG.

The ISSC TG recently sent a reply to all those who received Dr Catuneanu's comments on our report and it is posted on this site. We did not address all the points in Dr Catuneanu's comments but rather took a positive approach and concentrated on a potential pathway towards resolving the differences between the approaches of our two groups. Basically it comes down to answering one key question. **The critical question is "Can the two time surfaces (clinoforms/paleoseafloors), which represent the initiation of base level fall and the initiation of base level rise, be delineated and correlated in a scientifically acceptable manner in a variety of geological settings?"** Please see the document "ISSC Reply to Catuneanu" on this site for a comprehensive discussion on the above question and what it will take to answer it in a scientifically acceptable manner.