

CURRICULUM VITAE

Fred Cummins
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Research interests

Joint speech (chant); Embodied and enactive approaches to human cognition; Phonetics; Language and music; Epistemology, science and society; Rhythm; Ritual.

Degrees

Ph.D. Cognitive Science and Linguistics (joint major),
Indiana University, 1997

M.A. Linguistics,
Indiana University, 1996

B.A. Computer Science, Linguistics and German,
Trinity College Dublin, 1991

Books

Kaufmann, L. H. and Cummins, F. and Dible, R. and Conrad, L. and Grote, F., editors (2022). *Laws of Form: A Fiftieth Anniversary*. World Scientific Publishing.

Daly, A., Cummins, F., Jardin, J., and Moran, D., editors (2020). *Perception and the Inhuman Gaze: Perspectives from Philosophy, Phenomenology, and the Sciences*. Routledge.

Cummins, F. (2018) *The Ground From Which We Speak: Joint Speech and the Collective Subject*. Cambridge Scholars

Vatakis, A., Esposito, A., Giagkou, M., Cummins, F., and Papadelis, G., editors (2011). *Multidisciplinary Aspects of Time and Time Perception: Proceedings of the COST TD0904 International Workshop*, volume 6789 of *Lecture Notes in Computer Science*. Springer

Refereed Publications

Cummins, F. (2021). Language as a problem *Language Sciences*, October, doi.org/10.1016/j.langsci.2021.101433

Cummins, F. (2021). Distinctions and common ground in collective epistemology. In *Laws of Form—A Fiftieth Anniversary*. World Scientific Publishing, Singapore.

- Cummins, F. (2021). Vain repetitions the role of joint speech in enacting collective subjectivities. In Cronbach Van Boom, J. and Pöder, T.-A., editors, *Sign, Method and the Sacred: New Directions in Semiotic Methodologies for the Study of Religion*, pages 73–86. De Gruyter.
- Cummins, F. (2021). Joint speech as a challenge to our understanding of language. Published online in Verbetes LBASS. Available at: <http://www.letras.ufmg.br/lbass/>.
- Cummins, F. and Wang, B. (2021). Language and languaging from a phonetic point of view. *Cadernos de Linguística*, 2:1–28.
- Cummins, F. (2020). On vain repetitions: The enactment of collective subjectivities through speaking in unison. In *Mediation and Immediacy*, pages 165–178. De Gruyter.
- Cummins, F. (2020). Voice and gaze considered together in ‘languaging’. In *Perception and the Inhuman Gaze: Perspectives from Philosophy, Phenomenology, and the Sciences*, chapter 18. Routledge.
- Cummins, F. (2020). Zoom out camera! the reflexive character of an enactive account. *Frontiers in Psychology*, 11:919ff. DOI: 10.3389/fpsyg.2020.00919
- Cummins, F. (2020). The territory between speech and song: A joint speech perspective. *Music Perception: An Interdisciplinary Journal*, 37(4):347–358.
- Cummins, F. (2019). Music, language and languaging. In Corrêa, A. F., editor, *Music, Speech, and Mind*. Curitiba: Brazilian Association of Cognition and Musical Arts - ABCM.
- Cummins, F. (2018). Joint speech as an object of empirical inquiry. *Material Religion*. DOI: 10.1080/17432200.2018.1485344
- Cummins, F. (2018). Enaction demands an ontological light touch with respect to the “subject”. *Constructivist Foundations*, 13(3):381–382.
- Cummins, F. (2018). Comparing joint speech and synchronous speech: What happens when we add more speakers? In *Proceedings of AICS 2018 (CEUR Workshop Proceedings)*, volume 2259, pages 14–20.
- Cummins, F. (2017). Subjects and sense-making. In Grieser, A. K. and Johnston, J., editors, *Aesthetics of Religion: A Connective Concept*. pp.:437–446, De Gruyter.
- Cummins, F. (2017). Making use of contact, niches, and coordination. *Constructivist Foundations* 12(3):308–309.
- Cummins, F. and Byrne, J. (2016). Zero mean lag communication over networks: A route to co-presence? In *Proceedings from the 3rd European Symposium on Multimodal Communication*, chapter 4. Linköping University Electronic Press.
- Jasmin, K. M., McGettigan, C., Agnew, Z. K., Lavan, N., Josephs, O., Cummins, F., and Scott, S. K. (2016). Cohesion and joint speech: Right hemisphere contributions to synchronized vocal production. *The Journal of Neuroscience*, 36(17):4669–4680.

