The INLG 2017 Workshop on
Computational Creativity in
Natural Language Generation

Proceedings of the Workshop
Introduction

Welcome to the second edition of the Workshop on Computational Creativity in Natural Language Generation (CC-NLG), collocated with INLG 2017, the International Conference on Natural Language Generation. As a follow-up of CC-NLG 2016, this workshop builds upon the dynamic of bringing together researchers dealing with text generation from a computational creativity perspective, and researchers in natural language generation with an interest in creative aspects.

These two communities have been working separately for many years, as the focus in each one of them has been different: creativity research tends to be less focused on technical issues in natural language generation, and more on issues related to cognition, aesthetics, and novelty; while NLG research tends to focus on technical and theoretical aspects of processes, the informativeness of textual content, and readability of output. However, recent progress in both fields is reducing many of these differences – with creativity projects moving more towards robust implementation, and NLG research including stylistics, variation and literary genres such as poetry or narrative. We believe they are now approaching the point where they can mutually benefit from ongoing work. By encouraging members of both communities to discuss work in related topics with each other, we hope to move towards better joint understanding of the problems involved.

These proceedings include a total of five papers, three focused on poetry generation and two on story generation.

Hugo Gonçalo Oliveira, Ben Burtenshaw, Mike Kestemont, Tom De Smedt
Organizers

Workshop Chairs:
Hugo Gonçalo Oliveira, University of Coimbra
Ben Burtenshaw, University of Antwerp
Mike Kestemont, University of Antwerp
Tom De Smedt, University of Antwerp

Program Committee:
Pablo Gervás, Universidad Complutense de Madrid
Matthew Purver, Queen Mary University of London
Ehud Reiter, University of Aberdeen
Cyril Labbé, Université Grenoble Alpe
François Portet, Université Grenoble Alpes
Hannu Toivonen, University of Helsinki
Alessandro Valitutti, University College Dublin
Tony Veale, University College Dublin
Rafael Pérez y Pérez, Universidad Autónoma Metropolitana at Cuajimalpa
Raquel Hervás, Universidad Complutense de Madrid
Amílcar Cardoso, University of Coimbra
Carlos León, Universidad Complutense de Madrid
Sascha Griffiths, Universität Hamburg
Folgert Karsdorp, Meertens Instituut, Royal Dutch Academy of Arts and Sciences
Florian Kunneman, Radboud University, Nijmegen
# Table of Contents

**A Feast for the Senses in 140 Characters or Less** (Invited Talk)  
Tony Veale ................................................................. 1

*Poet’s Little Helper: A methodology for computer-based poetry generation. A case study for the Basque language*  
Aitzol Astigarraga, José María Martínez-Otzeta, Igor Rodríguez, Basilio Sierra and Elena Lazkano ................................................................. 2

**O Poeta Artificial 2.0: Increasing Meaningfulness in a Poetry Generation Twitter bot**  
Hugo Gonçalo Oliveira ..................................................... 11

*Template-Free Construction of Poems with Thematic Cohesion and Enjambment*  
Pablo Gervás ................................................................. 21

**Synthetic Literature: Writing Science Fiction in a Co-Creative Process**  
Enrique Manjavacas, Folgert Karsdorp, Ben Burtenshaw and Mike Kestemont ........ 29

*Constructing narrative using a generative model and continuous action policies*  
Emmanouil Theofanis Chourdakis and Joshua Reiss ......................... 38
Conference Programme

Monday, 4th September

14:30–16:30 Session 1

14:30–14:40 Short introduction

14:40–15:30 A Feast for the Senses in 140 Characters or Less (Invited Talk)
Tony Veale

15:30–16:00 O Poeta Artificial 2.0: Increasing Meaningfulness in a Poetry Generation Twitter bot
Hugo Gonçalo Oliveira

16:00–16:30 Template-Free Construction of Poems with Thematic Cohesion and Enjambment
Pablo Gervás

16:30–17:00 Coffee break

17:00–19:00 Session 2

17:00–17:30 Poet’s Little Helper: A methodology for computer-based poetry generation. A case study for the Basque language
Aitzol Astigarraga, José María Martínez-Otzeta, Igor Rodriguez, Basilio Sierra and Elena Lazkano

17:30–17:50 If then or else: Who for whom about what in which
Manuel Portela and Ana Marques Da Silva

17:50–18:10 Constructing narrative using a generative model and continuous action policies
Emmanouil Theofanis Chourdakis and Joshua Reiss

18:10–18:40 Synthetic Literature: Writing Science Fiction in a Co-Creative Process
Enrique Manjavacas, Folgert Karsdorp, Ben Burtenshaw and Mike Kestemont

18:40 Close
Invited Talk

A Feast for the Senses in 140 Characters or Less
Making Generation More Personal, Affective and Perceptually Grounded

By Tony Veale, School of Computer Science, University College Dublin, Ireland.

Shakespeare wrote that a rose by any other name would smell just as sweet, but would this alternate name be just as effective as a metaphor? Perhaps, though any figurative uses would surely depend on the exact makeup of the new name. Were we to instead refer to a rose as a “goreweed,” a “prickbleed,” a “bloodwort” or a “turdblossom” we would surely have to find new metaphorical uses for this familiar flower. Our metaphors do more than evoke lexical semantics in the mind of a reader, and the very best can tap into our memories and perceptual faculties to create a feast for the senses, one that is as rich in colour, texture and aroma as it is in semantic meaning. So when we bend our machines to the interpretation and generation of novel metaphors, we must ensure they are as adept with the multi-modal connotations of words as they are with their denotative semantics. In this work I explore the mutual grounding of linguistic metaphors in non-linguistic multi-modal stimuli – such as colours and abstract generative art – and vice versa: I show how non-representational visual stimuli can serve to bind together the various elements of a complex linguistic metaphor, to squeeze more meaning and connotation from the words than an utterance alone can manage. In each case these elements are further grounded in the social and the personal, insofar as the machine-crafted metaphors are generated to reflect the real-time behavioral traits of real people – the metaphor’s intended audience – on social media. I demonstrate the various strands of this work using real Twitter “bots” such as @MetaphorMagnet, @BestOfBotWorlds and @BotOnBotAction. These bots are autonomous AI systems that are designed to interact with real people on Twitter and to showcase the applicability of machine-generated (but human-targeted and human-centered) metaphors in social media. I aim to show how they can offer an ideal vehicle for exploring the related themes of symbolic grounding, affective meaning and multi-modal creativity in language generation.