- Cummins, F. and De Jesus, Paulo (2016). The loneliness of the enactive cell: Towards a bio-enactive framework. *Adaptive Behavior*, 24(3):149–159.
- Cummins, F. (2016). Enaction, and its relation to science in an objective key. *Constructivist Foundations*, 11(2):245–246.
- Cummins, F. (2015). Rhythm and speech. In Redford, M. A., editor, *The Handbook of Speech Production*, chapter 8. Wiley.
- Schiavo, A. and Cummins, F. (2015). An inter(en)active approach to musical agency and learning. In Timmers, R., Dibben, N., Eitan, Z., Granot, R., Metcalfe, T., Schiavo, A., and Williamson, V., editors, *Proceedings of the International Conference on the Multimodal Experience of Music 2015*, Sheffield. HRI Online Publications.
- Smith, R., Rathcke, T., Cummins, F., Overy, K., and Scott, S. (2014). Communicative rhythms in brain and behaviour. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 369(1658).
- Cummins, F. and Varga, J. (2014). Explorations in the prosodic characteristics of synchronous speech, with specific reference to the roles of words and stresses. In *Proceedings of the 7th international conference on Speech Prosody*, pages 183–186, Dublin, Ireland.
- Raposo de Medeiros, B. and Cummins, F. (2014). Speech and song synchronization: A comparative study. In *Proceedings of the 7th international conference on Speech Prosody*, pages 748–751, Dublin, Ireland.
- Cummins, F. (2014). Agency is distinct from autonomy. *Avant: Trends in Interdisciplinary Studies*, 5(2):98–112.
- Cummins, F. (2014). Voice, (inter-)subjectivity, and real-time recurrent interaction. *Frontiers in Psychology* 5(760). doi: 10.3389/fpsyg.2014.00760
- Cummins, F. (2014). The remarkable unremarkableness of joint speech. In *Proceedings of the 10th International Seminar on Speech Production*, pages 73–77, Cologne, DE.
- Cummins, F., Lowit, A., and van Brenk, F. (2014). The quantitative assessment of inter-utterance stability: Application to dysarthria. *Journal of Speech, Language, and Hearing Research*, 59:81–89.
- Cummins, F., Li, C., and Wang, B. (2013). Coupling among speakers during synchronous speaking in English and Mandarin. *Journal of Phonetics*, 41(6):432–441.
- Cummins, F. (2013). Towards an enactive account of action: Speaking and joint speaking as exemplary domains. *Adaptive Behavior*, 13(3):178–186.
- Cummins, F. (2013). Joint speech: The missing link between speech and music? *Percepta—Revista de Cognição Musical*, 1(1):17–32.
- Cummins, F. (2013) Social cognition is not a special case, and the dark matter is more extensive than recognized. *Behavioral and Brain Sciences*, 36(4). Comment on original article by Schilbach et al., Toward a second-person neuroscience.

- Mc Gann, M. and Cummins, F. (2013). No mental; health. In *In Proc. AISB 2013*, volume S09, pages 1–5.
- Cummins, F. (2012). Oscillators and syllables: A cautionary note. *Frontiers in Psychology*, 3(364). doi: 10.3389/fpsyg.2012.00364
- Oertel, C., Cummins, F., Edlund, J., Wagner, P., and Campbell, N. (2012) D64: A corpus of richly recorded conversational interaction *Journal on Multimodal User Interfaces* 7(1–2):19–28 doi: 10.1007/s12193-012-0108-6
- Cummins, F. (2012). Looking for rhythm in speech. *Empirical Musicology Review*, 7(1–2):28–35.
- Cummins, F. (2012). Periodic and aperiodic synchronization in skilled action. *Frontiers in Human Neuroscience*, 5(170).
- Cummins, F. (2012). Gaze and blinking in dyadic conversation: A study in coordinated behaviour among individuals. *Language and Cognitive Processes*, 27(10):1525–1549.
- Simko, J., Cummins, F., and Benus, S. (2011). Investigating the stability of intergestural timing relations. In *Proceedings of INTERSPEECH, 2011*, Firenze, IT.
- Simko, J., Cummins, F., and Benus, S. (2011). An analysis of the relative timing of coarticulated gestures within VCV sequences. In *Proceedings of ICPHS XVII*, Hong Kong, pp. 1850–1853.
- Ashby, S., Cummins, F., Barbosa, S. and Campanico, N. (2011) Nasal Heads or Nasal Tails? A Pan Lusophone Survey of Preconsonantal Murmur In *Proceedings of ICPHS XVII*, Hong Kong, pp. 256–259
- Simko, J. and Cummins, F. (2011). Sequencing and optimization within an embodied task dynamic model. *Cognitive Science*, 35(3):527–562.
- Cummins, F. (2010). Blinking in face to face communication. In *Proceedings of 21st National Conference on Artificial Intelligence and Cognitive Science (AICS)*, pages 74–83. NUI Galway, Galway, IE.
- Cummins, F. (2010b). Coordination, not control, is central to movement. In Esposito, A., Esposito, A. M., Martone, R., Müller, V. C., and Scarpetta, G., editors, *Towards Autonomous, Adaptive, and Context-Aware Multimodal Interfaces: Theoretical and Practical Issues*, volume 6456 of *Lecture Notes in Computer Science (LNCS)*, pages 252–264. Springer.
- Leonard, T. and Cummins, F. (2010). The temporal relation between beat gestures and speech. *Language and Cognitive Processes*, v. 26(10), 1457–1471.
- Oertel, C., Cummins, F., Campbell, N., Edlund, J., and Wagner, P. (2010). D64: A corpus of richly recorded conversational interaction. In Kipp, M., Martin, J.-C., Paggio, P., and Heylen, D., editors, *Proceedings of LREC 2010 Workshop on Multimodal Corpora: Advances in Capturing, Coding and Analyzing Multimodality*, pages 27–30, Valetta, Malta.

- Simko, J. and Cummins, F. (2010). Embodied task dynamics. *Psychological Review*, 117(4):1229–1246.
- Simko, J. and Cummins, F. (2010). Sequencing embodied gestures in speech. In Gray, J. and Nefti-Meziani, S., editors, *Advances in Cognitive Systems*, pages 301–332. IET.
- Cummins, F. (2009b). Phase and coordination in speech production. In Colye, L., Dunnion, J., and Freyne, J., editors, *Proceedings of the 20th Irish Conference on Artificial Intelligence and Cognitive Science*, Lecture Notes in Computer Science (LNCS), pages 13–22. Springer.
- Cummins, F. and Simko, J. (2009). Notes on phase and coordination, and their application to rhythm and timing in speech. *Journal of the Phonetic Society of Japan*, 13(3):7–18
- Grimaldi, M. and Cummins, F. (2009). Speech style and speaker recognition: a case study. In *Proceedings of INTERSPEECH 2009*, Brighton, U.K.
- Simko, J. and Cummins, F. (2009). Sequencing of articulatory gestures using cost optimization. In *Proceedings of INTERSPEECH 2009*, Brighton, U.K.
- Cummins, F. (2009). Deep affordance: seeing the self in the world. In *Proceedings of the 35th Annual Meeting of the Society for Philosophy and Psychology*, Bloomington, IN.
- Cummins, F. (2009). Phenomenal worlds and nervous system activity. In *Proceedings of the Annual Meeting of the Cognitive Science Society*, Amsterdam.
- Cummins, F. (2009). Rhythm as an affordance for the entrainment of movement. *Phonetica*, 66(1–2):15–28.
- Cummins, F. (2009). Rhythm as entrainment: The case of synchronous speech. *Journal of Phonetics*, 37(1):16–28.
- Cummins, F., Arvaniti, A., Barry, W., Andreeva, B., Koreman, J., Niebuhr, O., Ghitza, O., Greenberg, S., Kohler, K. J., Nolan, F., et al. (2009). Whither speech rhythm research? *Phonetica*, 66(1-2):5–14.
- Phelan, C., Bleakley, C., and Cummins, F. (2009). Adapting and parameterising auditory icons for use in a synthetic musical instrument. In *IET Irish Signals and Systems Conference (ISSC)*, Dublin, Ireland.
- Jackson, S., Cummins, F., and Brady, N. (2008). Rapid perceptual switching of a reversible biological figure. *PLoS ONE*, 3(12).
- Cummins, F. (2008). Auditory event structure and speech. In *Proceedings of the 4th International Conference on Speech Prosody*, pages 631–634., Campinas, Brazil.
- Grimaldi, M. and Cummins, F. (2008). Speaker Identification Using Instantaneous Frequencies. *IEEE Transactions on Audio, Speech, and Language Processing*, 16(6):1097–1111.
- Cummins, F. (2007). Speech synchronization: Investigating the links between perception and action in speech production. In *Proceedings of ICPHS 2007*, pages 529–532, Saarbrücken, DE.

- Horgan, P. and Cummins, F. (2006). Modeling dopamine activity by Reinforcement Learning methods: implications from two recent models. *Artificial Intelligence Review*, 26(1):49–62.
- Jackson, S., Brady, N., Cummins, F., and Monaghan, K. (2006). Interaction effects in simultaneous motor control and movement perception tasks. *Artificial Intelligence Review*, 26(1):141–154.
- Horgan, P. and Cummins, F. (2006). Modeling dopamine activity by reinforcement learning methods: implications from two recent models. In *Proc. of the 17th Irish Conference on Artificial Intelligence and Cognitive Science (AICS06)*, pages 192–201.
- Jackson, S., Brady, N., Cummins, F., and Monaghan, K. (2006). Interaction effects in simultaneous motor control and movement perception tasks. In *Proceedings of the 17th Irish Conference on Artificial Intelligence and Cognitive Science (AICS06)*, pages 72–81, Belfast.
- Cummins, F., Grimaldi, M., Leonard, T., and Simko, J. (2006). The CHAINS corpus: CHARacterizing INDividual Speakers. In *Proc of SPECOM'06*, pages 431–435, St Petersburg, RU.
- Cummins, F. (2006). Measuring synchronization among speakers reading together. In *Proc. ISCA Workshop on Experimental Linguistics*, pages 105–108, Athens, GR.
- Cummins, F., Doherty, C., and Dille, L. (2006). Phrase-final pitch discrimination in English. In *Proc. 3rd Intl Conf. on Speech Prosody*, Dresden, Germany. OS3-1-7
- Cummins, F. (2006). Probing the dynamics of speech production. In Sudhoff, S., Lenertová, D., Meyer, R., Pappert, S., Augurzky, P., Mleinek, I., Richter, N., and Schliesser, J., editors, *Methods in Empirical Prosody Research*, Language, Context, and Cognition. Mouton de Gruyter. 211–228
- Cummins, F. (2005). The conductor model of online speech modulation. In *Proceedings of the 16th Artificial Intelligence and Cognitive Science Conference*, pages 51–60, Portstuart, Northern Ireland.
- Cummins, F. (2005). Interval timing in spoken lists of words. *Music Perception*, 22(3):497-508.
- Prys, D., Williams, B., Hicks, B., Jones, D., Ní Chasaide, A., Gobl, C., Berndsen, J., Cummins, F., Ní Chiosáin, M., McKenna, J., Scaife, R., and Uí Dhonnchadha, E. (2004). WISPR: Speech Processing Resources for Welsh and Irish. In *Pre-conference workshop on "First Steps for Language Documentation of Minority Languages"*, 4th Language Resources and Evaluation Conference (LREC), Lisbon, Portugal.
- Cummins, Fred and Bravo, M. E. (2004). Melody and serial recall. In *Proceedings of the 15th Artificial Intelligence and Cognitive Science Conference*, pages 209–215, Castlebar, Ireland.
- Cummins, F., Doherty, C., and Dilly, L. (2004). Discrimination of pitch change in speech- and non-speech stimuli. In *Proceedings of the 15th Artificial Intelligence and Cognitive Science Conference*, pages 29–38, Castlebar, Ireland.

- Panttaja, E., Reitter, D., and Cummins, F. (2004). The evaluation of adaptable multimodal system outputs. In *Proceedings of the Workshop on Robust and Adaptive Information Processing for Mobile Speech Interfaces, COLING 2004*, Geneva, CH.
- Bennett, M. and Cummins, F. (2004). Orril: A simple building blocks approach to zoomable user interfaces. In *IV 2004 Proceedings of the 8th International Conference on Information Visualization*.
- Cummins, F. (2004). Synchronization among speakers reduces macroscopic temporal variability. In *26th Annual Meeting of the Cognitive Science Society*.
- Reitter, D., Panttaja, E., and Cummins, F. (2004). UI on the fly: generating a multimodal user interface. In *Proc. HLT/NAACL 2004*.
- Cummins, F. (2003). Rhythmic grouping in word lists: competing roles of syllables, words and stress feet. In *Proceedings of 15th ICPHS 2003*, Barcelona. pp. 325–328
- Cummins, F. (2003). Practice and performance in speech produced synchronously. *Journal of Phonetics*, 31(2):139–148.
- Zvonik, E. and Cummins, F. (2003). The effect of surrounding phrase lengths on pause duration. In *Proceedings of EUROSPEECH*, pages 777–780, Geneva, CH.
- Olinsky, C. and Cummins, F. (2002). Iterative English accent adaptation in a speech synthesis system. In *Proceedings of the IEEE Workshop on Speech Synthesis*, Santa Monica, CA.
- Zvonik, E. and Cummins, F. (2002). Pause duration and variability in read texts. In *Proc. ICSLP*, pages 1109–1112, Denver, CO.
- Cummins, F. (2002). Classifying languages based on speech rhythm. in *Artificial Intelligence and Cognitive Science: Proceedings of the 13th Irish International Conference (AICS 2002)*, volume 2464 of *Lecture Notes in Computer Science*. Springer Verlag.
- Cummins, F. (2002). Speech rhythm and rhythmic taxonomy. In *Proceedings of Prosody 2002*, pages 121–126 Aix en Provence.
- Cummins, F. (2002). On synchronous speech. *Acoustic Research Letters Online*. 3(1), 7–11
- Cummins, F. and Roy, D. (2001). Using synchronous speech to minimize variability in pause placement. In *Proceedings of the Institute of Acoustics*, volume 23 (3), pages 201–206, Stratford-upon-Avon.
- Bohan, A., Creedon, E., Carson-Berndsen, J., and Cummins, F. (2001). Application of a computational model of phonology to speech synthesis. In *Proceedings of AICS*, Maynooth, Ireland.
- Cummins, F. (2000). Prosodic characteristics of synchronous speech. In Puppel, S. and Demenko, G., editors, *Prosody 2000: Speech Recognition and Synthesis*, pages 45–49, Krakow, Poland. Adam Mickiewicz University.

- Gers, F. A., Schmidhuber, J., and Cummins, F. (2000). Learning to forget: Continual prediction with lstm. *Neural Computation*, 12(10):2451–2471.
- Gers, F. A., Schmidhuber, J., and Cummins, F. (1999). Continual prediction using lstm with forget gates. In Marinaro, M. and Tagliaferri, R., editors, *Neural Nets, WIRN Vietri-99, Proceedings 11th Workshop on Neural Nets*, pages 133–138, Vietri sul Mare, Italy. Springer Verlag.
- Cummins, F., Gers, F., and Schmidhuber, J. (1999). Language identification from prosody without explicit features. In *Proceedings of EUROSPEECH'99*, 1:371–374
- Gers, F. A., Schmidhuber, J., and Cummins, F. (1999). Learning to forget: Continual prediction with LSTM. In *Proc. ICANN'99, Int. Conf. on Artificial Neural Networks*, volume 2, pages 850–855, Edinburgh, Scotland. IEE, London.
- Cummins, F. (1999). Some lengthening factors in English speech combine additively at most rates. *Journal of the Acoustical Society of America*, 105(1):476–480.
- Cummins, F. (1999). Synergetic organization in speech rhythm. In Tschacher, W. and Dauwalder, J.-P., editors, *Dynamics, Synergetics, Autonomous Agents*, pages 256–267. World Scientific.
- Port, R., Tajima, K., and Cummins, F. (1999). Speech and rhythmic behavior. In Savelsburgh, G. J. P., van der Maas, H., and van Geert, P. C. L., editors, *The Non-linear Analysis of Developmental Processes*. Elsevier, Amsterdam.
- Cummins, F. and Port, R. F. (1998). Rhythmic constraints on stress timing in English. *Journal of Phonetics*, 26(2):145–171.
- Cummins, F. and Port, R. F. (1996). Rhythmic constraints on English stress timing. In Bunell, H. T. and Idsardi, W., editors, *Proceedings of the Fourth International Conference on Spoken Language Processing*, pages 2036–2039. Alfred duPont Institute, Wilmington, Delaware.
- Cummins, F. and Port, R. F. (1996). Rhythmic commonalities between hand gestures and speech. In *Proceedings of the Eighteenth Annual Conference of the Cognitive Science Society*, pages 415–419. Lawrence Erlbaum Associates.
- Port, R., Cummins, F., and Gasser, M. (1996). A dynamic approach to rhythm in language: Toward a temporal phonology. In Luka, B. and Need, B., editors, *Proceedings of the Chicago Linguistics Society*, pages 375–397. Department of Linguistics, University of Chicago.
- Port, R. F., Tajima, K., and Cummins, F. (1996). Self-entrainment in animal behavior and human speech. Online Proceedings of the 1996 Midwest Artificial Intelligence and Cognitive Science Conference. URL: <http://www.cs.indiana.edu/event/maics96/proceedings.html>.
- Port, R. F., Cummins, F., and McAuley, J. D. (1995). Naive time, temporal patterns and human audition. In Port, R. F. and van Gelder, T., editors, *Mind as Motion*, pages 339–437. MIT Press, Cambridge, MA.

- Cummins, F. (1993). Representation of temporal patterns in recurrent neural networks. In *Proceedings of the Fifteenth Annual Conference of the Cognitive Science Society*, pages 377–382.
- Cummins, F. and Port, R. (1993). On the treatment of time in recurrent neural networks. In Mozer, M. C., Smolensky, P., Touretzky, D. S., and Weigend, A. S., editors, *Proceedings of the 1993 Connectionist Models Summer School*, pages 211–218, Lawrence Erlbaum Associates, Hillsdale, NJ.
- Port, R. and Cummins, F. (1992). The English voicing contrast as velocity perturbation. In Ohala, J., Nearey, T., Derwing, B., Hodge, M., and Wiebe, G., editors, *Proceedings of the 1992 International Conference on Spoken Language Processing*, pages 1311–1314. University of Alberta.

Other Publications and Presentations

- Vatakis, A., Esposito, A., Giagkou, M., Cummins, F., and Papadelis, G., editors (2011). *Multidisciplinary Aspects of Time and Time Perception: Proceedings of the COST TD0904 International Workshop*, Volume 6789 of *Lecture Notes in Computer Science*. Springer.
- Cummins, F. (2007). Introducing P-worlds: individual phenomenal worlds with collective properties. Talk given at the 8th conference of the Australasian Society for Cognitive Science, Adelaide, AU.
- Cummins, F., Kotz, S., Fleischhauer, S., Strecker, K., and Schwartz, J. (2007). The effects of L-dopa on selected speech variables in Parkinson’s disease. Poster presented at the Workshop on Prosody in Atypical Populations, U. Reading.
- Jackson, S., Brady, N., Cummins, F., and Monaghan, K. (2006). Action understanding: An investigation into the simultaneous perception and performance of human movement. Paper presented at 7th Annual Meeting of the International Multisensory Research Forum, University of Dublin, Trinity College, Dublin, , Ireland.
- Cummins, F. (2007). The quantitative estimation of asynchrony among concurrent speakers. Technical Report UCD-CSI-2007-2, School of Computer Science and Informatics, University College Dublin.
- Cummins, F. (2003). Entraining speech with speech and metronomes. *Cadernos de Estudos Linguísticos*, 43:55–70.
- Cummins, F., Gers, F., and Schmidhuber, J. (1999). Comparing prosody across many languages. Technical Report IDSIA-07-99, Istituto Dalle Molle di Studi sull’Intelligenza Artificiale, Lugano, CH.
- Cummins, F., Gers, F., and Schmidhuber, J. (1999). Automatic discrimination among languages based on prosody alone. Technical Report IDSIA-03-99, Istituto Dalle Molle di Studi sull’Intelligenza Artificiale, Lugano, CH.
- Gers, F. A., Schmidhuber, J., and Cummins, F. (1999). Learning to forget: Continual prediction with LSTM,. Technical Report IDSIA-01-99, Istituto Dalle Molle di Studi sull’Intelligenza Artificiale, Lugano, CH.

Cummins, F. (1997). *Rhythmic Coordination in English Speech: An Experimental Study*. PhD thesis, Indiana University, Bloomington, IN. Also Technical Report 198, Indiana University Cognitive Science Program.

Cummins, F., Anderson, S., Port, R., and McAuley, J. D. (1993). A dynamic systems model for temporal pattern recognition. Technical Report 93, Cognitive Science Program, Indiana University.

Published Abstracts

Jackson, S., Cummins, F., and Brady, N. (2007). Rotating walker: Multistable perception of an ambiguous biological figure. *Perception*, 36(ECVP Abstract Supplement).

Wang, B. and Cummins, F. (2003). Intonation contour in synchronous speech. *Journal of the Acoustical Society of America*, 114(4:2):2397.

Ashby, S. and Cummins, F. (2003). Acoustic characteristics of listener-constrained speech. *Journal of the Acoustical Society of America*, 114(4:2):2296. Abstract of poster presented at ASA, Nashville, 2003.

Cummins, F. (2002). Rhythmic organization of read word lists. *Journal of the Acoustical Society of America*, 112(5:2):2443. Abstract of poster presented at ASA, Cancun, Dec. 2002

Ashby, S., Cummins, F., and Roy, D. (2002). The ads-to-ids continuum: Developing an index for the study of infant directed speech prosody. In *Proceedings of ISCA Workshop on Temporal Integration in the Perception of Speech (TIPS)*, Aix-en-Provence.

Cummins, F. (2001). Reducing expressive variation in speech with synchronous speech. *Journal of the Acoustical Society of America*, 109(5:2):2416–2417.

Cummins, F. (1998). Limit cycle dynamics in prosody. In *Proceedings of the 16th International Congress on Acoustics (ICA) and the 135th Meeting of the Acoustical Society of America (ASA)*.

Cummins, F. (1995). Identification of rhythmic forms of speech production. *Journal of the Acoustical Society of America*, 98(5):2894.

Cummins, F. (1995). Dynamic information for vowel identity is formant based, while steady-state information is based on spectral shape. *Journal of the Acoustical Society of America*, 98(5):2966.

Cummins, F. (1994). A novel architecture for the recognition of periodic signals. *Journal of the Acoustical Society of America*, 96(5):3257.

Invited Keynote Addresses

2021: What's Next? The Future of Embodiment, U. Cincinnati, OH, USA.

2016: Language and Enaction, Claremont Ferrand, France.

- 2014: 7th Speech Prosody Conference, Dublin, Ireland.
- 2014: 10th International Seminar on Speech Production, Cologne, Germany.
- 2013: 9th International Symposium on Cognition and Musical Arts, Belém, Brazil.
- 2012: Foundations of an Enactive Cognitive Science, International workshop organized by University of Reading and Goldsmiths, University of London.
- 2011: 3rd Annual Conference of the Illinois Language and Linguistics Society, University of Illinois at Urbana-Champaign.
- 2010: The Music of Language, the Language of Music, International workshop, Cambridge University.

Invited Talks

Chinese Academy of Sciences, Beijing, MIT, Cambridge U., Oxford U., Trinity College Dublin, University College Dublin, Ulster U., U. Limerick, U. Osnabrück, U. Bielefeld, U. Stockholm, Institute for Subjectivity Research (Copenhagen), Naples U., Sofia U., Goldsmiths, Bangor U., University College London, and many others.

Grants

- 2005-2009: “CHAINS: CHaracterising INdividual Speakers”, Science Foundation Ireland Investigator Award. €473,984.
- 2003-2004: “Speech where needed (Continuation)”, HEA Fund for collaborative research between Irish universities and Media Lab Europe. €78,700.
- 2002–2004: “FASiL: Flexible and Adaptive Spoken Language and Multi-Modal Interfaces”, EU 5th Framework, IST. Project total: €6,407,258, of which to MLE: €466,108.
- 2002–2003: “Speech where needed: enabling the development of speech technology for very many languages (Continuation)”, HEA Fund for collaborative research between Irish universities and Media Lab Europe. €57,000.
- 2001–2002: “Speech where needed: enabling the development of speech technology for very many languages”, HEA Fund for collaborative research between Irish universities and Media Lab Europe. IEP 63,000.
- 2001–2003: “Text to Speech Quickly: facilitating rapid development of TTS systems for communities with low literacy rates”, Enterprise Ireland Basic Research Award. IEP 113,700.
- 2000–2001: “Understanding wholesale changes to speech timing and intonation”, HEA Multimedia Research Programme, Phase 1 for collaborative research with Media Lab Europe. IEP 74,500.
- 2000–2002: “SIN (Synthesizing Irish Names)”, With Julie Berndsen and Máire Ní Chiosáin. Enterprise Ireland Basic Research Award. IEP 69,578

Patents

2003: Speaker Identification of Verification Using Temporal Measurements. PCT application PCT/EP03/03596.

Exhibitions

2015: Welcome Disturbances, Collaborative exhibition with Mark Cullen, Emma Finucane, Cindy Cummings, Fred Cummins, Sofie Loscher, Siobhán McDonald, Meadhbh O'Connor & David Stalling, The LAB, Dublin City Council.

2014: Loud Silence, Joint exhibition with Emma Finucane, O'Brien Centre for Science, University College Dublin. Multimedia work.

Honors and awards

1998: Cognitive Science Outstanding Dissertation Award, Cognitive Science Program, Indiana University, Bloomington, IN

1997: Awarded Mellon Postdoctoral Fellowship, Department of Linguistics, Northwestern University

1996: Research Incentive Dissertation Year Fellowship Award, University Graduate School, Indiana University

1996: Cognitive Science Summer Research Award, Indiana University

1996: Runner up for Marr prize, 18th Annual Conference of the Cognitive Science Society, San Diego, CA

1995: Awarded Best Student Paper in Speech Communication, 130th Meeting of the Acoustical Society of America, St Louis, MO

1995: Cognitive Science Summer Research Award, Indiana University

1993: Connectionist Models Summer School Fellowship, University of Colorado, Boulder, CO

1993: Cognitive Science Summer Research Award, Indiana University

1991: Cognitive Science Fellowship, Indiana University

1991: Gold Medal Award on graduation, Trinity College Dublin

1989: Foundation Scholarship, Trinity College Dublin, Ireland

Professional experience

Sept. 2000–2004: Collaborating Research Scientist and Group Leader, Adaptive Speech Interface group, Media Lab Europe. Coordination of research on speech and multimodal interfaces.

Sept. 1999–present: College Lecturer, since 2014 Senior Lecturer, now renamed Associate Professor, School of Computer Science and Informatics, University College Dublin. Co-director, Cognitive Science Programme.

Co-director, MSc Cognitive Science (with School of Philosophy),
2000–Present.

Co-director, MSc Computer Science by Negotiated Learning, 2013–Present.

Sept. 1998–Aug. 1999: Postdoctoral research at IDSIA, Switzerland, using recurrent neural networks to investigate the temporal structure of speech. Initial project emphasizes language identification from prosody. Work is in collaboration with Juergen Schmidhuber and Felix Gers. Teaching advanced undergraduate course on neural networks, Politecnico di Milano.

Sept. 1997–Aug. 1998: Postdoctoral Research Fellowship at Northwestern University, examining rhythm, rate and prosodic structure. Taught introduction to phonetics and phonology (undergraduate), and a focussed topic course on coordinated action. The latter course was taken by both undergraduates and graduates, and was designed from scratch.

1996: Led working sessions on non-linear dynamics and cognitive modeling, Rhythm Study Group, Indiana University

1992–1995: Research assistant to Dr Robert Port. Research in temporal pattern recognition using recurrent neural networks. Modeling speech timing. Experiments on speech rhythm.

Fall 1995: Associate Instructor, E105 (undergraduate), *Rhythm and Cognition*. Introductory cognitive science course with a focussed topic approach. Course instructor: Dr Michael Gasser. Prepared and taught four weekly lab sections and occasional lectures. Devised and graded assignments. Provided practical introduction to computing.

Spring 1996: Associate Instructor, L541 (graduate), *Introduction to Phonetics*. Course instructor: Dr Kenneth de Jong. Prepared and taught three weekly lab sections. Devised and graded assignments. Practical support in computer-based projects.

Supervision experience

Elena Zvonik, Ph.D. 2004, Pausing and the Temporal Organization of Phrases: An Experimental Study

Nikolinka Collier, Ph.D. 2005, DISPEL – Discourse Particle Model

Simone Ashby, Ph.D. 2005, Is Infant-Directed Speech Hyperspeech? An Acoustical Analysis of Speech to Infants and Other Accomodative Speech Styles

Juraj Simko, Ph.D. 2010, The Embodied Modelling of Gestural Sequencing in Speech

John Francis Leader, Ph.D. 2019, Mixed Reality Therapy

Nicholas Austin Dwyer, PhD. 2019, From Individual to Collective Skill: Embodied Motor Skill and Extended Across Equipment, Environments and the Bodies of Others

Mark James, Ph.D. 2020, Examining participatory sense-making frames: how autonomous patterns of being together emerge in recurrent social interaction

5 M.Sc. by Research also completed.

Additional education

Registered General Nurse, University of Heidelberg, Germany, 1985

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